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Oral and Symposium Abstracts

Oral Abstracts

A-1

A Pilot Study of an Intervention for Couples to Facilitate Communication Where One Member of the Couple has Advanced Cancer

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BACKGROUND: The impact of advanced cancer on close relationships can contribute to suffering in the last months of life as the patient experiences increasing symptom burden and greater disability and the family unit faces mounting psychological, existential and social challenges. Psychosocial interventions directed to couples can reduce distress levels and provide an opportunity for relational growth. However, such interventions may not be desirable for this population, nor address the main concerns at this stage of care. **METHOD:** This study aimed to pilot an intervention to facilitate communication about living with advanced and incurable cancer for couples using the Patient Dignity Inventory (PDI) as the focus of a 1 hour clinical interview. Couples were recruited from oncology and palliative care at a Sydney hospital. The PDI protocol was delivered by clinical psychologists and comprised of the following; 1) The patient completed the Patient Dignity Inventory; 2) The patient's identified partner completed the PDI as they perceive the patient is feeling; and 3) The psychosocial clinician reviewed the results with the couple, summarising areas of concurrence and of discordance. **RESULTS:** 34 couples were referred; 12 consented and 9 completed the clinical interview.

The intervention was well-received by couples. Reported benefits included enabling couples to express their concerns together, identifying differences in understandings and giving 'permission to speak' with each other, particularly for men. Importantly it allowed the couple to be in control of the issues and be part of the resolution by enhancing mutual understanding of the challenges in managing advanced cancer in a supportive context. For the clinician the tool was helpful in facilitating these communications and provided a gateway for couples seeking further support. **CONCLUSIONS:** These preliminary findings suggest that a brief clinical interview has the potential to improve communication between couples. Key issues include the language used when introducing the interview to the couple, the timing - not too early and not too late in the disease trajectory and the skills of the psychologist delivering the intervention. The focus of the interview around the Patient Dignity Inventory (PDI) provided a structure which was particularly acceptable for men. For most couples the PDI confirmed that they were "on the same page" and where differences were identified it provided a forum for discussion and enhanced closeness. **RESEARCH IMPLICATIONS:** Interventions that can reduce psychosocial distress, and improve relationship satisfaction and functioning are needed for couples, without undue burden of time and effort. This pilot study has 1) evaluated the feasibility of using the Patient Dignity Inventory as the focus of a clinical interview to facilitate couple communication and 2) operationalized and established acceptability of the intervention and the suitability of a "communication specific" outcome measure to inform a future phase III trial. **CLINICAL IMPLICATIONS:** The nature and progression of cancer brings about difficult conversations between couples about plans for the future, changes in prior roles and responsibilities, and varying levels of adjustment as they respond to the increasing demands of the disease and ultimately to the death of one and the bereavement of the other. This intervention has the potential to improve couple communication and identify patient or partner distress thus allowing clinicians to address distress more directly. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by a peer reviewed grant from the Cancer

Care Centre at St. George Hospital, Sydney Australia and from a Research Incentive Scheme Grant from the School of Medicine, the University of Notre Dame, Sydney, Australia.

A-2

Psychological Well-Being and Need for Psycho-Oncological Support in Spouses of Laryngectomized Cancer Patients One to Three Years Post-Laryngectomy

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BACKGROUND: A laryngectomy leads to a variety of functional restrictions such as speech, breath and eating problems which reduce the quality of life of the cancer patient and its spouse. To date, there is little research which focuses on the psychological well-being and the need for psychosocial support in spouses of laryngectomized patients. Particularly, longitudinal studies are missed. **METHOD:** We conducted a prospective multi-center cohort study with consecutive patient enrolment. 62 spouses of laryngectomized cancer patients were interviewed in person 1 year (t4), 2 years (t5) and 3 years (t6) post-laryngectomy. Additionally, spouses were asked to complete standardized questionnaires (HADS, Hornheide Screening Short Form). **RESULTS:** HADS: At t4, 23% of the spouses had increased depression scores and 15% had depression scores which indicated a depression. 53% of the partners had increased anxiety scores and 25% had a high probability of the occurrence of an anxiety disorder. Anxiety and depression remained stable with the exception of a significant decline of depression between t5 and t6 ($Z = -2.168$; $p = 0.030$). Hornheide Screening Short Form: The need for psycho-oncological treatment did not change between t4 to t6. The most common problems for the spouses were inability to relax (t4:36%, t5:39%, t6:37%) and worrying thoughts (t4:29%, t5:32%, t6:23%). **CONCLUSIONS:** The most common difficulties in spouses of laryngectomized patients were anxiety and worrying thoughts which did not change over time. **CLINICAL IMPLICATIONS:** Teaching of relaxation techniques, exchange with other spouses as well as psycho-oncological counseling can help the spouses to deal with their anxiety and should be recommended by oncologists and care givers. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the German Cancer Aid.

A-3

Fertility and Motherhood: Qualitative Research Among Young Breast-Cancer Patients

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BACKGROUND: Young breast cancer women are faced with a series of decisions related to fertility, the couple relationship and family planning. These decisions confront breast cancer patients and survivors with complex dilemmas, as they will have significant implications for the life course after the disease. This study aimed to describe the experience of young breast cancer patients and survivors coping with the threat to their fertility as a result of the disease and its treatments. **METHOD:** Phenomenological qualitative methodology was used in this study. Data collection was conducted on 16 women diagnosed with breast cancer up to age 38, who had required chemotherapy, using a socio-demographic questionnaire and semi-structured interview. Interviews were based on questions about the participants' maternity profile and medical background, as well as the potential damage to their fertility as a result of the disease and its treatments. **QUESTIONS:** Questions about the study participants' need for information about pregnancy and family planning were included. All interviews were recorded and transcribed verbatim. Content analysis was used as is usual in a phenomenological study. **RESULTS:** The study revealed four key content areas: 1. The tension between pregnancy and childbirth as a symbol of life versus illness and loss. This area deals with issues of infertility and includes the dynamics between the patients and their physicians and the meaning of possible fertility loss for each woman. 2. Family planning compromises made by these women and fear in the context of pregnancy after illness. 3. Aspects of femininity, sexuality and body image in the shadow of "feminine" disease. 4. Dilemmas and crises experienced by single patients during the meeting with the sperm bank. **CONCLUSIONS:** The discussion focuses on three main issues. The first deals with fertility in young breast cancer patients and addresses the meaning that they ascribe to fertility preservation as well as the presence or absence of complex patient-physician dialogue. The second deals with the decisions made by breast cancer survivors regarding pregnancy and childbirth. In this context, the tension is examined between longing for pregnancy and children and the fear of pregnancy after the disease. The third deals with breast cancer survivors' body image, femininity and sexuality and its implications to their perception of the roles of partner and mother. **RESEARCH IMPLICATIONS:** This study provides a basis for several future research directions relating to fertility, sexuality, relationships and

family planning in young breast-cancer patients. 1. A stratified socio-demographic and cultural study population to introduce other significant voices of young breast-cancer women; and to identify differences in information and support needs. 2. Quantitative research to assess the number of women in Israel, who do or do not receive fertility preservation counseling. 3. Oncologists' attitudes toward discussing fertility. **CLINICAL IMPLICATIONS:** This study reveals the need to expand the available services to young patients in the context of fertility preservation, including information, guidance and support provided to breast cancer patients of childbearing age before starting chemotherapy. An additional need that emerged from the findings was the provision of appropriate support and advice regarding sexuality, the side effects of treatment, their emotional state and body image as a result of the illness and loss of fertility. **ACKNOWLEDGEMENT OF FUNDING:** None.

A-4

How Helpful is Dyadic Coping to Parents' Relationship During the Pediatric Cancer Experience?

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BACKGROUND: Parents face numerous stressors when their child is diagnosed with cancer, each of which can strain a marriage/partnership. Marital/partner relationship dynamics are often not assessed or addressed when providing health and psychosocial care for children with cancer. This study explored parents' use of emotion-focused supportive dyadic coping strategies following their child's cancer diagnosis to determine whether positive dyadic coping is perceived to strengthen the relationship following the child's diagnosis with cancer. **METHOD:** Married/Partnered parents of children being treated for cancer ($N = 56$, expected to reach 125 by 12/31/2013) completed a self-administered questionnaire that includes the Revised Dyadic Adjustment Scale (RDAS). Those who scored 1 s.d. from the norm on the RDAS were invited to participate in a qualitative interview. Hierarchical linear regression was conducted with participants' rating of their relationship as the dependent variable (DV). The study is currently actively enrolling participants at three pediatric oncology centers. **RESULTS:** Participants were more likely to report a higher relationship rating if they were more emotionally connected to their partner [$b = -1.23$], ($p < 0.001$)). They were also more likely to report a higher rating of their rela-

tionship if the use of emotional coping strategies was less problematic for them [$b = -.260$], ($p < 0.001$)). Questions about intimacy, stress, and communication before and after the diagnosis revealed the greatest changes are in the degree of intimacy/and in the sexual relationship. A decline in intimacy was also noted as most stressful to both partners. Analyses will be updated with the full sample. **CONCLUSIONS:** To the best of our knowledge, this is the first study that has examined the critical time points and events during the child's treatment when the relationship becomes most stressed and/or strengthened. The data so far suggest that providing tools that work towards strengthening the emotional connection that both members of the couple feel with each other in coping with their child's cancer diagnosis may improve or maintain relationship stability. **RESEARCH IMPLICATIONS:** Currently, no evidence-based couples interventions designed to decrease stress and improve coping skills related to the challenges posed by the childhood cancer experience exist. The quantitative and qualitative data from this study will be used to inform, and later test such an intervention. It is possible that a specific focus of this intervention will be on the intimacy/sexual relationship areas of the relationship. **CLINICAL IMPLICATIONS:** Exploring the lived experience of childhood cancer on parents' relationships will facilitate the adaptation of an evidence-based coping intervention to this population by informing both its cancer-specific content and the appropriate time of delivery. The findings will also provide insight from parents about types of feasible, non-intrusive couples intervention strategies that will not add to the burdens they are already experiencing. **ACKNOWLEDGEMENT OF FUNDING:** This study is supported in part by the Intramural Research Program of the National Cancer Institute, Center for Cancer Research.

A-5

Patients' and Partners' Expressed Emotion in Couples Where the Woman has Breast Cancer

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BACKGROUND: Expressed Emotion (EE) is a construct assessing the emotional attitudes of relatives of individual with medical or psychiatric

condition. Criticism, hostility, emotional over-involvement are interpersonal aspects included in the EE-concept. The association between EE and the frequency and severity of symptoms, the patients' management or adjustment to the illness were shown in medical diseases such as diabetes, rheumatoid arthritis or asthma. The purpose of this study is to examine associations between EE and breast cancer. **METHOD:** Forty-two women diagnosed with a breast cancer were recruited in order to take part to a longitudinal study. Women and their partner completed a set of questionnaires evaluating their psychological distress (BSI-18, Zabora et al., 2001), their attitudes towards the partner (FAS, Kavanagh et al., 1997) and their relationship's satisfaction (RAS, Hendrick, 1988). Moreover women filled in the QLQ-BR23 (EORTEC, 1996) assessing symptoms related to the treatment. Finally, each partner was filmed during 5 minutes talking about the other one and their relationship in order to assess EE (FMSS, Magana et al., 1986). **RESULTS:** Preliminary results showed associations between partner's negative attitudes towards the patient and the relationship (High Expressed Emotion - HEE) and the level of somatisation, depression and anxiety of the patient. Women showing themselves toward their partners HEE reported higher scores in the scale assessing physical problems related to the operation and in the subscales evaluating their level of depression, anxiety and somatisation than women with a positive attitude (Low Expressed Emotion). Moreover, partner's level of depression, anxiety and somatisation was higher in couples with a HEE woman. **CONCLUSIONS:** The preliminary results of this research suggested associations between EE and psychological distress in the context of breast cancer. These results encourage pursuing investigations in this direction. In addition the associations between the patient's EE and physical problems related to the operation may support the idea to examine the question of whether the EE of the patient and of the partner can affect the course and outcome of the illness. **RESEARCH IMPLICATIONS:** This project demonstrated how the EE-construct initially developed to be used in the psychiatric context could be adapted to medical conditions. Furthermore this study examined as well the EE of the partner as the EE of the patient. Indeed so far studies have only focused on the partner's EE. **CLINICAL IMPLICATIONS:** Results of the study will be useful for the development of psychosocial interventions for the patients and their partner. The association between patient's psychological distress and HEE of each partner talks for a double intervention: 1) an individual one in couples with a HEE women (focusing on the own attitude and emotional-cognitive perspective) and/or 2) a couple-oriented one in couples with a HEE partner. **ACKNOWLEDGEMENT OF**

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B-1

Communication at the End-Of-Life: An RCT of a Nurse-Delivered Intervention Incorporating a QPL for Advanced Cancer Patients and Caregivers

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BACKGROUND: Discussing end-of-life (EoL) issues can be challenging for patients, carers and oncologists. Interventions to promote patient question asking may improve communication and EoL care. A nurse-delivered communication support intervention (CSI), incorporating an EoL-focused question prompt list (QPL), was developed to improve early discussion of life expectancy and Advance Care Planning (ACP). The impact of the intervention on outcomes including communication during oncology consultations, patients' achievement of information and involvement preferences and communication self-efficacy was evaluated. **METHOD:** Cancer patients (life-expectancy < 12 months) and their caregiver were randomised to intervention (CSI + usual care) or control (usual care) conditions. Intervention participants met with a trained nurse to explore their cancer journey, goals, concerns and an EoL-focussed Question Prompt List (QPL). Prognosis and ACP content in the QPL was highlighted. The nurse contacted participants approximately 2 weeks later to re-enforce intervention content. Participants completed questionnaires at multiple time-points, assessing outcomes including communication self-efficacy, information/involvement preferences/achievement, EoL care preferences and quality-of-life. One follow-up oncology consultation was audio-recorded and coded per patient. Intention to treat-based ANOVAS were used to assess intervention efficacy. **RESULTS:** Patients ($n = 127$; 85 male/45 female; 70 intervention/57 control) were recruited from 14 oncologists at six hospitals in Sydney, Australia. Seventy-seven patients participated with

caregivers. Preliminary analyses of a subset of patient data ($n = 37$ cases) identified non-significant enhancement of patients' communication self-efficacy (65% greater than controls, p -value = 0.1) and non-significant higher concordance between patients' achieved information/involvement in decisions and their preferences (p -value = 0.1) after intervention completion. Participant satisfaction was high and no adverse intervention impact was identified. Final analyses of all cases will additionally examine impact on prognosis/ACP discussion content and extent during recorded consultations, participants' quality-of-life and EoL preferences and communication thereof. **CONCLUSIONS:** This study has demonstrated an intervention to improve discussion of prognosis and EoL care, which patients and caregivers were both satisfied with and not adversely impacted by. The integration of a nurse-delivered communication support intervention with a QPL addresses criticisms both of previous nurse-delivered interventions, which did not incorporate concrete communication tools to assist patients, and of QPLs, which were not individually tailored to patients. Preliminary analyses of a small subset of data have provided promising indications of the positive impact of the CSI on communication self-efficacy and achievement of information and involvement preferences, which final analyses will expand upon. **RESEARCH IMPLICATIONS:** This study provides further support for a combined patient and carer focus for interventions to improve end-of-life communication. The compatibility of nurse-delivered interventions and QPLs is likewise suggested. Further utilisation of an integrated nurse-delivered/QPL intervention paradigm for education and communication support interventions may allow for swifter translation into standard care as existing staff can be utilised and up skilled to deliver interventions during routine care. **CLINICAL IMPLICATIONS:** The brevity of this manualised intervention and potential for delivery by existing nursing staff during routine care may facilitate implementation in clinical settings. Indications that it may improve communication coupled with participants' satisfaction with the EoL content suggest it may facilitate improved understanding of life expectancy and ability to plan and communicate wishes for EoL care. This may lead to improvements in EoL quality-of-life and reduce aggressive EoL medical interventions. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by a project grant from the National Health and Medical Research Council of Australia.

B-2

Talking About Death and Dying With African Pediatric Oncology Patients

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BACKGROUND: In the African pediatric oncology environments we frequently have insufficient resources to cure some cancers or the patient arrives to the unit at advanced stages of their disease. Therefore, the subject of death and dying frequently arises. It is essential to gain more insight on children's perceptions and emotions on death. The purpose of this study is to assess children's ability to verbalize their thoughts during this trying experience and its impact on their well-being. **METHOD:** In this study, qualitative methods (therapeutic groups) and case studies (individual therapy sessions) were used. We addressed the subject of death and dying with a sample of 24 children aged between 5 and 15 years old. In the therapeutic groups, we read an illustrated fairy tale and used art therapy. Following the book reading and the drawing, we initiated a metaphorical debate allowing us to launch the subject of death. During individual sessions, we created a space for children to vent their emotions and bring up their apprehensions and fears on both the end-of-life and the afterlife. **RESULTS:** Although the word "death" was never mentioned during groups, the pediatric cancer patients clearly discussed the subjects of fear, end-of-life, saying goodbye and the afterlife. These African children, from collectivistic cultures, were more concerned with the people left behind than with their own mortality. They were inquisitive about the "unknown place" they might be headed for. Death and dying sparked a great debate that most participants joined in with a clear identification of their thoughts and feelings. Many wanted to prepare themselves by acquiring mystical protection, packing provisions, bringing photos with them and explaining their departure to their relatives. **CONCLUSIONS:** Frequently, doctors and parents' own worries about death prevent them from addressing the matter with pediatric cancer patients. This study shows that children are capable of deeply discussing their thoughts and emotions on death. It is our experience that children who are at their lives' ends have a strong sense that something grave and unusual is happening within their bodies. It would be cathartic for them to have a medium to express their feelings about dying and prepare for their departure. Offering children the opportunity to vent their emotions freely at this stage is a very powerful enabling tool. **RESEARCH IMPLICATIONS:** In African medical settings,

adults avoid discussing the subject of death because it is culturally taboo or because they find the topic too heavy for children. Our results show that children are mentally able and they are capable of active participation when talking about death. While working with children, researchers should raise awareness on their own psychological filters in order to avoid bias when setting up their methodology. **CLINICAL IMPLICATIONS:** Discussing about death has led to interesting and diverse results depending on whether the child was in a therapeutic group or in an individual session. There may be a correlation between levels of expressiveness and collectivistic versus individualistic cultures. In their practice, therapists should consult with the child alone, with other children or with his/her parents. These are safe methods to put the child at ease to verbalize his/her inner feelings. **ACKNOWLEDGEMENT OF FUNDING:** No funding was received to support this abstract. However, the material (arts and crafts, and the fairy book) used during the groups come from donations.

B-3

Abstract withdrawn

B-4

A Re-Assessment of Meaning-Making in Patients With Early-Diagnosed Incurable Cancer: How Do Patients Cope?

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BACKGROUND: Following the diagnosis of incurable cancer, patients may experience physical and psychological stressors, and may engage in a number of activities to make sense of what has happened to them. This study sought to understand how patients with early diagnosed incurable cancer made sense of their diagnosis and to describe the relationship between meaning-making and coping. Few studies have reported on how this patient population faces the challenges of an uncertain disease trajectory. **METHOD:** Twenty-seven patients with a diagnosis of incurable cancer, and with clinician-estimated prognosis of at least 12 months, were recruited by referral from medical/radiation oncologists and palliative care specialists at an Aus-

tralian hospital and participated in semi-structured interviews. Some patients had been diagnosed with cancer previously and had now developed recurrence, while other patients had incurable cancer at the time of presentation and diagnosis. Interviews were tape recorded, transcribed verbatim, and analysed using procedural direction from grounded theory research. **RESULTS:** Participants did not seek to make sense of or to find meaning in their diagnosis. Many did not ascribe to a particular religious belief; rather they relied on a personal spirituality or philosophy to cope. There was an acceptance of the future, in the context of living in the present, with many reporting a good quality of life. Importantly, participants did not want information about their prognosis or about disease progression preferring to transfer this uncertainty to their doctor by relying on him/her to manage disease progression, keep up with technology, and be confident and positive in their future medical management. **CONCLUSIONS:** Our findings suggest that patients with perceived "early", relatively asymptomatic, incurable cancer do not appear to place priority on making sense of their diagnosis or engaging in a search for meaning, nor do they draw on formal religious beliefs to cope. Rather, they look for meaning in their daily lives. Healthcare professionals need to be aware of patients' expressed desires to continue activities of daily living which may well be compromised as cancer treatments often are associated with a significant treatment-related burden in the form of time and resource commitments but also frequent physical reminders of the disease. **RESEARCH IMPLICATIONS:** This is an emerging palliative care population who with improved treatments may have many months to years of remaining life. Further research is needed into the development of a flexible model of care that allows them to maintain meaningful connections with daily life, a good quality of life and identifies the point when psychological interventions need to be initiated to address distress. Further research is needed with patients from more diverse cultural groups. **CLINICAL IMPLICATIONS:** Clinicians may need to adapt their practice and communication skills to address the multifaceted needs of this emerging palliative care population who are living longer with cancer. The point where disease progression is noted and management options become limited may be the time where psychological interventions are initiated. Such intervention may involve referral for supportive care and/or palliative care specialist input for optimal symptom and disease related disability management while enabling them to focus on daily living. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by a peer-review Grant from the Cancer Care Centre at St George Hospital, Sydney, Australia.

B-5

Patient Preferences in Treatment Decision-Making at the End of Life: A Qualitative Study

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BACKGROUND: When cure is no longer possible, treatments can still be given to prolong life but with the possibility of side effects. In palliative care, decisions often include choosing between quality and quantity of life and involvement of patients in this decision-making process is of great importance. The purpose of the present study was to obtain insight into reasons for patients preferred role in treatment decision making at the end of life. **METHOD:** Qualitative descriptive interview study with advanced cancer patients. The Control of Preferences Scale was used to start discussing the extent and type of influence patients want to have concerning future medical decision-making. In total, 28 in-depth interviews were conducted with patients diagnosed with glioblastoma (malignant brain tumour) or metastatic colorectal cancer. Patients were included at the beginning of their first line (standard) treatment and during the interview upcoming treatment decisions were discussed. The patients ranged in age between 27 and 82 years and all had a Dutch cultural background. **RESULTS:** All patients said that they wanted their physician to be involved in decision-making because of his knowledge and clinical experience. To what extent patients wanted to participate depended on how patients saw their own role and capabilities for participation. Active patients considered keeping control over their own life or being responsible for their own decisions important. Also the phase of illness influenced their preferences. While most patients still aimed for life prolongation, they expected preferring more participation when quality of life became more at stake. At the time of the interview several patients considered having no other option than treatment. **CONCLUSIONS:** Treatment decision-making in the last phase of life is often difficult and is a highly complex process. While all patients consider the role of the physician essential, there are differences between patients in their preferences for participation; in addition there are differences within patients with regard to preferences in the course of the illness. If life prolongation is still the treatment aim patients wanted to rely on their physician, but

when quality of life would become more important patients wanted to be more decisive on whether or not to start further treatment. **RESEARCH IMPLICATIONS:** Our study shows patients expecting a change in participation preferences later on in the disease process. Whether this will be the case is debatable since most severely ill respondents still aimed for life prolongation. Patients need to be followed in time to see whether preferences indeed develop to wanting more participation. Furthermore this would allow to study how treatment decisions are made, to what extent patient can participate and how they evaluate their role afterwards. **CLINICAL IMPLICATIONS:** Patients said if their quality of life inclined substantially they would considering to stop further treatment. Communication on patients' expectations and wishes for future treatment decision is thus of great importance. A palliative care approach would be beneficial. It could help in avoiding that opting for no more life-prolonging treatment is perceived as doing nothing. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Innovational Research Incentives Scheme VICI 2008 from the Netherlands Organisation for Scientific Research (NWO).

C-1

Improving Patient-Centered Communication in Cancer Pain Management Nursing: A Randomized Controlled Study Assessing the Efficacy of a Communication Skills Training Program

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BACKGROUND: Communication skills are essential in cancer pain management nursing. This study assessed the efficacy of a general communication skills training program for oncology nurses in improving patient-centered communication skills related to pain management. **METHOD:** 115 nurses were randomly assigned to a training group (TG) or to a waiting list group (WG). The assessment included the recording of an interview with a simulated cancer patient reluctant to take morphine, at baseline and after training for TG, and 3 months after baseline for WG. Two psychologists blinded to the assessment time and to the allocated groups rated interviews' transcripts to determine their content in term of patient-centered communi-

cation skills in pain management. Group-by-time effects were measured using generalized estimating equation of Poisson models. **RESULTS:** 100 nurses were included for this study. Results showed that after training, trained nurses asked more questions about cognitive representations associated to pain treatment ($RR = 3.23$; $p < 0.001$) and about the emotional component of pain ($RR = 4.28$; $p = 0.049$), and used also less paternalistic decision-making interactions about pain management ($RR = 0.40$; $p = 0.006$) during the simulated interview. **CONCLUSIONS:** A general communication skills training program in oncology improves only a few number of communication skills needed for an optimal cancer pain management nursing. **RESEARCH IMPLICATIONS:** Future studies should be designed to assess the transfer to the workplace of learned pain management communication skills. **CLINICAL IMPLICATIONS:** General communication skills training programs should be consolidated by specific modules focusing on communication skills related to cancer pain management. **ACKNOWLEDGEMENT OF FUNDING:** This research program was supported by grants of the Belgian National Cancer Plan.

C-2

Which Treatment Outcomes Should be Addressed in the Pre-Radiation Consultation With Rectal Cancer Patients? A Delphi Consensus Study Among Patients and Radiation Oncologists

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BACKGROUND: Preoperative radiation in rectal cancer is associated with adverse effects. The Dutch guidelines for the treatment of rectal cancer state that clinicians need to 'discuss the possible benefits and harms of radiation with the patient'. Which treatment outcomes (benefits and harms) should be addressed is not specified and in earlier research we found large variation in what radiation oncologists tell patients. Our aim was to reach consensus among experts on treatment outcomes to be addressed. **METHOD:** An online three-round Delphi study was conducted with two expert panels: one of 35 radiation oncologists and one of 31 rectal cancer patients; 37 possible treatment outcomes were shown, which were based on 45 taped pre-radiation consultations, complemented with outcomes from the literature. Prevalence and severity of outcomes were described. The panel members were asked to indicate whether the outcomes should be addressed in the consultation. Response

categories were 1) Essential; 2) Desired; 3) Not necessary; and 4) Avoid. Consensus was assumed when $\geq 80\%$ of the expert panel agreed on the answer category. **RESULTS:** In the first and second Delphi round, radiation oncologists reached consensus on seven outcomes (Essential: infertility in women; menopause; Not necessary: altered appetite, secondary tumour, anastomotic leakage, nerve damage and nausea). Patients considered infertility in women and menopause essential as well, but also considered four other outcomes to be essential (infertility in men, prevention of pregnancy, erectile dysfunction, ejaculation problems). In the second and third rounds all outcomes were shown except the outcomes the panel agreed on in an earlier round. Final results will be presented. **CONCLUSIONS:** For shared decision making, relevant information on benefits and side effects should be given along with the treatment recommendation. This study shows that there is lack of clarity on which treatment outcomes should at the minimum be addressed in the pre-radiation consultation with rectal cancer patients. Reaching consensus is a first step towards more standardized information provision, in which all patients receive information on the major benefits and side effects of PRT, supplemented with outcomes that might be of interest to the individual patient. **RESEARCH IMPLICATIONS:** This research shows that reaching consensus on treatment outcomes to be addressed in the pre-radiation consultation is a challenge. Once the consensus on information provision has been included in the updated guideline, further research should investigate whether the content of consultations has become consistent with these recommendations. Furthermore, if necessary, communication interventions could be developed and evaluated to optimize information provision in the pre-radiation consultation. **CLINICAL IMPLICATIONS:** Reaching consensus on treatment outcomes to be addressed with rectal cancer patients is expected to help standardize information provision on major benefits and side effects of PRT. Not only should a 'core list' of treatment outcomes help clinicians to discuss treatment outcomes in a structured and clear manner, it can also be a first step in helping clinicians and patients balance possible benefits and side effects of treatment in deciding whether to undergo PRT. **ACKNOWLEDGEMENT OF FUNDING:** This project was supported by the Dutch Cancer Society.

C-3

Satisfaction With Information and its Association With Illness Perception and Quality of Life in Indonesian Breast Cancer Patients

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BACKGROUND: The aims of this study were to assess the level of satisfaction with information on illness and treatment among breast cancer patients; to explore its association with patients' illness perceptions and quality of life and to provide recommendations for improvement of the information provided. **METHOD:** Seventy breast cancer patients at the Outpatient Surgical Oncology Clinic in Hasan Sadikin Hospital in Indonesia were recruited consecutively in a cross-sectional study design. They completed a demographic form, the Satisfaction with Cancer Information Profile (SCIP), the Brief Illness Perception Questionnaire (BIPQ) and the World Health Organization Quality of Life (WHOQOL-BREF). **RESULTS:** A considerable number of breast cancer patients (41%–86%) were dissatisfied with the amount and content of the information received. The majority of patients were dissatisfied with the amount of written information provided. Patients who were satisfied with the type and timing of information received had stronger beliefs in personal control ($\beta = -0.30$, $p < 0.05$), less concerns about their health condition ($\beta = -0.47$, $p < 0.01$), better understanding of their illness ($\beta = -0.27$, $p < 0.05$) and were less emotionally affected by their illness ($\beta = -0.27$, $p < 0.05$). In addition, the satisfied patients had a more positive perception of their general health ($\beta = 0.31$, $p < 0.05$) and better psychological health condition ($\beta = 0.33$, $p < 0.05$). **CONCLUSIONS:** Satisfaction with information provided is associated with better health outcomes, including more positive illness perceptions. This study appears to highlight the importance of providing information that meets the needs of patients. **RESEARCH IMPLICATIONS:** Further studies are needed to clarify the direction of the relationship between satisfaction with information, illness perceptions and quality of life. The results of such studies could be useful to develop interventional strategies to improve patients' health outcomes. **CLINICAL IMPLICATIONS:** Provision of clear, concise and easy to understand written information (e.g. leaflets) can be a cost-effective and efficient source of information supplementing the verbal information provided in the busy setting of the

oncology clinic in Indonesia. **ACKNOWLEDGEMENT OF FUNDING:** The Directorate General of Higher Education of Indonesia (DIKTI).

C-4

End-of-Life Communication Interventions: Where Are We and Where Do We Need To Go?

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BACKGROUND: Communication interventions have demonstrated significant impact on the treatment and outcomes of patients at various stages of disease. Many end-of-life specific communication challenges have been identified, for which interventions have been developed for health professionals, patients and caregivers. No recent systematic review has presented a clear summation of the types and targets of communication interventions in the end-of-life setting, the efficacy of such interventions or the methodologies and outcomes employed in evaluating them. **METHOD:** A Cochrane-style review of communication interventions for the end-of-life setting was conducted to describe the i) type and form of interventions conducted, ii) the target of the interventions, iii) the methodologies and outcomes used to assess the efficacy of interventions. Database searches were conducted in Medline, PsychInfo and Cinahl. After duplicates were removed, two authors reviewed titles and abstracts, checked reference lists and performed author searches for the most prolific authors identified to narrow the sample. Full-text review yielded a final sample from which summary data were extracted and a Quaysys quality analysis was conducted. **RESULTS:** 4108 studies were identified of which 75 were included in this analysis. The majority of interventions were communication skills training based, taking the form of didactic workshops targeting health professionals ($n = 47$). Thirteen studies targeted patients, commonly utilising advance care planning paradigms (ACP). Five studies targeted caregivers or family in their role as surrogate decision maker. Ten studies targeted more than one group, most often patients and caregivers together utilising educational interventions. Most utilised randomised control or pre-post study designs and satisfaction or communication-based outcome measures. Health professional targeted interventions largely demonstrated stronger effects than patient or carer focussed interventions. **CONCLUSIONS:** Most identified studies described somewhat robust short and long-term intervention effects on health professionals' end-of-life communication skills. Rando-

mised controlled and pre-post trials utilising outcomes proximal to target communication skills were common, however little evidence for subsequent intervention effects on clinical indicators such as end-of-life quality-of-life or futile care utilisation was identified. Excluding question prompt list studies, most patient interventions involved ACP. While ACP is undoubtedly important, broader communication challenges faced by patients would appear to have been neglected. Finally, despite caregivers' important role in patient care and surrogate decision-making towards the end-of-life, few robust evaluations of carer interventions were identified. **RESEARCH IMPLICATIONS:** Given caregivers' crucial surrogate decision-making role and the myriad communication challenges faced by patient towards the end-of-life, greater attention appears to be needed towards robust evaluations of end-of-life communication interventions for patients and caregivers. Additionally, few interventions targeting more than one stakeholder in end-of-life communication were identified, despite potential for larger effects with such designs. Further evaluation of the impact of health professional communication skills training on end-of-life clinical indicators would appear to be necessary. **CLINICAL IMPLICATIONS:** Evidence for the efficacy and endurance of end-of-life communication interventions for health professionals appears robust and extensive particularly for challenging patient encounters such as bad news delivery or transition from curative to palliative treatment. Widespread clinical implementation would appear to be justified. The impact of such training on clinical patient indicators remains somewhat unclear and warrants investigation in clinical settings where health professional communication interventions have been implemented. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by a project grant from the National Health and Medical Research Council of Australia.

C-5

Communication Skills Training for Oncologists on How to Explain Clinical Trials to Patients – How Do Participants Actually Benefit From This Training? - Results From a Randomized Controlled Study

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BACKGROUND: Disclosing information about randomized clinical trials (RCT) is one of the hardest communication tasks. Physicians have to address complex information, e.g. explaining

randomization, and they have to respect patients' rights to come to a free decision. A Communication Skills Training (CST) was developed to train physicians to convey key information about RCT. (1) Can a CST improve communication skills conveying key information about clinical trials? (2) Who benefits from this training? **METHOD:** We developed a CST, based on the experience of Jenkins (2005) and Brown (2004, 2007). First, individual learning goals of participating physicians were derived from a video assessment. Then, these learning goals were used in role play with actor-patients in a CST to train each physician. For evaluation, 40 physicians were randomly assigned to training or waiting control group. Training success was evaluated by blinded rater using a specific checklist to evaluate video-recorded standardized consultations with actor-patients. Posthoc analysis of training success was carried out regarding clinical experience, sex and initial performance of participants. **RESULTS:** (1) Results show significant improvements in content specific communication skills of trained physicians. (2) We present final data from posthoc analysis. **CONCLUSIONS:** The developed CST is the first one demonstrating improvements in communication skills conveying key information about clinical trials evaluated in a randomized controlled design. It addresses ethical and legal standards and patient needs in understanding complex information. **RESEARCH IMPLICATIONS:** The CST provide more detailed information who benefits and how future trainings should be set up. **CLINICAL IMPLICATIONS:** A structured and proven CST should be integrated as standard training for physicians who disclose information about RCT. **ACKNOWLEDGEMENT OF FUNDING:** This research was supported by the Deutsche Krebshilfe (German Cancer Aid).

D-1

Exploring the Utility of the Metacognitive Model in Predicting Emotional Distress After Diagnosis of Cancer

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BACKGROUND: Emotional distress after a diagnosis of cancer is normal and, for most people, will diminish over time. However, why some people recover emotionally while others experience persistent or recurrent symptoms of distress is not well understood. Recent research in mental health has implicated beliefs about thinking (metacognitive beliefs) as the key to understanding why such prob-

lems persist. This study explores for the first time the predictive utility of this theory in cancer. **METHOD:** A prospective cohort design was used with a pre-treatment baseline and 12 month follow-up. Patients ($N = 206$) recently diagnosed with breast or prostate cancer were recruited to the study through pre-treatment clinics at a National Health Service teaching hospital in North-West England. Baseline data (T1) was obtained using self-report questionnaires to assess emotional distress (HADS), illness perceptions (IPQ-R) and metacognitive beliefs and processes (MCQ-30). Follow-up data (T2) was collected 12 months later using the same questionnaires which were mailed to participants' homes. Hierarchical regression and mediation analysis was used to test cross-sectional and prospective associations between maladaptive metacognitions and emotional distress. **RESULTS:** Cross-sectional analyses indicated that metacognitive beliefs were positively associated with emotional distress shortly after diagnosis of cancer and that they explained additional variance over and above that explained by negative illness perceptions. In addition, findings of a mediation analysis supported theoretical predictions that metacognitive beliefs cause distress through activation of processes such as persistent worry. Prospective analyses indicated that after controlling for age and gender metacognitive beliefs predicted an additional 19% of the variance in emotional distress 12 months later. A small but significant contribution to variance (4%) was retained even after controlling for baseline emotional distress and illness perceptions. **CONCLUSIONS:** This study provides promising first evidence of the predictive utility of metacognitive theory to understanding persistent emotional distress after diagnosis of cancer. It provides new evidence supporting the view that metacognitive beliefs may be more important in the development of emotional distress than the specific content of negative thoughts about cancer, and supports theoretical predictions that metacognitive beliefs cause and maintain distress by activating a particularly toxic style of inflexible responding to thoughts (characterised by worry). Such findings suggest a potential to reduce emotional distress by modifying metacognitive beliefs and processes as an alternative to more traditional cognitive approaches. **RESEARCH IMPLICATIONS:** Despite these promising findings it is important to note that causality cannot be assumed from cross-sectional data or even from prospective analysis with just two time points. Therefore further prospective and experimental testing of the theory is necessary in order to establish temporal precedence of maladaptive metacognition to persistent emotional distress, and thus provide more compelling evidence of causation. **CLINICAL IMPLICATIONS:** Despite these limitations we suggest that metacognitive theory offers

two potential benefits for managing vulnerability to persistent emotional distress after diagnosis of cancer: (i) it allows vulnerable patients to be identified from the presence of modifiable causal factors not just risk factors; (ii) by focusing on modifying metacognitive beliefs and processes rather than challenging negative thought content alone it offers the potential for a transdiagnostic intervention that could prevent a range of emotional disorders. **ACKNOWLEDGEMENT OF FUNDING:** This work and hence this abstract was supported by the Medical Research Council as part of a Population Health Scientist Fellowship awarded to the presenting author.

D-2

The Impact of an Automatically Generated Survivorship Care Plan (ROGY Care): Evaluation From a Healthcare Professional's Perspective

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BACKGROUND: Survivorship Care Plans (SCPs), recommended by the IOM and Dutch Health Council, provide cancer survivors with a personal document regarding their diagnosis, treatment, and possible short-term and long-term effects. Achieving optimal implementation of SCPs in clinical practice requires understanding the perspective of the healthcare professionals who prepare and provide the SCPs. Aim of the current study was to examine healthcare professionals' experiences with the use of an automatically-generated SCP and their wishes for further development. **METHOD:** The impact of an automatically generated SCP on patient reported outcomes is currently evaluated in a multicenter RCT in gynecological cancer patients (ROGY Care). Twelve hospitals were randomized to usual care or SCP-care. All participating healthcare professionals (i.e. gynecologists, gynecologic oncologists (GOs), and oncology nurses) in the twelve hospitals (both the usual care and SCP-arm) were asked to complete a questionnaire at the start and at the end of patient inclusion in the trial, regarding their expectations of and experiences with the SCP. Overall, 43 healthcare professionals (87%) returned the questionnaire: 23 SCP-arm, 20 usual care arm. **RESULTS:** After final patient inclusion, when asked who should provide the SCP, 75% indicated the oncology nurse and 20% the gynecologist/GO. Healthcare professionals were satisfied with the SCP ($M = 7.1$,

SD = 1.3, 1 not at all to 10 very much), believed SCPs affected patients positively ($M = 7.7$, SD = 1.6), and were motivated to keep using SCPs ($M = 7.9$, SD = 1.5). Most professionals (64%) encountered practical problems; most mentioned 'not enough time to prepare (20%) or discuss (25%) the SCP'. Nearly a third (29%) felt they used more time for their consultation ($M = 6.8$ more minutes, SD = 3.9). However, self-reported consultation time did not differ between baseline and follow-up. **CONCLUSIONS:** In this RCT, unlike most studies before, expectations, preferences and actual experiences with an automatically-generated SCP were evaluated. It has been suggested that automated completion of SCPs by abstracting relevant information from an electronic medical record may ease the burden on healthcare professionals. The current study shows that healthcare professionals using an automatically-generated SCP are generally satisfied and motivated to keep using the SCP. Still, time-constraints due to lack of preparation and consultation time impair full implementation. Addressing these barriers, such as time constraints, is needed before large-scale implementation of the SCP in daily clinical practice. **RESEARCH IMPLICATIONS:** The current study provides insight into healthcare professionals' experiences with an automatically-generated SCP. Circumstances to provide an SCP in the ROGYCare trial are better than most other situations, because healthcare professionals can generate an SCP by pushing a button. However, even in these circumstances, professionals encounter barriers in providing an SCP to patients. Additional research to further improve implementation, as well as patients' perspective is needed, in order for patients to fully benefit from SCPs. **CLINICAL IMPLICATIONS:** Widespread adoption of SCPs has implications for healthcare professionals. Providing SCPs to patients needs to be embedded in daily clinical practice. In the current study, most healthcare professionals indicated that oncology nurses should provide SCPs. Having an oncology nurse further explain the SCP after the consultation with the gynecologist may be beneficial for patients. Understanding and overcoming the practical barriers (such as time, personnel, and resources) is necessary before SCPs can be more widely adopted. **ACKNOWLEDGEMENT OF FUNDING:** The ROGY Care trial is supported with grant no. UVT 2010-4743 from the Dutch Cancer Society, The Netherlands. Prof. dr. Lonke van de Poll-Franse is supported by a Cancer Research Award from the Dutch Cancer Society (#UVT-2009-4349).

D-3

Looking Beyond Disfigurement: The Experience of Patients With Head and Neck Cancer

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BACKGROUND: Little is known about the impact of disfigurement on head and neck cancer patients (H&N-CP) using a holistic lens including physical, psychological, existential, and social well-being. The primary purpose of this study was to understand the lived experience of disfigurement in H&N-CP and explore its influences. **METHOD:** Fourteen H&N-CP having undergone disfigurement were recruited through two University teaching hospitals. Patients participated in 45–120 minutes in-depth semi-structured interviews; transcribed and analyzed by two interpreters using interpretive phenomenology and following the Hermeneutic Principles of Research (Conroy; 2003). A third interpreter reviewed a consecutive sample of 20% of the analyzed transcripts. **RESULTS:** Patients' disfigurement experience evolved around the central concept of a ruptured self-image, whereby they usually experienced a discontinuity in their sense of self (e.g. 'I am no longer the same person'). Different forces triggered this ruptured self-image, creating a sense of existential awareness referred to as 'embodied *angst*' (i.e. the disfigurement served as a constant reminder of patients' condition and associated foundational *malaise*). Other influences fostered a sense of normalcy, balance, and acceptance, which was sometimes almost immediate. Oscillations between these two states (i.e. a ruptured sense of self and normalcy) were the norm, as patients grew to increasingly accept their disfigurement. **CONCLUSIONS:** Although this study underlines that to understand the experience of disfigurement in patients with H&N-C the physical, psychological, existential, and social components need to be taken into consideration, findings highlighted that the experience of disfigurement is in essence existential and shaped by social perceptions and interpersonal factors. This study also revealed a complex relationship between disfigurement and the patients' fears of cancer recurrence. Although having survived cancer seemed to have attenuated the blow of disfigurement, the highly visible nature of the disfigurement was a constant reminder of the

possibility of a cancer recurrence. **RESEARCH IMPLICATIONS:** Understanding the disfigurement experience could guide quantitative studies on the topic by helping identify variables influencing the experience, and design supportive interventions aimed at helping future patients face H&N surgery. **CLINICAL IMPLICATIONS:** This study allowed development of a theoretical model designed to guide clinicians' understanding and treatment of disfigured H&N-CP. This theoretical model will be presented and supported through illustrative clinical vignettes. **ACKNOWLEDGEMENT OF FUNDING:** None.

D-4

Attitudes Toward Cancer and Influence of Cultural Values in African American Cancer Survivors

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BACKGROUND: This study examined African Americans' attitudes toward cancer and its relation with long-term mental health outcomes. **METHOD:** Using mixed methods, 74 breast and prostate cancer survivors including 34 depressed and 23 nondepressed African Americans and 17 depressed Caucasians were interviewed. The interviews were audiotaped and transcribed. Qualitative data analysis identified themes that were coded. The codes were entered into SPSS software. The Fisher's exact test was performed to examine group differences in the identified themes. **RESULTS:** Recalling their experience with cancer, nondepressed African American cancer survivors more frequently reported cancer as an adaptive experience ($p = 0.047$) and less frequently as a struggle ($p = 0.012$) than the depressed African Americans and Caucasians. Groups did not significantly differ in the belief that cancer has no cure ($p = 0.763$), but depressed African Americans more frequently reported unwillingness to share a cancer diagnosis with family or friends than depressed Caucasians ($p = 0.50$). African Americans' adaptive attitudes to cancer exhibit a pragmatist approach and a worldview shaped by the lived experience and cultural values. Participants' narratives were examined to illuminate the meanings of these findings. **CONCLUSIONS:** Adaptive attitudes to cancer are associated with better long-term mental health outcomes of African American cancer survivors. Conversely, unpreparedness and inability to cope are associated with a higher risk of depression. Education about cancer and supports for treatment navigation are conducive to improving the mental health of African Americans during cancer survivals. **RESEARCH IMPLICATIONS:** Further research on African Americans' attitudes toward

cancer, their multi-factorial determinants and impacts on long-term health outcome is warranted. **CLINICAL IMPLICATIONS:** African Americans who exhibit a traumatic reaction to a cancer diagnosis are at a higher risk of depression; they need to be identified promptly and monitored closely. Those having an adaptive attitude are likely to have a better mental health outcome. This adaptive attitude is influenced by such cultural values as faith and endurance, but pragmatism and a perspective worldview are equally important. **ACKNOWLEDGEMENT OF FUNDING:** The study was supported by the National Institutes of Health/National Cancer Institute (R03 CA115191-01A2; PI: Zhang).

D-5

The Effects of Communication of Diagnosis on Coping Strategies and Emotion Regulation of Patients With Chronic Lymphoid Leukemia

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BACKGROUND: In our study we investigated the social support, degree of anxiety, coping strategies and special characteristics of emotion regulation of 200 patients with CLL in comparison with other patient groups, using questionnaires. Additionally – supposing that these variables can be examined through life narratives – we took narrative interviews with the patients, focusing on social and psychic circumstances of the emergence of the illness and dealing with social support and illness representation. **METHOD:** We divided the patients into four groups on the basis of their prognostic parameters by two variables: the time that elapsed since the communication of diagnosis (less/more than 5 years) and the treatment (received treatment/received no treatment). We created a fifth group from those patients who previously did not receive any treatment but later their condition made their treatment necessary. We used two matched control groups. State-Trait Anxiety Inventory (STAI), Coping Inventory for Stressful Situations (CISS-48), Levels of Emotional Awareness Scale (LEAS-A) and the Assessing Emotions Scale were applied. The narrative interviews were structured by our goals mentioned above. **RESULTS:** The two groups of patients who do not receive any treatment show a higher degree of anxiety and different maladaptive coping strategies than the control patient group. The patients from the 5th group have a lower degree of anxiety than the members of the previously mentioned two groups,

and their coping strategies are passive and maladaptive. In case of the patients who received a treatment and more than 5 years have passed since the diagnosis, adaptive coping mechanisms dominate. In the patients' emotion regulation we found a pattern similar to alexithymia. The further results will be detailed in our presentation. **CONCLUSIONS:** Our results show that in case of the examined patient group the debilitating anxiety about losing control is a serious problem as it implies maladaptive coping strategies and thereby worsens quality of life and chances of recovery. **RESEARCH IMPLICATIONS:** The novelty of this study is that this patient group is rarely examined from these aspects. Thus we open to a new field of psycho-oncology applying its extended knowledge and research results. **CLINICAL IMPLICATIONS:** From this study we gained information that is valuable and useful in practice for haematologists, so on the basis of our results we started to work out new individual and group therapy protocols, supportive therapy methods. Our future plan is to investigate what effects the therapies that we have worked out have on the quality of life and coping strategies of the patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

E-1

A Web-Based Collaborative Care Intervention for Patients With Advanced Cancer

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BACKGROUND: According to the NIH consensus statement, the three most prevalent and distressing symptoms reported by cancer patients include depression, pain, and fatigue. The aims of the collaborative care intervention was to reduce these cancer related symptoms (e.g. depression, pain, fatigue) and improve quality of life. **METHOD:** The web-based collaborative care intervention included access to a psychoeducational website and to care coordinators who were trained in CBT and worked closely with the medical team. The patient had access to the website and telephone and face to face sessions with the care coordinators. The efficacy of the intervention was assessed using the Center for Epidemiological Studies-Depression scale, the Brief Pain Inventory, the Functional Assessment of Cancer Therapy (FACT)-Fatigue, and the FACT-Hepatobiliary. Using independent t-tests the primary outcomes were examined from baseline to 6 months using an intent-to-treat analysis. The effect size was defined as small effect <0.20; medium effect size = 0.30–0.70; and a large effect size >0.80. **RESULTS:** At the time of ran-

domization, 34% of patients reported depressive symptoms; 21% reported pain; and 35% reported fatigue in the clinical range. A reduction was observed in depressive symptoms ($ES = 0.71$), pain ($ES = 0.62$) and fatigue ($ES = 0.26$) at 6 months where patients randomized to the collaborative care intervention had the greatest reduction of symptoms. Large effect sizes were observed at 6 months in health related quality of life (0.99) with the patients randomized to the collaborative care intervention reporting the greatest improvement. Significant reductions in pro-inflammatory cytokines and Natural Killer cells were also observed in patients randomized to the collaborative care intervention when compared to the education and referral arm. **CONCLUSIONS:** The web-based psychosocial intervention was effective at reducing cancer-related symptoms in advanced cancer patients. The intervention also demonstrated significant reductions in pro-inflammatory cytokines and Natural Killer cell numbers. **RESEARCH IMPLICATIONS:** A phase III trial testing the intervention is warranted as well as examination of the cost-effectiveness of this collaborative care intervention compared to education and referral of patients to mental health professionals in the community. Future studies may also examine the impact of the intervention on biological and health outcomes such as disease progression. **CLINICAL IMPLICATIONS:** The collaborative care intervention may not only reduce cancer-related symptoms but further testing may demonstrate that this intervention may also improve health outcomes. **ACKNOWLEDGEMENT OF FUNDING:** NCI K07CA118576; K07CA11857604S1, R21CA127046.

E-2

'Psycho-Oncology Online': A New Approach in Psycho-Oncology Service Strategy

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BACKGROUND: The number of e-health consultancy is permanently increasing. Patients don't depend on a stressful physician office, feel more in control and less ashamed to disclose their problems in the anonymous internet-space. Despite this knowledge there is no 'German speaking' psycho-oncology e-health service. The purpose of our project was to develop a web-based instrument that helps cancer patients and their families to identify their psycho-social problems and receive suitable and direct help. **METHOD:** In a 2 years developmental phase 120 cases were collected and scripted

into 15 manuscripts that describe cancer patients' typical concerns and psychological burdens. The manuscripts were categorized in five 'burden profiles': anxiety, depression, fatigue, sexuality and long-term problems, each profile in three severity grades. Professional actors transformed the manuscripts into realistic 'patient video diaries'. Each diary was commented by an expert. In a pre-evaluation 80 out-patients and 130 survivors were interviewed exploring their experience with the instrument. Results were used to develop an online questionnaire based on the emerging themes: acceptance, identification, compliance to expert comment and benefits. **RESULTS:** The videos are accepted by 87% of the patients. They have no difficulties to identify with the demonstrated burdens although the protagonists differ from age, sex or cancer diagnose. The majority of the patients expressed a strong preference for learning about psycho-social distress and interventions through the internet. Patients felt widely informed about the benefits of psycho-oncology and 76% realized that they had severe problems and were willing to follow the advice of the experts. 15% were even motivated to start a psychotherapy. The total group reported a reduction of the feeling of hopeless- and helplessness. **CONCLUSIONS:** Although the current policy in Germany recommends to receive psycho-social support in specialized council centers, this study strongly provides evidence for the high potential of a web-based patient-centered psycho-oncology service, its' benefits for patients as well as the need for it. In March 2013 the main evaluation of our website started as a randomized trial at 10 oncology centers in Germany including 5.000 patients and families. End of the year, the study will provide a huge database to intensively analyze questions in concern of e-health services in psycho-oncology. **RESEARCH IMPLICATIONS:** There are only a few studies of web-and video-based interventions and online counseling in psycho-oncology. Furthermore, 'Psycho-Oncology Online' is the first German e-health project in psycho-oncology that focuses on psychological burdening without referring to a special cancer diagnose or group. This pioneering approach provides a broad range of possibilities for future research on diagnostics in the field of psycho-oncology. **CLINICAL IMPLICATIONS:** Psychotherapists, specialized in psycho-oncology, are still rare in Germany. Conclusively the waiting time is sometimes more than 3 months. Based on financial and political reasons there won't be an increase in out-patient service in the future. Psycho-oncology e-health service can help to solve this severe healthcare problems and close the gap between psychological in- and outpatient cancer care. Oncologists can refer to the 'virtual office' where patients immediately find information and help. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by a

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E-3

Developing an eHealth Portal Targeting Survivorship Cancer Care: A User-Centred Design Approach

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BACKGROUND: We aimed to develop an eHealth portal, OncoKompas targeting survivorship cancer care, through an user-centred design approach. By means of OncoKompas patients can monitor quality of life and view their results in real-time through individual well-being profiles. Based on these profiles and personal preferences, participants are directed towards supportive care services. To ensure adequate uptake, end-users and other stakeholders were involved in the development. **METHOD:** We conducted a qualitative needs assessment among patients ($N = 30$) and care professionals ($N = 11$). Usability (system quality) of a prototype was tested by end-users ($N = 9$). Based on the results, OncoKompas was developed with patients and professionals. Consequently, patients ($N = 9$) participated in a second usability study (content and service quality) and care professionals ($N = 20$) in a cognitive walkthrough. **RESULTS:** The needs assessment revealed that an eHealth portal targeting survivorship cancer care was appealing to most patients. Respondents requested OncoKompas to provide tumour specific information and supportive care options in their own environment. Care professionals expected that OncoKompas could optimize survivorship cancer care, by providing them better insight into patients' well-being. Information provided should be concise and easily accessible. Usability tests identified some weaknesses in the user interface that resulted in adjustments, e.g. clearer user instructions. Care professionals appointed some considerations during cognitive walkthroughs but were pleased about the positive "approach" of OncoKompas, complete list of supportive care and design. **CONCLUSIONS:** Study results give insight into the characteristics needed to design and build an useful eHealth portal. Based on the current study results OncoKompas will be refined, after which a multi-centre study will be conducted to assess (cost-) effectiveness. **RESEARCH IMPLICATIONS:** By

including all stakeholders in the development of OncoKompas, we expect OncoKompas to become useful and effective. Currently, patients ($N = 105$) participate in a multi-centre study to gain insight into feasibility issues to be addressed to facilitate implementation of OncoKompas in supportive cancer care. The next step will be to examine the (cost)-effectiveness of OncoKompas. **CLINICAL IMPLICATIONS:** Our results show that an e-health application could be a valuable addition to supportive cancer care. The positive attitude of patients and care professionals towards OncoKompas implicates that it has the potential to enhance supportive cancer care by supporting both patients and care professionals in providing and obtaining optimal supportive care. **ACKNOWLEDGEMENT OF FUNDING:** THIS STUDY IS FUNDED BY THE DUTCH CANCER SOCIETY / ALPE D'HUZES FOUNDATION:

E-4

The Role of Facebook and Twitter in Signposting People Affected by Breast Cancer to Relevant Information and Support Services: A Case Study of Breast Cancer Care UK

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BACKGROUND: Breast Cancer Care has the largest breast cancer online community in Europe. Changes in social media has allowed us to engage with our supporters much more, and by using functions such as 'shares' and 'retweets' we can reach a much larger audience. Using free platforms such as Hootsuite and tweetdeck has enabled us to monitor conversations happening about our organisation and generally about breast cancer, to which we are now able to respond. **METHOD:** Our social engagement officer undertook a 6-month observation of twitter and facebook activity on our website and employed a proactive approach to responding to tweets and facebook messages with signposting links back to our website. A short survey of our facebook 'fans' was also employed, where we asked them to tell us whether our Facebook page helped them in any way. **RESULTS:** Our presentation will report on the growth of our social media activity over the past 12 months, and its reclassification as means of communicating with breast cancer patients but now as an information service - whereby we signpost patients to our written, online and telephone information and support services. Our online survey found users regard social media as a service. They liked receiving responses to their facebook messages or tweets from Breast Cancer Care, in particular being signposted to information resources and local and national services. Many felt it reduced their feelings of isolation. **CONCLUSIONS:** We believe our presentation will provide useful infor-

mation for patients, patient organisations, health care professionals and researchers in being aware of the important role that social media is now playing in the provision of information and support for breast cancer patients. These new tools offer great opportunities for patient organisations to network with and develop relationships with people affected by breast cancer. However, this channel of communication is only effective due to the long-standing high quality of information resources and support on our website, which we are able to signpost people to. **ACKNOWLEDGEMENT OF FUNDING:** This project was funded by Breast Cancer Care.

E-5

On-Line Assessment of Psychological Distress in Breast Cancer Patients

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BACKGROUND: Health and illness topics are by far the more sought in the web, being Cancer one of the more consulted. More and more studies are using internet to cover psychooncology topics and have used it to assess symptoms, quality of life and emotional processing in adjustment to breast cancer. We want to wide our previous research and establish the prevalence of psychological distress among a large sample of Spanish-speaking breast cancer patients recruited on-line. **METHOD:** A sample of 492 participants was recruited from our breast cancer website. 434 accepted and fill the agreement sheet (Data protection law), demographic and illness variables questionnaire, Hospital Anxiety and Depression Scale (HADS) and mini-Mental Adjustment to cancer Scale (Mini-MAC). Data was tested for normal distribution by Kolmogorov-Smirnov test. When data did not fulfil the requirements for normality two non-parametric approaches were used to compare variables; two-tailed Mann-Whitney U and Kruskal-Wallis H test. Pearson or Spearman correlation coefficients were used to evaluate associations between HADS and Mini-MAC subscales, as appropriate. We used the Statistical Package for Social Sciences. **RESULTS:** Mean age 43,86 (SD = 8,9), married 73,5%, 68,2% had children. 24,9% high education. 43,3% working. 55% mastectomy, 54,9% combined therapeutic regime. Psychological critical level: 66, 2% anxiety, 34,5% depression, 50,5% distress (adding HAD scales, $\alpha = 0.894$), 3,5% low Fighting Spirit- high Helplessness Hopelessness, 17,9% Anxious preoccupation, 18,2% Cognitive avoidance and 7,5% Fatalism. T-test of distress as two category was significant with labor situation,

$F = 4.7$, $p < 0.031$; marital status, $F = 7.77$, $p < 0.006$ and maternity, $F=9.04$, $p < 0.003$, and psychological measures (higher correlations: anxiety, depression, hopelessness, anxious preoccupation). **CONCLUSIONS:** Our work shows high reliability of distress measurement by internet. We have no significant results by age and medical status and we may analyze why this is different when comparing with “real” samples. We also have high levels of distress probably due to internet consultation situation. Our sample is young compared with other samples recruited presently. **RESEARCH IMPLICATIONS:** Internet is a real space in our lives. We cannot deny its usefulness in providing information and support to patients. We must work to offer sound tools. In psychological assessment, we need to use standardized questionnaires to have reliable data. Our sample may be widened to have more old patients. Also it may be necessary a comparison with “no users” of internet to ascertain if it yields a concrete profile, modifying results. **CLINICAL IMPLICATIONS:** Internet may be a good space to contact, assess and give psychological support to patients when they cannot have a real consultation available due to different reasons. Internet may be used alone or with other support tools. Is crucial to work in order to have sound spaces in the net, that can help our patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

F-1

Effects of a Nurse-Led Psychosocial Intervention on Depressive Symptoms and Health-Related Quality of Life in Patients With Head and Neck Cancer: A Randomized Controlled Trial

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BACKGROUND: Many patients with head and neck cancer (HNC) experience depressive symptoms and deteriorated health related quality of life (HRQoL) after cancer treatment. A randomized controlled trial (RCT) was conducted to investigate the effect of the nurse counseling and after intervention (NUCAI) versus usual care on depressive symptoms and HRQoL in HNC patients up to 24 months after cancer treatment. **METHOD:** Two-hundred-and-five HNC patients were randomly allocated to NUCAI ($n = 103$) or usual care ($n = 102$). The nurse-led NUCAI is problem focused and patient driven, aimed at helping patients to manage the physical, psychological and social consequences of HNC and its treatment. NUCAI consisted of six bimonthly 45-minute counseling sessions during 1 year after treatment

and was combined with the medical follow-up visits at the University Medical Center Utrecht, the Netherlands. Depressive symptoms were measured with the CES-D and HRQoL with the quality of life questionnaire C30 and H&N35 of the EORTC. Analyses were performed on an intention-to-treat basis using mixed-effect models. **RESULTS:** At 12 months, the intervention group significantly improved on depressive symptoms, emotional and physical functioning, pain, swallowing, social contact and opening mouth. Effects persisted up to 12 months after finishing the NUCAI. At 18 months depressive symptoms, global QOL, role and emotional functioning, pain, swallowing and opening mouth were improved in the intervention group compared to control. At 24 months fatigue was found effective and improvement persisted in the intervention group for emotional functioning. **CONCLUSIONS:** This RCT showed that the nurse-led NUCAI is feasible and effective in reducing depressive symptoms and improving HRQoL in patients with HNC. **RESEARCH IMPLICATIONS:** This study is one of the few randomized controlled trials evaluating the effect of a psychosocial intervention on HNC patients' depressive symptoms and the first, to our knowledge, evaluating the effect on HRQoL. **CLINICAL IMPLICATIONS:** The NUCAI has shown to be effective in decreasing depressive symptoms and improving several domains of HRQoL up to 24 months after treatment in head and neck cancer patients. This nurse-led intervention is less intensive compared to other psychosocial interventions, and is easy to combine with regular medical follow up. It is therefore promising to be implemented in daily clinical practice. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by a grant from the Dutch Cancer Society.

F-2

The Efficacy of Cognitive Existential Couple Therapy (CECT) for Men With Early Stage Prostate Cancer and Their Partners: Longitudinal Findings From a Randomised Controlled Trial

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BACKGROUND: CECT is a manualised six-session couple therapy program tailored to support men with localised prostate cancer (PCa) and their partners to cope effectively with diagnosis and treatment and prevent psychological distress. This study reports the results of a two arm randomised

controlled trial with patients and their partners comparing CECT with standard care at a comprehensive cancer centre in Australia. **METHOD:** Sixty-one men (16%) and their partners ($N = 122$) who were diagnosed with PCa in the previous 12 months were randomly assigned to receive CECT or standard care. CECT comprised private sessions conducted by clinical psychologists and psychiatrists and dealt with existential and functional themes. Participants were assessed at baseline, post intervention, and 9 months post recruitment. Three-way ANCOVA analyses investigating treatment, age and gender effects (controlling for baseline scores) were conducted on outcome measures including: coping, benefit finding, cancer specific distress, psychological well-being and marital function. **RESULTS:** Post-intervention: (1) Treatment main effects demonstrated favourable coping for CECT participants, including greater use of adaptive coping strategies ($p = 0.026$, $\eta^2 = 0.06$); greater use of problem-focused coping ($p = 0.002$, $\eta^2 = 0.11$); greater sense of family ($p = 0.068$, $\eta^2 = 0.04$). (2) Treatment by age interactions demonstrated favourable psychological well-being for *younger* CECT participants only, including less cancer specific distress ($p = 0.01$, $\eta^2 = 0.08$); less avoidance ($p = 0.027$, $\eta^2 = 0.06$); less hyperarousal ($p = 0.025$, $\eta^2 = 0.06$); less intrusion ($p = 0.026$, $\eta^2 = 0.06$); and less anxiety ($p = 0.043$, $\eta^2 = 0.05$). **CONCLUSIONS:** Few specialist mental-health interventions have shown efficacy for men with early stage PCa and their partners. Findings from this study suggest: (1) CECT results in favourable coping for men and their partners across all ages immediately post-intervention. (2) Younger men and their partners appear to benefit most from CECT and show favourable psychological outcomes immediately post-intervention. (3) This cohort of men and their partners each responded differently to the cancer experience. (4) CECT did not affect marital functioning outcomes. **RESEARCH IMPLICATIONS:** Low uptake rates in this study suggest further research is needed to develop creative approaches to enrol men in psychological interventions, and effectively capture psychological distress. **CLINICAL IMPLICATIONS:** Younger men and their partners appear to be more susceptible to psychological distress, but, are also amenable to change in a structured psychological intervention delivered by mental-health specialists. CECT has clinical relevance for men and their partners requiring support, and may provide a useful manualised approach for therapists in the setting of PCa. **ACKNOWLEDGEMENT OF FUNDING:** This RCT was funded by *beyondblue*.

F-3

An Innovative Website Resource for Meeting the Emotional and Supportive Care Needs of Young Adults Coping With Cancer

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BACKGROUND: Young adults (YA) with cancer report high levels of distress and unmet psychosocial needs. Institutional, patient, and disease-specific factors interfere with YAs' access to psychosocial care. The internet provides a unique mechanism for providing supportive care services to YAs with cancer. YAs are familiar with the internet and use computers and the internet at higher rates than older adults. This study describes the development and evaluation of a website for YAs with cancer. **METHOD:** The website was developed over 8 months and was informed by existing research and review of related websites. Each user establishes a user name and is given a password. Social networking features include: customized activity feed, discussion forums, online messaging, and member profiles. Informational resources include program announcements, strategies for navigating the cancer center, self-help resources, and topical information. Information on YA utilization of the site was collected continuously since the launch date using a web-based program. Website users ($n = 24$) also completed an online website survey which provided data about patient satisfaction, helpfulness, and impact on distressing emotions. **RESULTS:** 165 YAs are registered for the website with 529 website visits. The average length of each visit is 7.00 minutes. 92% reported that the website is somewhat to very helpful with information on institutional resources ($M = 2.74$, $SD = 0.92$), clinical services ($M = 2.71$, $SD = 0.75$), and health ($M = 2.61$, $SD = 0.72$) the most helpful. The most frequently used website components are social networking ($M = 1.83$, $SD = 1.19$) and information on clinical services ($M = 1.50$, $SD = 1.22$). A majority reported that the website made them feel more connected (79%), less worried (79%), less sad (79%), and less fearful (88%). 25% reported contacting another website user outside the website. **CONCLUSIONS:** This study provides preliminary evidence to support the use of internet-based, developmentally-targeted interventions for YAs coping with cancer. The most helpful aspects of this resource include social networking, and information about institutional resources and clinical services. Patient user survey results indicate that this resource has a positive impact on patients' experience of worry, sadness and fear. In addition, a significant minority of patients used the website to initiate face-to-face contact with other YAs coping

with cancer. This study provides preliminary evidence to suggest that internet-based interventions can help to meet the psychosocial and supportive care needs of this population. **RESEARCH IMPLICATIONS:** This study shows that additional research on internet-based resources for YAs with cancer is warranted. Longitudinal studies with larger sample sizes are needed to examine the impact of internet resources on YA distress, unmet needs, and perceived support over time. Further, examination of novel web-based resources such as internet-based psychotherapy groups will identify new efficacious methods for meeting the psychosocial needs of YAs with cancer. **CLINICAL IMPLICATIONS:** Young adults who are coping with cancer use and benefit from web-based peer support and educational information. The success of this innovative resource challenges us to think beyond our traditional definitions of mental health care. Clinicians are in a unique position to advocate for the creation and use of such interventions as an integral part of meeting the psychosocial support needs of YAs with cancer. **ACKNOWLEDGEMENT OF FUNDING:** This project was funded by anonymous philanthropic funding.

F-4

The Cancer Survival Index – A Prognostic Score Integrating Psychosocial and Biological Factors in Patients Diagnosed With Cancer

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BACKGROUND: Recent data demonstrate the impact of psychosocial factors on cancer survival. So far, we have not used this information to integrate somatic with psychosocial parameters into one holistic scoring system. We aimed to validate whether (1) psychosocial factors impact overall survival (OS) in cancer patients when analyzed with selected biological variables (2) these parameters can be combined into one scoring system feasible in clinical practice, improving the assessment of OS, supporting patient management and study design.

METHOD: A total of 2263 adult cancer patients were included in a cross-sectional single-center study. Fifteen somatic and psychosocial variables were preselected as risk factors based on published data and analyzed with a Cox proportional hazards model. Parameters significantly associated with OS were used to compute models identifying groups of patients with different risks of death. The training set consisted of 1122 patients. Validation sets encompassed the remaining 1141 patients, the entire cohort and specific cancer subgroups. The average follow-up after diagnosis was 62.6 months. **RESULTS:** Cancer site (hazard ratio, HR:3.56), metastatic disease (HR:1.88), depression (HR:1.34), female sex (HR:0.73) and hemoglobin levels above 11 g/dl (HR:0.48) were related to OS in multivariate analysis. A model reflecting the impact of these factors on survival was developed – the Cancer Survival Index, identifying three patient groups with predicted survival of 198.2, 141 and 47.2 months ($p = 0.000$). The impact of depression on OS was in part explained by its association with psychiatric disorders, unemployment, metastatic disease and anemia, all affecting survival. Univariate analysis demonstrated a significant correlation between depression, low income ($p = 0.000$) and education ($p = 0.000$) affecting patient-doctor communication. **CONCLUSIONS:** We describe the integration of biological and psychosocial factors into one scoring system improving the assessment of OS in cancer patients. This Cancer Survival Index provides a new prognostic tool, complements established prognostic indices and is feasible in a busy clinical practice. This Index reflects the impact of psychosocial factors – the tumor macroenvironment – on OS. Patients with low income and low education show higher levels of depression, but articulate less need for and actually receive less psychosocial support, indicating that the "mind-body"-interplay is less a mythical but a social issue, which needs to be considered in patient-doctor communication. **RESEARCH IMPLICATIONS:** Given the impact of psychosocial factors on OS in cancer, these factors should be considered in the design of future therapeutic trials. Failure to acknowledge the impact of psychosocial parameters in study design might account for a confounding bias in clinical trials: a different distribution of psychosocial variables between groups alters the apparent relationship between the factor of interest and outcome. **CLINICAL IMPLICATIONS:** The major implication of this study is the need for the health care providers to pay more attention to the recognition and treatment of factors such as previous psychiatric comorbidities, depression, low income and education as well as unemployment. Summarized, the CSI allows identification of patients with a high risk of shorter survival and should be used as routine assessment of cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

F-5

Effects of Psychodynamic Psychotherapy in Depressive Breast Cancer Patients on Sub Dimensions of Quality of Life And Fatigue - A Randomized Controlled Trial

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BACKGROUND: Beside the main purpose of the trial (determining the efficacy of short-term psychodynamic psychotherapy [STPP] in depressed breast cancer patients versus treatment as usual [TAU]), quality of life and fatigue were assessed as secondary outcomes. There is evidence that psychosocial interventions (incl. psychotherapy) have the potential to increase quality of life [Rehse/Pukrop 2003] and to decrease fatigue [Goedendorp et al. 2009]. But regarding this, there is lack of empirical results on psychodynamic interventions. **METHOD:** In a multicenter randomized controlled trial (ISRCTN96793588), 157 breast cancer patients with comorbid depression were randomized either to STPP (intervention group, $N = 78$) or TAU (control group, $N = 79$). 51 patients from the STPP group and 54 patients from the TAU group were included in complete-case-analyses for quality of life (assessed with EORTC QLQ C30; BR23) and fatigue (MFI-20) with baseline/pre-treatment (t1) and post-intervention (t2) data. Data were analyzed using analyses of covariance with quality of life and fatigue subscales (t2) as dependent variable with fixed effects for treatment, center and baseline values (depression, quality of life scores) as covariates. **RESULTS:** There were main effects for group (favouring STPP) for global quality of life, physical, role, emotional and social functioning (p between 0.001 and 0.037). Additionally, there was a main effect for group with lower symptoms in the STPP condition for the dimension “breast symptoms” ($p = 0.005$). There were no main effects for the variable “group” in the remaining quality of life dimensions and all fatigue subscales. Further, no main effects for the variable “center” were observed. Strongest predictors for post-treatment quality of life and fatigue were the according baseline values. **CONCLUSIONS:** STPP is an effective treatment of depression in breast cancer patients

improving depression and functional aspects of quality of life. Due to its nature, the STPP intervention achieved improvements emotional and interpersonal aspects of quality of life. STPP is limited in its potential to decrease burden of symptoms and to reduce fatigue. The latter is in line with previous research recommending specific interventions in order to reduce fatigue. **RESEARCH IMPLICATIONS:** Results are limited by the fact that a considerable proportion of about 30% patients dropped out, equally from STPP and from TAU. Therefore, future studies should consider applying the treatment model in a more flexible stepped-care approach. **CLINICAL IMPLICATIONS:** Beside its efficacy in reducing depression in breast cancer patients, STPP has the potential to increase functional aspects of quality of life. Therefore, it could be implemented in psychosocial cancer care models e.g. in certified treatment units (breast centers). Based on the demonstrated efficacy for breast cancer patients, it would be desirable to transfer STPP to further cancer populations, including male patients. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by grants from the German Cancer Aid: reference numbers 107457/109379 (Mainz) and 107870/109381 (Leipzig).

G-1

Decision Making on Preimplantation Genetic Diagnosis and Prenatal Diagnosis: A Challenge for BRCA Carrier Couples

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BACKGROUND: *BRCA* 1/2 mutation carriers are faced with difficult decisions regarding fulfillment of their child wish. Reproductive options for carrier couples include natural conception without testing, prenatal diagnosis (PND) and preimplantation genetic diagnosis (PGD). This study aims to provide an integral qualitative account of the decision-making process of *BRCA* carrier couples, who

seriously considered PGD. Motives and considerations to opt for or against PGD and reproductive alternatives were addressed and couples reflected on the option chosen. **METHOD:** Forty-seven *BRCA* carrier couples were invited to participate in interviews on the motives and considerations taken into account during their reproductive decision-making process. They had all received extensive counselling on their reproductive options at the PGD centre of Maastricht UMC+, and had made a final decision whether or not to use these options. Eighteen couples were interviewed between January and August 2012. Focus groups were assembled based on the reproductive method the couple had chosen: PGD (six couples) or conception without testing (eight couples). Four couples who had chosen for PND for *BRCA* were interviewed dyadically. **RESULTS:** Based on perceived severity of HBOC and ethical views, only few couples considered PND for *BRCA* acceptable. Couples that opted for PND based their decision on mainly practical reasons (e.g. natural conception, likelihood of favourable outcome). Considerations regarding PGD largely overlapped between PGD-users and non-users, all mentioning few, significant advantages (e.g. protecting child/family from the mutation) and many smaller disadvantages (e.g. IVF, low chance of pregnancy). Female carriers considered IVF safety (i.e. hormonal stimulation) and compatibility of PGD planning with preventive surgeries important. Non-users expressed doubts about their decision and emphasized the impact it still had on their lives. **CONCLUSIONS:** *BRCA* couples classify PGD and/or PND as reproductive options based on perceived severity of HBOC and ethical views; when deciding on PGD, few, but significant advantages are outweighed against numerous smaller disadvantages, resulting in a challenging decision-making process with long-lasting uncertainties regarding justness of choice among non-users. **RESEARCH IMPLICATIONS:** Further investigation of the emotional impact of reproductive decision-making among *BRCA* carrier couples is needed. Due to specific characteristics of HBOC (e.g. its adult onset, reduced penetrance and the availability of preventive and therapeutic options), the decision-making process in these couples may differ from other genetic conditions. Exploration of motives and considerations taken into account for other categories of hereditary diseases is recommended to optimize tailored reproductive counselling of genetically burdened couples. **CLINICAL IMPLICATIONS:** Perceived severity of HBOC, and, for female carriers, IVF safety and PGD planning with regards to preventive surgeries, are essential items to be discussed in reproductive counseling of *BRCA* carrier couples. The emotional impact of the decision should not be underestimated; especially non-users may experience feelings of doubt or guilt up to years afterwards. Tailored PGD

counselling and decisional support are therefore recommended to guarantee well-informed decision-making and increase decisional satisfaction. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Dutch breast cancer foundation Stichting Pink Ribbon.

G-2

Attitudes to Chemotherapy in Elderly Women With Early-Stage Breast Cancer (AchEW): Patients' Experiences

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BACKGROUND: Decisions about adjuvant chemotherapy in older women with early-stage breast cancer (EBC) are often complex and challenged by the lack of evidence-based research. The AchEW study revealed that specialist breast cancer teams often failed to offer chemotherapy. In the current sub-study we explored patients' experiences with information provision and decision-making regarding adjuvant chemotherapy for EBC. Understanding women's attitudes towards chemotherapy is fundamental in developing strategies to improve cancer care for this expanding group of patients. **METHOD:** Between April 2010 and December 2011, clinicians from 24 UK specialist breast cancer teams completed 803 study-specific questionnaires reporting individual adjuvant chemotherapy decisions for women ≥ 70 years with newly diagnosed EBC. Only 116 (14.5%) patients were offered chemotherapy. Structured interviews were conducted with consenting patients who were offered chemotherapy within three weeks of their treatment discussion. FACT-B/FACT-F and IADL were used to assess quality of life (QoL) and functional ability. Quantitative and qualitative data analyses were conducted on the interview data and questionnaires. **RESULTS:** 58/95 eligible patients agreed to be interviewed; median age was 73 years (range 70–83). QoL and functional ability were good. Chemotherapy was presented as a treatment choice to 84% of women. 81% stated that communication with their clinician was good and 79% that treatment was explained well. Most women preferred shared (58%) or patient-directed (19%) decision-making. 37% involved family in their decision. Main factors influencing decision-making were prevention of recurrence and clinical recommendation in patients accepting chemotherapy, and side-effects, low survival benefits and treatment duration in those declining treatment. 50% indicated that their age had an impact on treatment decision. **CONCLUSIONS:** Women aged ≥ 70 years with

EBC preferred to be involved in their treatment decisions. Although for most adjuvant chemotherapy was offered as a choice, direct recommendation by a clinician to either have or not have the treatment played a significant role in decision-making. Information provision was rated well, but lack of individual and age-specific details and the possibility of information overload need further attention. Relatives and friends played part in information provision and decision-making for some patients. Well-informed decision-making and effective communication between clinicians, older women and their family members remains therefore important. **RESEARCH IMPLICATIONS:** Our study measured treatment decision-making after oncology consultations. Preference for involvement in decision-making could reflect justification of choice, and future studies should measure prospectively. More research is also needed to explore the perspectives of older women with EBC from different educational and cultural backgrounds. Decision-making aids have been developed to increase understanding and satisfaction with treatment choice. It is unknown if these tools can be used in an older population and further research is recommended. **CLINICAL IMPLICATIONS:** Age-tailored information provision in the treatment discussion for EBC remains key; communication training for HCPs advising older women on treatment choices could be introduced to enable this process. Family's involvement in clinic visits and discussion of treatment options should be promoted to facilitate communication, to clarify information, and to bridge possible barriers. Lastly, geriatric assessments could be used to assess patients' biological age rather than chronological age in order to guide individual treatment decisions. **ACKNOWLEDGEMENT OF FUNDING:** The study was supported by an unrestricted educational grant from Roche Products Limited, UK. The funder had no role in the design or conduct of the study; in the collection, analysis, and interpretation of the data; or in the preparation or approval of manuscripts.

G-3

Facilitating Decision Making of Women Considering Breast Reconstruction Following Mastectomy: Results From a Randomised Controlled Trial of the BRECONDA Web-Based Decision Aid

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BACKGROUND: Women requiring mastectomy for breast cancer are faced with the difficult preference-based decision regarding whether, and how, to restore breast shape after surgery. We have developed a web-based interactive decision aid, *BRECONDA*, to assist with this decision-making. Detailed information about type and timing of breast reconstruction surgical choices, interactive values clarification exercises, and video recorded patient interviews are provided. In a randomised controlled trial we compared the efficacy of *BRECONDA* with a general educational pamphlet. **METHOD:** Women diagnosed with breast cancer were recruited into the entirely web-based trial either prior to ($n = 31$) or after mastectomy ($n = 107$). Following consent, participants completed baseline questionnaires and were then randomly assigned into either: 1) Intervention (INT) - received unlimited access to the *BRECONDA* program and an electronic version of an information booklet about breast surgery and reconstruction; or, 2) Control (CONT) - received the information booklet alone. Participants then completed 1-month follow-up questionnaires. Assessments included satisfaction with information, decisional conflict and knowledge. INT participants completed ratings of perceived usefulness of the intervention and appropriateness and extent of the content. **RESULTS:** By 1-month follow-up, 26 participants (16 CONT; 10 INT) had undergone breast reconstruction. Controlling for baseline knowledge, time since diagnosis, current reconstruction and mastectomy status, ANCOVAs demonstrated that at follow-up INT participants reported significantly lower decisional conflict (INT = 27.3; CONT = 34.6, $p = 0.015$) and greater satisfaction with information (INT = 4.02; CONT = 3.74, $p = 0.033$); both groups had equally high knowledge (INT = 8.58; CONT = 8.41; out of 10; $p = 0.47$). The majority (>75%) of INT participants indicated high to very high overall satisfaction with the intervention, reporting that it was easy to use, presented a balanced view and that the amount of information provided was "just right" (75%). **CONCLUSIONS:** These findings indicate that participants assigned to the intervention benefited in terms of their overall decisional process quality in that they reported both greater satisfaction with information regarding the breast reconstruction decision and lower decisional conflict. In terms of evaluating the content and format, intervention users reported high levels of user acceptability regarding overall satisfaction with the decision aid, and the appropriateness of the content for the target audience. Given that both conditions had access to quality information about breast reconstruction through the information booklet it is not surprising that knowledge was high in both groups at the 1-month follow-up. **RESEARCH IMPLICATIONS:** This is the first randomized

controlled trial to assess a fully-integrated online decision aid that incorporates values clarification exercises in the breast reconstruction context. These findings provide evidence for the acceptability and efficacy of this decision support intervention in the short term. The intervention was equally as effective for women who had previously undergone mastectomy as for those about to have a mastectomy, suggesting the broad applicability of this decision aid. **CLINICAL IMPLICATIONS:** Online patient resources such as *BRECONDA* have the advantage of easy accessibility, particularly with increasing internet access across the broad population. These data support the feasibility and acceptability of implementing *BRECONDA* into oncological surgery practice. The easy-to-use self-guided format of the intervention will allow surgeons to refer their patients to this resource as an adjunct to medical consultations and to facilitate the decision-making process concerning both immediate and delayed breast reconstruction surgery following mastectomy. **ACKNOWLEDGEMENT OF FUNDING:** This project was co-funded by the National Breast Cancer Foundation and Cancer Australia - ID 543400.

G-4

The Effect of Decision Aids on Treatment Decision Making for Breast Cancer Surgery: A Randomized Controlled Trial

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BACKGROUND: Previous studies showed treatment decision making (TDM) difficulties lead to persistent psychosocial morbidity among women with breast cancer. Therefore, informational and decision-support strategies are needed to optimize women's breast cancer TDM. The aim of this randomized controlled trial was to assess the effect of a post-consultation nurse-distributed take-home decision aid ("DA") on TDM for breast cancer surgery, women's satisfaction with treatment decision, and their post-operative psychological morbidity. **METHOD:** A total of 276 women who were considering breast cancer surgery for early-stage breast cancer were randomly assigned to receive a DA (take-home booklet) or the standard issue information booklet (control condition) after the initial consultation where the surgeon disclosed the diagnosis and discussed the treatment options with the patients. Randomly 138 were assigned to DA group and 138 were assigned to the control group. Participants completed interview-based questionnaires one-week post-consultation, 4-weeks, 4-months, and 10-months post-surgery. Main outcome measures: Decision conflict, TDM difficulties,

Knowledge of breast cancer and its treatment, Decision regret, Realistic outcome expectation, and Psychological distress. **RESULTS:** Women in the DA group reported significantly lower decisional conflict (15.8 vs. 19.9, $p = 0.004$) and TDM difficulties (17.5 vs. 19.1, $p = 0.016$) scores compared to women in the control condition. Women receiving the DA had significantly lower decision regret scores over time ($b = 4.55$, $p < 0.05$). Knowledge, realistic outcome expectation, and psychological distress were similar between groups. **CONCLUSIONS:** The DA was beneficial in reducing decisional conflict and TDM difficulties without increasing anxiety levels among women choosing breast cancer surgery. **RESEARCH IMPLICATIONS:** This is the first study to examine the effect of DA for surgical choices among non-western women with breast cancer, and the first to evaluate a DA for take-home rather than consultation use among women with breast cancer. The study demonstrates that DAs can benefit patients from non-western cultures, without prolonging consultations or increasing clinical workloads. **CLINICAL IMPLICATIONS:** Post-consultation, nurse distributed DAs should be considered for use in breast surgery settings and be integrated into clinical services, where they can be expected to enhance post-consultation decision support. **ACKNOWLEDGEMENT OF FUNDING:** Health and Health Services Research Fund (Grant No. 07080651), Food and Health Bureau, The Government of Hong Kong, SAR.

G-5

Psychosocial Factors in Medical Decision Making of the Multidisciplinary Team for Cancer Treatment - An Observational Study

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BACKGROUND: Previous qualitative research of our group has provided evidence that psychosocial factors (PSF) play an important role in medical decision making on cancer treatment. In particular in complex cases, i.e. cases with comorbidities, metastasis and recurrent disease, PSF have been found to be considered more frequently than in uncomplex cases, i.e. in an adjuvant situation. This study explored the role of psychosocial factors in decision making of the multidisciplinary team using a quantitative observational approach. **METHOD:** Type and frequency of PSF raised in the discussion of the multidisciplinary team (MDT) meeting of our gynecological cancer centre were assessed by two researchers independently using real time observation and negotiated for each case. Frequencies of case discussions including PSF and

of changes of the treatment decision were calculated. Differences in the frequency of PSF between uncomplex and complex cases were analysed using the χ^2 -test. **RESULTS:** $N = 105$ case discussions including breast, ovarian, cervical and vulva cancer were assessed ($N = 65$ uncomplex cases, $N = 40$ complex cases). Primary treatment suggestions changed in the MDT meeting in 23.8% ($N = 25$). PSF were discussed in 33.3% ($N = 35$) including: patients' treatment preference, compliance, infra-structural connection, social situation, intellectual ability and mental health. In 37.1% of these cases PSF were decision criteria for the primary treatment suggestion. In 12.0% of these cases the treatment recommendation was based on PSF. In 21% PSF lead to additional decisions. In complex cases, PSF were discussed significantly more frequently than in uncomplex cases ($\chi^2 = 6.2, p < 0.05$). **CONCLUSIONS:** PSF are highly relevant in medical decision making of the MDT in cancer treatment. The results support findings of our previous research. However, PSF were not obtained and discussed systematically by the clinicians. In order to provide an optimal quality of health care guidelines on standardised assessment and integration of PSF in the MDT decision strategy need to be developed. **RESEARCH IMPLICATIONS:** Further research investigating the decision process of the MDT meeting on other tumor entities and larger samples is required for further validation of these findings, resulting in a novel model on decision making in oncology. Based on that, standards improving the quality of decision making on cancer treatment can be developed. **CLINICAL IMPLICATIONS:** Medical decision making on cancer treatment represents a comprehensive process. The MDT meeting forms an essential part of this process and regularly discusses PSF which are relevant to the treatment recommendation. In order to minimize bias and to provide optimal patient centred care standards, i.e. guidelines on the obtainment and inclusion of relevant factors such as psychosocials needs of the patient and on appropriate decision strategies need to be established. **ACKNOWLEDGEMENT OF FUNDING:** None.

H-1

Counsees Agreements With the Risk Estimation and Their Adherence to Surveillance Recommendations in Breast Cancer Genetic Counselling

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BACKGROUND: Amongst the aims of breast cancer genetic counselling are to increase counsees' accurate risk perception and to assist them to make an informed choice regarding breast surveillance. We studied whether or not counsees express their (dis)agreement with the risk estimation and surveillance recommendations in the final consultation, whether their intentions for surveillance are discussed and what their level of adherence to surveillance recommendations was at 1 year post-counselling. **METHOD:** Counsees were included from February 2008 to April 2010. 155 counsees with indication for DNA-testing completed online questionnaires before and after counselling. Consultations were videotaped. Counsees' reactions to the risks and recommendations were coded for the level of agreement with the advice and intentional statements were coded. Adherence to surveillance recommendations was determined by comparing the surveillance behaviour in the last year to the advice given. **RESULTS:** Almost all counsees (94%) uttered an agreement or understanding as a reaction to their risk estimation and 2% uttered a disagreement. However, only a third of the counsees correctly estimated their risk category (low < 20 , moderate 20–30 or high $> 30\%$ risk). Most counsees overestimated their risk. Few (6.8%) counsees gave an intentional statement about surveillance. One year after the final consultation, three quarters of the breast cancer unaffected counsees adhered to the advice given. A quarter (27%) had performed more surveillance than recommended. Only 2% of all counsees had not performed the recommended surveillance. **CONCLUSIONS:** Although a large majority of counsees uttered an agreement with the risk estimation in their final visit, post counselling most counsees perceived their risk to be higher than this estimate. Counsees' intentions for surveillance were seldom discussed. A large majority of counsees followed surveillance recommendations adequately, a quarter screened more often than recommended. Inviting counsees to share their views on the risk and recommendation might create the opportunity to discuss their reasons for the uptake of surveillance that was higher than recommended. **RESEARCH IMPLICATIONS:** Most counsees who had performed screening more often than recommended reported to think they had adhered to the advice. Counsees' report of whether they adhered to the advice given is thus not a reliable measure. Follow-up research should look into how counsees recall their advice and how their intentions for surveillance could be more often discussed within the final genetic counselling consultation. **CLINICAL IMPLICATIONS:** Many counsees with an uninformative test result overestimate their breast cancer risk after genetic counselling and performed surveillance more often and/or at younger ages than recommended. Discussion of

counselees' risk perception in relation with their surveillance intention within the final consultation for genetic counselling might enhance the opportunities for the counsellor to reassure counselees who are at population risk. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by a grant from the Dutch Cancer Society (Nivel 2010-4875).

H-2

Multidisciplinary Care for *CDHI* Carriers Opting for Prophylactic Gastrectomy

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BACKGROUND: *CDHI* gene mutation carriers have an up to 80% lifetime risk of developing gastric cancer at, on average, 40 years of age. International guidelines recommend carriers to undergo prophylactic gastrectomy to prevent invasive cancer. However, it is unclear 1) what the impact is of this preventive surgical procedure on physical and psychosocial functioning, and 2) what the current experiences are with care provided to those undergoing this preventive surgery. **METHOD:** In this multi-center cross-sectional study, all known Dutch *CDHI* mutation carriers, who had undergone prophylactic gastrectomy were invited to complete questionnaires and to participate in a semi-structured interview. Questions were posed on physical and psychosocial issues and the experiences with the care offered by the health professionals. **RESULTS:** Twenty *CDHI* mutation carriers (95%) ($M = 41$ years, $SD = 13$; range 20–63) completed the questionnaire and 18 (86%) participated in the interview (range: 2 months–5 years after gastrectomy). Respondents reported a wide variety of complaints (e.g. early satiety, extreme weight loss, fatigue, negative impact on daily functioning). Although the respondents were generally satisfied with the information and medical care before and during their hospital stay, 44% was not satisfied with the dietary care, and 51% experienced the follow-up after surgery as suboptimal. They expressed a need for more individual monitoring from a well-educated dietician, surgeon or other clinician. **CONCLUSIONS:** Prophylactic gastrectomy in *CDHI*-carriers led to a number of long-lasting physical and psychosocial complaints. To optimize health care for *CDHI*-carriers undergoing total gastrectomy, a multi-disciplinary team might be helpful to coordinate the care for this special group of high-risk carriers. Dietary care should be offered by health care providers with specific knowledge of

nutrition after (total) gastrectomy. We also suggest appointing a case-manager, which can be easily contacted also many years after gastrectomy. **RESEARCH IMPLICATIONS:** This is the first study investigating the experiences with the care offered to individuals who had undergone prophylactic gastrectomy. Future studies should use a prospective longitudinal design, including a 'pre-surgery' assessment, and multiple post-surgery assessments of the psychosocial and physical variables, allowing studying the impact of the preventive gastrectomy over time. Furthermore, in order to increase the sample size, collaboration with research groups outside the Netherlands is warranted. **CLINICAL IMPLICATIONS:** The results of this study added to our limited knowledge about the possible psychosocial and physical impact of prophylactic gastrectomy. These results indicate that specific attention should be paid to *CDHI* mutation carriers in order to improve food intake, decrease fatigue and improve quality of life. **ACKNOWLEDGEMENT OF FUNDING:** None.

H-3

Psychosocial Impact of Rapid Genetic Counseling and Testing in Breast Cancer Patients: Findings From a RCT

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BACKGROUND: Female breast cancer patients carrying a BRCA1/2 mutation have an increased risk of second primary breast and ovarian cancer. Rapid genetic counseling and testing (RGCT) in the interval between diagnosis and primary surgery may aid in making informed decisions about treatment. However, little is known about the effect of RGCT on treatment decisions and psychosocial well-being. We have performed a randomized con-

trolled trial to investigate these issues. **METHOD:** Newly diagnosed breast cancer patients with at least a 10% risk of carrying a BRCA1/2 mutation were randomized to an intervention group (offer of RGCT) or a usual care control group (ratio 2:1). Psychosocial impact was assessed with the Hospital Anxiety and Depression Scale (HADS), the Impact of Event Scale (IES), and the Cancer Worry Scale (CWS). Assessments took place at study entry, and at 6 and 12 months follow-up. Both intention-to-treat analyses and per-protocol analyses were performed, comparing patients in the intervention group who received DNA test results before surgery with patients in the control group. **RESULTS:** Between November 2008 and December 2010, 265 patients were randomized to the intervention ($n = 178$) or control ($n = 87$) group. Complete questionnaire data were available for 245 (92%) and 240 (91%) patients at 6 and 12 months follow-up, respectively. Of the 178 women in the intervention group, 177 (99%) underwent genetic counseling after a median of 4 days. Seventy-one (40%) of these women had rapid DNA testing and 59 received DNA test results before surgery. Based on both intention-to-treat and per-protocol analyses, no statistically significant differences were observed between groups over time on any of the psychosocial outcomes. **CONCLUSIONS:** Rapid genetic counseling and testing in newly diagnosed breast cancer patients does not have any measurable adverse effects on psychological distress, breast cancer-specific distress or cancer worries. **RESEARCH IMPLICATIONS:** Since no adverse effects were found, similar trials could be performed in patients with other types of cancer, such as women with colorectal cancer who are at risk of having Lynch syndrome and therefore an increased risk of endometrial cancer. If their prognosis is favorable and they are diagnosed with Lynch syndrome pre-surgically, they may opt for a hysterectomy at the time of their colorectal surgery or more extensive colorectal surgery. **CLINICAL IMPLICATIONS:** These results suggest that it is safe to offer rapid genetic counseling and testing to newly diagnosed breast cancer patients. This provides women who are at risk of having hereditary breast cancer the opportunity to incorporate genetic test results into their (surgical) treatment decisions. **ACKNOWLEDGEMENT OF FUNDING:** Funding for this study was provided by NutsOHRA Fund.

H-4

Communicating Oncogenetic Information: Do Gastroenterologists and Surgeons Discuss Heredity With Their Patients and, If So, What and How?

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BACKGROUND: Doctors need to recognise an indication for DNA-testing and provide patients with information. Insight into their performance is important to improve referral and optimize patient understanding. We aim to gain insight in discussion of cancer genetic topics by gastroenterologists and surgeons as part of an intervention study, comprising a checklist filled in by doctors, intending to optimize referral to genetic counselling of patients visiting the Gastro-Intestinal Oncology Centre Amsterdam. **METHODS:** Following a pre-post design, before introduction of the checklist, 40 consecutive, new patients completed a short questionnaire which assesses their perception of the discussion of cancer genetic topics (e.g. family history, initiative of the discussion) during the initial consultation. After introduction of the checklist, another 40 patients completed a similar questionnaire. Additionally, initial consultations were audiotaped until data saturation was reached for a qualitative analysis of the discussion of cancer genetic topics. Also, data on family history and referral was collected from medical files. **RESULTS:** Pre-intervention questionnaires show that according to patients cancer in the family is discussed in 78% of the consultations. After introduction of the checklist this increases to 90% ($p = 0.11$). However, doctors ask less often about second-degree family members (pre: 50%; post: 65%; $p = 0.19$) en age at which family members got cancer (pre: 57%; post 70%; $p = 0.29$). Qualitative analysis of the audiotapes show that doctors often ask multi-interpretable or vague questions to investigate family history of cancer. A comparison between post-intervention questionnaires and audiotapes will also be presented as well as data from the medical files. **CONCLUSIONS:** Contrary to our expectations, in most intake consultations of gastroenterologists and surgeons cancer in patients' family members is discussed. After introduction of the checklist questions about second-degree family members and age at which family members got cancer increases. However, the amount of detail of the discussions is not enough to guarantee adequate identification of patients who need to be referred for genetic counseling. **RESEARCH IMPLICATIONS:** Development of an additional intervention (e.g. specific questions in the electronic medical file, checklist filled in by patients prior to the consultation) within a more systematic evaluation might help to improve the discussion of oncogenetic topics, including second-degree family members and age at which family members got cancer. **CLINICAL IMPLICATIONS:** Introduction of a checklist seemed to improve discussion of oncogenetic topics at the intake consultations of gastroenterologists and surgeons. However, as the amount of detail was not enough to guarantee adequate referral training of doctors seems needed. A training aimed at improving knowledge and com-

munication skills might improve discussion of oncogenetic topics leading to optimized referral for genetic counselling. **ACKNOWLEDGEMENT OF FUNDING:** This study is financially supported with a Dutch Cancer Society fellowship grant (UVA 2011-4918).

H-5

Which Tests is Best? A Randomised Controlled Trial to Evaluate the Use of Familial Phenotype to Risk Appropriately Screen for Colorectal Cancer in the General Population

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BACKGROUND: Approximately 30% of individuals affected by colorectal cancer (CRC) have a family history of the condition, with inheritance likely to account for 15% of all cases. Most countries have a one-size-fits-all screening recommendation which potentially misses patients at higher risk and may over-screen patients of average risk. This study is an evaluation of a familial risk tool in assisting GP's to make risk appropriate referrals for CRC cancer screening when compared to usual care. **METHOD:** An online family history tool was developed to inform patients of their familial CRC risk. This tool is now being implemented in a large clustered RCT with participants from general practices divided into the intervention (the online CRC familial risk tool plus 12 month follow-up) and control group (12 month follow-up, followed by the online CRC familial risk tool). The primary outcome is to measure whether the intervention group (who were able to access the family history website) has a higher proportion of risk appropriate screening after GP triage, when compared to individuals in the control group. **RESULTS:** Baseline data from the intervention arm ($n = 2000$), have shown that this online tool is valid in triaging individuals into an appropriate familial risk category,

with 8% of participants at an high familial risk, 4.5% at moderate familial risk and 87.5% at average familial risk of developing CRC. Online tracking data has shown that individuals successfully complete the tool within 24 hours of logging into the website, while their GP's receive a faxed copy of their risk report immediately after submission. **CONCLUSIONS:** It is expected that this tool will significantly increase the level of risk-appropriate screening in a primary care setting, while gathering epidemiological data about the familial penetrance rates of colorectal cancer in the complete study population, when this study concludes in several months' time; and in the long term significantly reduce the substantial social and economic burden associated with ineffective and haphazard CRC screening by informing both the patient and their health care provider of their familial risk. **RESEARCH IMPLICATIONS:** This important implementation research will provide a strategy for the improved prevention and early detection of colorectal cancer, as well as reducing unnecessarily invasive testing in people at low risk. It will also improve the implementation of evidence-based guidelines and provide a service model that could be extended to other cancers. **CLINICAL IMPLICATIONS:** The detailed epidemiological data that is being collected on the prevalence of familial colorectal clusters among high risk families in NSW and Victoria, may assist health care professionals in appropriately and effectively triaging these individuals into a personalised surveillance program and facilitate further research into these high risk families; since this tool may offer a consistent and reliable but non-invasive way to detect autosomal dominant gene disorders based on familial phenotype. **ACKNOWLEDGEMENT OF FUNDING:** Cancer Australia.

I-1

Implementing the Dutch Multidisciplinary Guideline Cancer Rehabilitation Seems Feasible: An Analysis of Current Practice

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BACKGROUND: In 2011 IKNL published the guideline Cancer rehabilitation (www.oncoline.nl). This guideline describes the process of detection of complaints and referral of patients to cancer rehabilitation and the multidisciplinary cancer rehabilitation programme (physical exercise, psycho-education, psychosocial guidance, etc.). Prior to implementation, we performed a diagnostic analysis to get more insight into 1) actual cancer rehabilitation care in perspective of the guideline, 2)

suggestions for organising recommendations in daily practice and 3) barriers and facilitators for implementation. **METHOD:** Qualitative analyses consisting of 1) an online survey (218 professional in oncology and 157 professionals in rehabilitation medicine (such as rehabilitation specialists, physiotherapists, psychologists, medical social workers)), an investigational conference (13 cancer patients) and 3) in-depth interviews by telephone (19 professionals and managers). **RESULTS:** Professionals and patients consider the guideline recommendations partly as usual care. Special attention is needed for implementation of screening instruments, intake and rehabilitation programmes in the whole cancer trajectory. The majority of the respondents consider implementation of these recommendations feasible. Facilitators and barriers for implementation are individual (e.g. knowledge and time), organisational (e.g. collaboration) and external (e.g. reimbursement and rehabilitation budget of organisations) factors. **CONCLUSIONS:** This analysis provides useful recommendations on specific parts of the guideline, such as: 1) detection of complaints, 2) referral to cancer rehabilitation, 3) intake, 4) modular rehabilitation programs during all the stages. Specific recommendations for implementation in daily practice are currently used in a national implementation project Cancer rehabilitation coordinated by IKNL. **CLINICAL IMPLICATIONS:** Health care organisations can use the recommendations to (prioritise their activities to) implement recommendations of the guideline. We expect that implementing the guideline requires three important changes: 1) structural detection of complaints and referral by medical specialists or nurse(s) (practitioners) 2) tailored rehabilitation based on a structured intake 3) extension of rehabilitation programmes, also during curative treatment and in the palliative phase. **ACKNOWLEDGEMENT OF FUNDING:** We gratefully acknowledge funding for this project from the Netherlands Organisation for Health Research and Development (ZonMw).

I-2

How Does a Resistance and Aerobic Exercise Program Improve Physical and General Health in Men Undergoing Androgen Deprivation Therapy for Prostate Cancer?

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BACKGROUND: In a randomized controlled trial among men undergoing androgen deprivation therapy (ADT) for prostate cancer, we showed that 12 weeks of resistance and aerobic exercise increased self-reported general and physical health compared with a usual care control group. The mechanisms (i.e. mediators) underlying these improvements are unclear. This study aimed to identify mediators of the effects of combined resistance and aerobic exercise on physical and general health in men undergoing ADT for prostate cancer. **METHOD:** In total, 57 patients with prostate cancer undergoing ADT were randomly assigned to 12 weeks resistance and aerobic exercise or usual care. Self-reported physical health and general health were assessed using the physical health composite score and the general health subscale of the Short Form-36, respectively. Linear regression analyses were conducted on the residual change scores of the variables. The mediating effects of fatigue, muscle strength and functional performance on the intervention's effect on physical and general health were examined using the products of coefficient method described by MacKinnon. Bootstrapping was used to calculate the confidence intervals. **RESULTS:** The exercise intervention significantly improved physical (beta = 5.03, 95% confidence interval (CI) = 1.01; 9.04) and general health (beta = 12.89, 95% CI = 2.24; 23.54). In addition, the intervention improved upper and lower body muscle strength, walking speed, aerobic capacity, and fatigue. Upper body muscle strength and walking speed significantly mediated the intervention effect on physical health (beta = 2.65 (95% CI = 0.64; 5.54), accounting for 53% of the total effect. Walking speed and fatigue were mediators in the intervention effect on general health (beta = 7.52, 95% CI = 2.16; 16.92), accounting for 51% of the total effect. **CONCLUSIONS:** A combined resistance and aerobic exercise program improves general and physical health and reduces fatigue in men undergoing ADT for prostate cancer. The intervention effects on physical and general health could be explained by different mediating mechanisms. Walking speed mediated the intervention effect on both physical and general health. The intervention effect on physical health was further mediated by upper body strength, whereas the effect on general health was also mediated by fatigue. **RESEARCH IMPLICATIONS:** Insight into mediating pathways is helpful to unravel mechanisms underlying the effects of exercise

on quality of life outcomes. This is important for identifying and subsequently targeting critical intervention components and to improve effectiveness and efficiency. The results indicate that exercise effects on different quality of life outcomes can be explained by different mechanisms. This information is useful for designing more personalized exercise intervention programs tailored to the desired outcomes of individual patients. **CLINICAL IMPLICATIONS:** Resistance and aerobic exercise improves physical and general health in men undergoing ADT for prostate cancer. Since the intervention effect on physical health can be explained by improved upper body strength and walking speed, it seems advisable to include upper body resistance training and exercises to improve walking speed in interventions aiming to improve physical health of these patients. Improvements in general health may be accomplished by improving walking speed and reducing fatigue. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the Cancer Council WA. The contribution of LM Buffart was supported by a 'Bas Mulder' grant of the Alpe d'HuZes foundation (part of the Dutch Cancer Society), a fellowship granted by the EMGO Institute for Health and Care Research, and a travel grant funded by the Edith Cowan University. DA Galvão was funded by a Movember New Directions Development Award obtained through Prostate Cancer Foundation of Australia's Research Program.

I-3

Return to Work After Cancer in the UK: Attitudes and Experiences of Line Managers

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BACKGROUND: With improvements in diagnosis, treatment and survival rates, returning to work after cancer is of increasing importance to individuals and employers. Although line managers can play a potentially important role in the return to work process, research thus far has focused on the return to work process from the perspective of cancer survivors. Aim to explore the attitudes of line managers towards employees with a cancer diagnosis. **METHOD:** A short self-administered, on-line questionnaire was circulated to managers in the North East of England. Factorial structures of the line managers' attitudes survey was examined using exploratory factor analysis and the effect of demographic characteristics and organizational variable on the attitudes of line managers was examined using multivariate analysis of variance (MANOVA). **RESULTS:** 370 line managers completed the ques-

tionnaire. Line managers' attitudes can be conceptualized according to five empirical factors: (a) fearful attitudes towards cancer survivors, (b) supportive attitudes, (c) line managers' perceived burden, (d) maintaining normality, (e) financial benefits issues. Overall, line-managers hold relatively positive attitudes toward cancer survivors and are willing to support them in their effort to return to work. However, managers tend to harbour negative attitudes regarding the individual cancer survivors' ability both to engage in work related activities and in meeting the demands of employment. Results also indicated that female managers hold more positive attitudes than males toward these employees. **CONCLUSIONS:** The results of this study suggest that employers/ line-managers need to be provided with training, support, and resources to help them facilitate employment and job retention of employees diagnosed with cancer. **RESEARCH IMPLICATIONS:** It will be very important to further explore the nature of patients and line-managers' difficulties and the strategies to alleviate them. Developing a recruitment and retention strategy would also send a very positive message to employees and help facilitate a positive workplace culture that was inclusive of disability and health care issues. **ACKNOWLEDGEMENT OF FUNDING:** We are grateful to all participants who took part in this survey and to Macmillan Cancer support (UK) who funded this study.

I-4

Changes in Quality of Life, Anxiety, and Depression of Breast Cancer Women With and Without Post-Mastectomy Breast-Reconstruction Undergoing Oncological Rehabilitation: A Prospective Longitudinal Study

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BACKGROUND: Research on quality of life, anxiety, and depression of breast cancer women undergoing oncological rehabilitation after breast reconstruction is sparse. Therefore, we surveyed breast cancer women with and without post-mastectomy breast reconstruction with respect to these characteristics and satisfaction with the outcome of surgery at the beginning and at the end of rehabilitation, and 6 months later. This should provide information to help tailor rehabilitation programs more specifically to the needs of these women. **METHOD:** In seven rehabilitation clinics, 129 breast cancer women with and 155 breast cancer women without post-mastectomy breast reconstruction were surveyed using the EORTC QLQ-C30 and BR-23 as well as the HADS as measures of the main outcome variables at all three points of

measurement. Additional items addressed sequelae of reconstruction and satisfaction. Information on selected socio-demographic characteristics was also collected. Medical data were obtained from clinical records. Data were analyzed by 2 (with vs. without breast reconstruction) x 3 (time of measurement) repeated measures ANOVAs with age as a covariate because patients with reconstruction were significantly younger than those without. **RESULTS:** During rehabilitation, both patient groups improved significantly and in a comparable fashion with respect to quality of life, anxiety, and depression (p -values ≤ 0.005 , partial eta-squared between .04 and .20), the latter two showing a slight deterioration 6 months later, however. Satisfaction with reconstruction was high ($M = 3.3$, $SD = 0.9$; scale from 1 to 4) and stable across time. Across all measurement points, patients with and without breast reconstruction differed most in sexual functioning as measured by the BR-23 even after controlling for age ($p < 0.005$, partial eta-squared = 0.04), with patients having had reconstruction scoring higher. **CONCLUSIONS:** Finding almost no major difference between post-mastectomy breast cancer women with and without breast reconstruction in the outcome variables studied here is largely comparable to the results of Lee's et al. (2009) review that focused on acute care settings, however. The fact that both patient groups in the present study changed similarly may indicate that rehabilitation has been equally effective for them, although it has to be recalled that no additional control group was employed. So far, these findings do not allow firm inferences on specific rehabilitation needs of breast cancer women with post-mastectomy breast reconstruction. **RESEARCH IMPLICATIONS:** Given the present findings, further research on rehabilitation needs and interventions that might be specific to breast cancer women with post-mastectomy breast reconstruction appears necessary. Similarly, rehabilitation needs of breast cancer women *without* post-mastectomy breast reconstruction should also be addressed. Furthermore, it should be clarified how improvements attained during rehabilitation with respect to anxiety and depression can be maintained. **CLINICAL IMPLICATIONS:** The present findings emphasize once again that it is indispensable to be sensitive to and carefully assess the individual rehabilitation needs of breast cancer women with and without post-mastectomy breast reconstruction. **ACKNOWLEDGEMENT OF FUNDING:** This study has been supported by the Tumor Biology Research Foundation Freiburg, Germany.

I-5

The Contribution of General and Cancer-Related Variables in Explaining Physical Activity in a Breast Cancer Population Three Weeks To Six Months After Their Primary Medical Treatment

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BACKGROUND: Physical activity determinants are subject to change when confronted with the diagnosis "cancer" and new cancer-related determinants appears. The aim of the present study is to compare the contribution of cancer-related determinants with more general ones in explaining physical activity 3 weeks to 6 months post-treatment. **METHOD:** A theory based and validated questionnaire was used to identify physical activity levels (total and domain-specific) and associated determinants among 464 breast cancer survivors (aged 18 to 65 year) three weeks to 6 months post-treatment. **RESULTS:** Descriptive analyses showed higher scores for general determinants in comparison with cancer-related determinants. Nevertheless, results of regression analyses showed that both, general and cancer-related determinants explained total and domain-specific physical activity. Self-efficacy, enjoyment, social support, lack of time and lack of company were important general determinants. The perception of returning to normal life, cancer-related barriers (fatigue, lack of energy and physical side-effects) and self-efficacy in overcoming these barriers were important cancer-related determinants. Although results differed according to the women's working status and the physical activity domain, in both groups, general self-efficacy explained most physical activity types. **CONCLUSIONS:** Comparable with the general population, enhancing breast cancer survivors' self-efficacy in being sufficiently physical active seems to be important in physical activity interventions post-treatment. However, interventions should be tailored to the experienced symptoms and working status of the women. **RESEARCH IMPLICATIONS:** This study supports the tailored approach in offering supporting services (in this case services that enhances physical activity) to cancer survivors. **CLINICAL IMPLICATIONS:** The study indicates the importance of addressing the characteristics of patients when drafting a survivor care plan. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Flemish League against Cancer (Vlaamse Liga tegen Kanker).

J-1

UK Women With Advanced Ovarian Cancer Need More Support

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BACKGROUND: Ovarian cancer has a 44% five-year survival rate in the UK, poorer than comparable countries. Established screening programmes for early detection are not yet available and most patients present with advanced disease which despite treatment eventually relapses. Prolonging life, symptom palliation and maintenance of quality of life are the primary therapeutic goals. We examined UK patients' views of their treatment and supportive care in the ADVOCATE (Advanced Ovarian Cancer: Care and Treatment Experiences) study. **METHOD:** Women from 16 UK cancer centres who had stage II-IV ovarian cancer were on chemotherapy or within 3 months of having completed a course were interviewed either face-to-face or by telephone. The semi-structured interviews probed many areas including:- demography; symptoms prompting medical help seeking prior to diagnosis; experiences with treatment side-effects and any amelioration given; access to allied healthcare services; follow-up; any other help utilised. Information needs and how well these were met were measured via the EORTC INFO25. **RESULTS:** 202/225 women were interviewed. Mean age = 63.5 years (SD 9.6), average time since diagnosis 31.5 months (SD 37), 58% were on treatment. Fatigue, alopecia, and constipation were the most problematic side-effects experienced and amelioration of these was often inadequate. Only 32% troubled by fatigue, 54% by alopecia, and 51% by constipation reported help was provided. The majority ($\geq 80\%$) received enough information about diagnosis, disease extent, treatments/side-effects, but far fewer for other key issues: $\leq 40\%$ for coping at home/self-help and community care; $\leq 20\%$ for sex/relationship matters and access to psychological services. Primarily backup was family/friends (69%), general practitioner (58%), specialist nurse (32%). **CONCLUSIONS:** Support for women with advanced ovarian cancer is poorer than it should be. Most, once a diagnosis had been established, were generally satisfied with their clinical management. However, lack of help and information in key areas was apparent warranting urgent attention and improvements. Particular focus should include comprehensive preparation to pre-empt and help ameliorate women's worst side-effects that they report struggling most with, as well as those of most clinical concern. Improving the information available on areas cited as lacking such as sex/relationships, access to psychological services, coping at home, and promoting/teaching self-help strategies should

also be priorities. **RESEARCH IMPLICATIONS:** Scope exists for work to be conducted on improving and standardising the information made available to women particularly on self-managing their treatment side-effects. Lessons already learned need to be extrapolated, for example, by investigating the value to this patient population of implementing nurse-led interventions that have already proven beneficial for intractable problems such as fatigue. Whether communication issues precipitate poor ratings given to some of the supportive aspects of care would be valuable to know. **CLINICAL IMPLICATIONS:** Healthcare professionals need to be alert to the possibility that support for their patients may not be as good as it could be. Good practice warrants regular checking of individual patient needs and action if unmet. Audit can track whether care is fully meeting patients' needs and highlights problem areas. Where suboptimal assistance is down to a lack, or poor quality, of information or a service this needs to be addressed. **ACKNOWLEDGEMENT OF FUNDING:** We thank Roche Products Ltd for providing an unrestricted educational grant to enable this work to be conducted. Neither the funding body nor the sponsor, Brighton & Sussex Medical School, had any role in the study design, data collection, analysis, interpretation, report writing or publication.

J-2

Survivorship Care Plans to Inform the Primary Care Physician of Gynaecological Cancer Patients: Trial Results and Implications for Future Development

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BACKGROUND: Both the medical specialist and the primary care physician (PCP) provide care to the cancer patient. A Survivorship Care Plan (SCP) might enhance communication between the medical specialist and the PCP. The primary aim of this study was to assess the effect of a SCP on the communication between the PCP and the gynaecologist/medical oncologist. Furthermore, we evaluated

PCPs' opinions regarding the SCP and explored their perceived role in the care for cancer survivors. **METHOD:** In the ROGY Care Randomized Controlled Trial, the PCP of endometrial and ovarian cancer patients in the intervention group received a SCP (copy of patient version) in addition to usual information. The PCPs in the control group received usual information solely. The custom-made questionnaire was about two A4 pages long and contained questions about the communication with medical specialist and patients, opinions regarding the SCP (intervention group only), and opinions about the organization of follow-up care for cancer patients and the role of PCP. The questionnaire was sent to 348 PCPs and returned by 266 PCPs (76%). **RESULTS:** One third of PCPs in the intervention group reported receiving a SCP. PCPs from the intervention group were more likely to have had personal contact with the medical specialist, but were equally satisfied with the received information compared to PCPs from the control group. Of the PCPs, 82% indicated they wish to receive a SCP in the future. PCPs who received a SCP reported that a SCP supported personal contact with the patient: 63–88% had more/better contact about diagnosis, treatment and prognosis. However, the SCP in its current format was too long and elaborate. **CONCLUSIONS:** Supplying a SCP to PCPs potentially has a positive effect on PCPs' communication with the medical specialist and the patient. However, deliverance should be fully facilitated and the SCP should be concise and focused on PCPs needs, such as contact information and tailored information on patient diagnosis, treatment and possible consequences. **ACKNOWLEDGEMENT OF FUNDING:** NE was funded with grant no. UVT 2010-4743 from the Dutch Cancer Society, The Netherlands.

J-3

What Affects Health Care Use Among Endometrial Cancer Survivors?

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BACKGROUND: Increasing numbers of endometrial cancer survivors (ECS) place a high burden on the health care system. This study describes the

number of visits to the general practitioner (GP), medical specialist and other care services, compared with the general population, and factors associated with this health care use: age, marital status, education, BMI, comorbidity, years since diagnosis, radiotherapy. **METHOD:** ECS diagnosed between 1999 and 2007 with Figo stage I-II were selected from the Eindhoven Cancer Registry. A total of 742 survivors (77%) completed a questionnaire about their general and cancer-related health care use, using PROFILES registry (Patient Reported Outcomes Following Initial Treatment and Long term Evaluation of Survivorship). **RESULTS:** ECS visited their MS more often (3.4 times/year) than the general population (2.8 times/year). Related to their cancer, they visited their GP once and their MS twice per year. Use of additional care services was low (14%), but higher among younger survivors (33%). Younger women were more likely to make cancer-related visits to their general practitioner, while higher educated women were less likely to visit their GP and more likely to make cancer-related MS visits. Women with more comorbid conditions were more likely to make general and cancer-related GP visits. Radiotherapy and BMI were not related to health care use. **CONCLUSIONS:** ECS use more health care than women in the general population. Younger women visit their GP more often in relation to their cancer and use more additional care services. Higher educated survivors were more likely to visit a MS in relation to their cancer. **ACKNOWLEDGEMENT OF FUNDING:** NE was funded with grant no. UVT 2010-4743 from the Dutch Cancer Society, The Netherlands.

J-4

Development and Psychometric Evaluation of a Quality of Patient-Centred Cancer Care Measure

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BACKGROUND: The Institute of Medicine (IOM) has recommended six fundamental objectives for achieving patient-centred care. However, a systematic review identified that since the publication of the IOM recommendations, there have been no psychometrically rigorous measures developed with cancer patients that captured all six IOM dimensions of patient-centred care. This study aimed to develop a psychometrically robust measure of patient-centred cancer care using the IOM framework. **METHOD:** A 48 item measure assessing the following domains of patient-centred care was developed: 1) respectful to patients' values, preferences, and expressed needs; 2) coordinated and integrated; 3) provide information, communi-

cation, and education; 4) ensure physical comfort; 5) provide emotional support; and 6) involve family and friends. People diagnosed with a haematological cancer, aged 18–80 years were recruited from two Australian cancer registries using standard registry procedures. Patients were mailed the questionnaire. Participants completed the measure of patient-centred care as well as items assessing disease and demographic characteristics. Non-respondents received one mailed reminder and one telephone reminder. **RESULTS:** During item development an extensive literature review was conducted, input provided from behavioural scientists, haematologists and a cancer specialist and in-depth individual interviews undertaken with seventeen haematological cancer survivors. A pilot-test of the draft questionnaire was completed by forty-eight cancer patients of whom seventeen also provided feedback about the measure via a telephone interview, prior to the measure being finalised. To date 537 haematological cancer survivors have completed the measure. Preliminary analysis indicates that the measure has acceptable construct validity as well as internal consistency with five of the six patient-centred care sub-scales having a Cronbach's alpha > 0.70. **CONCLUSIONS:** By including all six IOM-endorsed dimensions of patient-centred care, this measure provides an opportunity to comprehensively assess patient perceptions of such care. Preliminary analysis suggests the measure has acceptable psychometric properties. Using a reliable and valid measure that systematically assesses patient-centred care allows features of cancer care that could be improved to be identified and thus inform quality improvement efforts. **RESEARCH IMPLICATIONS:** This study highlights the need to use a comprehensive framework and seek input from health care professionals and patients to produce a robust measure for assessing the quality of patient-centred cancer care. Researchers could build upon the current study by testing the psychometric properties of the measure with a new population, including patients diagnosed with a different cancer type or cancer patients recruited via a treatment centre. **CLINICAL IMPLICATIONS:** Gaps in the quality of patient-centred care identified by haematological cancer survivors enables the health care system and health care professionals to prioritise changes to features of cancer care where improvements are most needed. The findings may also assist with proactive advocacy for improvements in specific aspects of care by consumer and professional groups. **ACKNOWLEDGEMENT OF FUNDING:** Dr Flora Tzelepis and the research is supported by a Leukaemia Foundation of Australia and Cure Cancer Australia Foundation Post-Doctoral Research Fellowship. Dr Tara Clinton-McHarg was supported by a Leukaemia Foundation Post-Doctoral Research Fellowship. Dr Tzelepis was supported by a Hunter Medical

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J-5

How Many People With Distress or Depression Receive Psychosocial Care in Cancer Settings?

An Updated Meta-Analysis

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BACKGROUND: About 40% of people suffer clinical psychological complications early in the course of cancer and 28% of long-term survivors suffer anxiety. Yet provisional research suggests that uptake of conventional treatment is less than ideal. This may be because of low recognition, infrequent offers of treatment or low acceptance (or acceptability) of help. **METHOD:** A systematic search and meta-analysis was conducted using search terms including 'attendance', 'attended', 'received help', 'complied with', 'uptake' and 'receipt of'. Alternative search terms for help include 'psychosocial therapy', 'psychological treatment', 'counselling', 'emotional support' and 'referral to psycho-oncology' and 'referral to support services'. Results were stratified into those studies conducted in A. unselected cancer patients ($n = 6$) and those conducted in B. patients with established distress or depression ($n = 6$). **RESULTS:** Heterogeneity was high $I^2 = 94.9%$ (95% CI = 93.3% to 96%) but there was no publication bias (Egger: = 6.6; 95% CI = 0.74 to 12.5; $p = 0.031$). After adjustment, on random effects meta-analysis, the proportion of cancer patients who received an offer of psychosocial help and were in receipt of care was 35.0% (95% CI = 24.5% to 46.2%) (Figure 5). Subgroup analysis of the 6 studies that clarified unmet needs found similar results 36.1% (95% CI = 20.1% to 53.9%) versus 5 studies that did not offer this clarification 33.2% (95% CI = 19.8% to 48.3%). **CONCLUSIONS:** Based on 12 studies (in a sample of 2540), receipt of psychosocial care was suboptimal. Only one in three patients with psychosocial complications appear to receive psychosocial care. Further the quality of that psychosocial care is untested. **RESEARCH IMPLICATIONS:** This is an under-researched area with the following outstanding questions. How many with distress want help, how many are offered help, how many comply with help. **CLINICAL IMPLICATIONS:** The key question for clinicians is how can the delivery and uptake of psychosocial help be improved. Also what are the main barriers to receive of psychosocial help. Many conventional types of psychosocial help appear to have low acceptability. More work needs to be done to develop acceptable and widely available effective psychosocial interventions. **ACKNOWLEDGEMENT OF FUNDING:** None.

K-1

Reported Differences in Unmet Psychosocial Supportive Care Needs Mostly Attributable to Culture and Health System, Rather Than Disease

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BACKGROUND: Studies using the Supportive Care Needs Survey (SCNS) show consistent patterns of high unmet psychological supportive care needs (SCN) which have most usually been interpreted as reflecting treatment- and disease-related coping deficits and highly prevalent levels of distress in individuals facing cancer. From this has come a growing programme of screening for distress and interventions for cancer patients. We question this interpretation and offer differences attributable to culture/care provision as alternative explanations for the literature. **METHOD:** This secondary analysis utilized existing samples of colorectal cancer patients assessed at comparable time-points who were recruited from Hong Kong ($n = 180$), Taiwan ($n = 263$) and Japan ($n = 109$) for whom SCNS-34 scores were available. These CRC patients' top 10 ranked SCNS-34 items were contrasted. Mean SCNS-34 domain scores were compared by sample and treatment status, then adjusted for sample composition, disease stage and treatment status using multivariate hierarchical regression. We attributed differences between Chinese and Japanese samples to cultural differences and between Chinese samples to service differences. Thus we parsed different influences on SCN to partially isolate and evaluate these effects. **RESULTS:** SCN were most prevalent among Japanese and least among Taiwanese patients. Japanese patients emphasized Psychological (domain mean = 40.73) and Health systems and information (HSI) (38.61) SCN domains; Taiwanese and Hong Kong patients emphasized HSI (27.41; 32.92) and Patient care & support (PCS) (19.70; 18.38) SCN domains. Mean Psychological domain scores (Japan = 40.73 Taiwan = 17.84, Hong Kong = 9.72, ($p < 0.03$ – 0.001 , Bonferroni)) differed. Other SCN domains differed only between Chinese and Japanese samples (all $p < 0.001$). Treatment status differentiated Taiwanese more starkly than Hong Kong patients. Origin explained most variance in SCN domain scores ($p < 0.001$), with age ($p = 0.01$ – 0.001), employment status ($p = 0.01$ – 0.001). Clinical factors accounted for least variance. **CONCLUSIONS:** Culture, possibly through expectations surrounding cancer, its treatment and clinician-patient roles and relationships, together

with the organization and implementation of care services such as clinic organization, doctor-patient relationships and imperatives surrounding who provides care has been heavily under-estimated in understanding SCN in cancer. Interference with people's working lives and family commitments was inferred through younger age and working status exerting greater influence than disease or treatment effects (stage and treatment), which made little difference to SCNs. High psychological SCNs are not universal and this raises questions about how best to approach both detection of and intervention for psychosocial needs. **RESEARCH IMPLICATIONS:** Several implications follow. First, cultural differences in the response to cancer and its management need to be more widely recognized and accommodated in studies. Second, different cultural groups will respond differently to uptake of services. Difference may not simply be due to "access barriers". Third, universal screening for distress, though widely advocated may need to be re-thought because it may not always be appropriate. **CLINICAL IMPLICATIONS:** How can we best address the problem of unmet psychosocial needs faced by cancer patients? Understanding that these needs arise from a complex interplay of individual differences, cultural expectations and service organization is a critical step in developing appropriate-level interventions. Cancer patients might be better served if the predominant individual/group interventions are supplemented with population-level approaches. **ACKNOWLEDGEMENT OF FUNDING:** None.

K-2

Developing Consensus-Based Clinical Referral Pathways for the Management of Psychological Distress (Depression and Anxiety) for Adults With Cancer in Australia

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BACKGROUND: Despite the high prevalence of anxiety and depression in cancer patients, there are currently no Australian clinical pathways for these symptoms. This project aims to: 1) Develop evidence- and consensus-based referral and management pathways for anxiety and depression, stratified by severity, which are flexible and feasible in a wide range of metropolitan and rural Australian settings; and 2) Explore barriers and facilitators to uptake in one urban and one rural setting to inform implementation plans. **METHOD:** Draft

pathways were informed by existing international pathways, guidelines and evidence reviews, and documented screening and assessment, stepped management and re-screening processes. Expert opinion on these drafts was elicited via audio-recorded semi-structured interviews with 12 multidisciplinary clinicians involved in cancer care, including nurses, oncologists, a palliative care physician, a family physician, psychologists, social workers and psychiatrists. An internet-based Delphi approach is being used to establish consensus from a wider stakeholder group, including consumers and health professionals. Current practice, and barriers and facilitators for implementation, were elicited through patient and health professional interviews at one urban and one rural Oncology centre. **RESULTS:** The draft pathways are flexible regarding health professionals responsible for each stage, tailored to the severity of distress, and incorporate ongoing assessment and re-evaluation. Interviewees were generally supportive of the draft pathways, provided valuable feedback regarding the timing, staffing and measures used for screening and assessment, and recommended management approaches. They felt flexibility, non-prescription and a team approach were key. Based on this feedback, the draft clinical pathways were modified. The Delphi consensus process and barriers/facilitators analysis are ongoing. In this presentation, the pathways will be presented, along with data from the final stages of the project. **CONCLUSIONS:** In developing clinical pathways, the processes involved are as important as the content. Widespread consultation and stakeholder involvement are necessary to ensure clinical pathways are not only effective, but also feasible and acceptable to patients and health care professionals. Furthermore, clinical pathways will only be of benefit if they are successfully implemented. Therefore, clinical pathways must be adaptable to diverse cancer care settings, and development of an implementation plan addressing specific barriers and facilitators is crucial. In Stage 3 we will pilot implementation at the two hospitals investigated in Stage 2. This will further inform models for implementation elsewhere. **RESEARCH IMPLICATIONS:** This project outlines processes used to involve stakeholders in the development of clinical pathways that are feasible and acceptable within the Australian health system. It also outlines processes used to develop strategies for implementation of clinical pathways across institutions in Australia. These findings may be generalised to other contexts. **CLINICAL IMPLICATIONS:** The clinical pathways to identify and manage psychological distress developed here will ultimately embed evidence-based psychosocial care into standard clinical practice in Oncology. The clinical pathways will be adaptable to different service settings and implementation will take into consideration local

resources and input from staff and patients. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by a Sydney Catalyst seed funding grant. Sydney Catalyst is funded by the Cancer Institute New South Wales.

K-3

Cancer Hotline Service Working Experiences and its Effectiveness in the Hong Kong Context

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BACKGROUND: Hong Kong Cancer Fund is the only community organization which provides a one-stop free professional cancer hotline service in Hong Kong. Our cancer hotline serves to provide immediate emotional support and deliver cancer information for people who are affected by cancer. In 2010, it was revamped with a new computerized database service system, and calls were handled either by social workers or nurses instead of peer volunteers. This paper discussed its effectiveness after the revamp. **METHOD:** According to service data from April 2011 to March 2013, there were 20,433 calls in total. Quantitative study data were gathered from callers during April 2011 to March 2013. This included the callers' demographic details, presenting needs, service provision and service evaluation. **RESULTS:** Majority of callers were female (73%). 36% of them were patients and caregivers shared 28%. The information and support needs requested from patients and carers were similar. This included requests for general cancer information (22%) and community resources (19%). In addition, emotional support (7%) was also a caller concern. Moreover, 38% of callers requested professional psychosocial support services of the Hong Kong Cancer Fund. Follow-up actions were required for 45% of calls, which included case management (23%) and nursing navigation (20%). The mean overall satisfaction score was 5.6 out of 6 and the call abandoned rate was <3%. **CONCLUSIONS:** The number of cancer hotline calls has increased rapidly over the years, beginning with a few hundred calls annually to the annual number of calls now in excess of 10,000. This suggests that our cancer hotline service is increasingly perceived as an effective way to access cancer information support. **RESEARCH IMPLICATIONS:** Further study on the callers' distress level and its association with presenting needs, service request and intervention is needed to get a more comprehensive picture of the service effectiveness. **CLINICAL IMPLICATIONS:** Implication for clinical work include increasing the awareness of the hotline as an access point for emotional support. Future work could involve further investigation of caller psychosocial variables by building in a more structured and comprehensive screening and

evaluation tool. ACKNOWLEDGEMENT OF FUNDING: None.

K-4

Looking Towards the Future: Consumer Preferences for Blood-Based Screening for Colorectal Cancer

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BACKGROUND: The current Faecal Occult Blood test approach to population-based screening is yet to attract optimal participation rates in Australia. The development of blood-based markers for CRC may improve overall effectiveness as well as participation due to the removal of faecal sampling. Studies have already shown a preference for blood sampling but they have not explored the complexities of future blood screening methods on consumer preferences. **METHOD:** Four alternate and plausible screening delivery models were developed for use as part of this study. These models ranged from a complete at-home delivery model, through to a full practitioner delivered model. Each scenario was then suitably modified to accommodate both blood screening and FOBT screening methods. N = 4,000 randomly selected electors from South Australia were invited via mail to participate in an online survey regarding bowel cancer screening, during which participants ranked these scenarios in order of participation preference, and also indicated the overall likelihood that they would participate in each. **RESULTS:** In line with previous studies, preliminary results indicate that this sample displays an overall preference for blood sampling (86%) compared to stool sampling (14%). However, the complexity of the screening delivery scenario had a significant effect on the likelihood of participating in both screening technologies. More specifically, whilst 55% of participants indicated they were 'definitely likely' to participate in the full at-home blood screening scenario, only 23% indicated that they were 'definitely likely' to participate in the full practitioner-delivered model. Similar effects were noted for FOBT screening methods and previous participation in FOBT significantly affected blood screening preferences. **CONCLUSIONS:** This study has extended on previous findings by exploring in more detail overall preference for blood versus stool sampling for CRC screening. In line with previous studies, the majority of participants indicated a preference for blood sampling. However, the data also show that proposed participation in blood screening varies significantly depending upon the complexity of proposed screening delivery model. **RESEARCH IMPLICA-**

TIONS: This study demonstrates that consumer preference for blood-based screening is not adequately measured in questionnaires that ask participants to simply rate their preference for blood-versus-stool sampling at a broad level. Instead, studies should seek to carefully assess how different screening delivery models might impact on future uptake of this technology. **CLINICAL IMPLICATIONS:** These findings and those of future, similar studies, have the potential to inform the implementation of blood-based screening delivery models in the future. ACKNOWLEDGEMENT OF FUNDING: None.

K-5

Psychosocial Care in Europe: Preliminary Results From a Survey Conducted Under The Psychosocial Oncology Action of the European Partnership for Action Against Cancer

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BACKGROUND: The Psychosocial Oncology Action under the healthcare workpackage (WP7) (www.epaac.eu/healthcare) of the European Partnership for Action Against Cancer Joint-Action (2011–2014) has the main aim to implement a training strategy to improve psychosocial oncology care (PSOC) and communication skills (CS) among healthcare providers in Europe, by first conducting a mapping of needs and resources in these areas in European countries, develop an educational training tool in CS and PSO, piloted it in a selected underserved country **METHOD:** We designed a simple reduced easy-to-answer questionnaire to assess the PSOC profile of each country, based on our previous experience on conducting a similar survey on psycho-oncology resources in the Portuguese NHS, addressing: 1) inclusion of PSOC in National Cancer Control Plan (NCCP), budget and provision; 2) structure and resources of delivery; 3) Use of Clinical guidelines; 4) Education, training resources and needs. We sent the questionnaires out to each of the representatives of the Ministries of Health of the European countries in EPAAC ($n = 30$) by October 2012, sent reminders and received 26 replies until March 2013. **RESULTS:** In 20/26 countries PSOC is included in NCCP, but only 10 have budget for it, mainly provided Locally/Hospital ($n = 15$) or Charities or NGO'S ($n = 15$). Mainly delivered in General or University hospitals and cancer centres, by psychologists (26), SW (21), pastors (21), psychiatrists (19). Only 7/26 have nationally PSOC recommended clinical guidelines. 21/26 have CS training resources, 15/26 have post-graduation in PSOC but only 6/26 a MSc. Only 5/26 have an official certification for PSOC. 17/26 provide CST during medi-

cal education. Training needs in Management of distress (18), Psychosocial interventions for patients and families (18), and more. **CONCLUSIONS:** Although countries seem to have integrated PSOC in their NCCP, there is still much to in terms of allocating resources and delivering the care equitably. Also there is a need for improving training and certification in PSOC as well as having a national policy concerning this area with a recommendation for the use of existing clinical guidelines. **CLINICAL IMPLICATIONS:** With this survey results and the next phases we expected that this action will contribute to a better understanding of psychosocial resources across Europe and promote capacity building for better provision of this area of cancer care to contribute to improving cancer care for all European citizens. **ACKNOWLEDGEMENT OF FUNDING:** European Partnership on Action Against Cancer

L-1

Efficacy and Cost Evaluation of Meaning-Centered Group Psychotherapy in Cancer Survivors: Protocol of a Randomized Controlled Trial

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BACKGROUND: Meaning-focused coping seems to be at the core of adequate adjustment to life after cancer: cancer patients who experience their life as meaningful are better adjusted, have better quality of life and psychological functioning. Meaning Centered Group Psychotherapy (MCGP) was designed to help patients to sustain or enhance a sense of meaning and purpose in their lives. We are planning to carry out a randomized trial (RCT) investigating the (cost-) effectiveness of MCGP targeting cancer survivors. **METHOD:** Patients diagnosed with cancer in the last 5 years and treated with curative intent, will be recruited via several hospitals in the Netherlands. Participants will be randomly assigned to one of the three study arms: 1. Meaning centered group psychotherapy (MCGP)

2. Support group psychotherapy (SGP) 3. Care as usual (CAU). Baseline assessment takes place before randomisation, with follow up assessments post-intervention and at 3 and 6 months follow-up. **RESULTS:** Primary outcome is meaning making, secondary outcome measures address QoL, Anxiety, Depression, Hopelessness, Optimism, Adjustment to cancer, and Social and societal factors. **CONCLUSIONS:** Meaning focused coping is key to adjustment to life after cancer, however, there is a lack of evidence based psychological interventions in this area. Many cancer survivors experience feelings of loneliness and alienation, and have a need for peer support, therefore a group method in particular, can be beneficial. This study evaluates if MCGP is efficacious for cancer survivors and if so, whether this is a cost efficient method. Secondly, we try to establish in what cases meaning-centered group psychotherapy is indicated. **RESEARCH IMPLICATIONS:** There are few RCT's that evaluate the efficacy of meaning-centered psychotherapy for cancer survivors. Also, there is little knowledge on who benefits from these types of interventions. This study contributes to filling these gaps of knowledge on efficacious meaning interventions for cancer survivors. **CLINICAL IMPLICATIONS:** If this MCGP is effective for cancer survivors, it can be implemented in the practice of psycho-oncology care. For meaning psychotherapy for cancer survivors, there are no evidence based intervention protocols yet. Therefore, if the results of this RCT are positive on efficacy measures, the intervention protocol can be an important addition to the advancement of evidence based psychological care for cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** This study is funded by the Dutch Cancer Society / Alpe d'HuZes/KWF Fund.

L-2

Screening Dysfunctional Fear of Cancer Recurrence in Breast Cancer Patients Wishing for Psychological Help: The Validity of the Fear of Cancer Recurrence Inventory (FCRI)

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BACKGROUND: Fear of cancer recurrence (FCR) is common in cancer survivors. However, it is difficult to differentiate functional from dysfunctional FCR. An ability/inability to inhibit disturbing thoughts about illness and recurrence is central to make this difference. The aim of this study is to determine a cut-off score on the FCRI Severity

Subscale associated with a dysfunctional FCR. **METHOD:** 149 breast cancer patients wishing for psychological help at the end of radiotherapy were assessed with the FCRI. A guided relaxation task was used to test the ability of patients to inhibit FCR after having activated these thoughts by the completion of the FCRI. Persistent disturbing thoughts about illness and recurrence during the guided relaxation task were considered as a dysfunctional FCR. **RESULTS:** Thirty five percent of patients reported disturbing thoughts about illness and recurrence during the guided relaxation task. A cut-off score ≥ 13 on the FCRI Severity Subscale allows to identify 96 percent of patients disturbed by thoughts about illness and recurrence (true positive rate). The same cut-off score also identify 86 percent of patients not disturbed by these thoughts (false positive rate). **CONCLUSIONS:** A score of 13 on the FCRI Severity Subscale is certainly a good cut-off score to identify nearly all patients with a dysfunctional FCR. However, given the high false positives rate, the FCRI severity subscale is in itself not valid enough to screen patients with dysfunctional FCR. **RESEARCH IMPLICATIONS:** The inability to inhibit disturbing thoughts about illness and recurrence during a guided relaxation should further be studied as a screening measure for dysfunctional FCR. **CLINICAL IMPLICATIONS:** The FCRI severity subscale may also be used as a screening measure for dysfunctional FCR. Meanwhile, given the high false positive rate, an assessment of patients' ability to inhibit disturbing thoughts about illness and recurrence during a guided relaxation should probably be added to the screening procedure. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the "Plan Cancer" of Belgium, by the "Centre de Psycho-oncologie" (Training and Research group) of Belgium and by the "Université Libre de Bruxelles" of Belgium.

L-3

The Prevalence and Correlates of Supportive Care Needs in Testicular Cancer Survivors: A Cross-Sectional Study

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BACKGROUND: Although more than 95% of men with testicular cancer (TC) are cured, TC survivors may have needs relating to enduring impacts of their diagnosis and treatment and their relative youth. This cross-sectional study aimed to identify the prevalence and correlates of supportive care need in a multi-centre sample of TC survivors. Identification of unmet needs can guide assessment, planning and delivery of services to improve TC survivors' psychological wellbeing and health-related quality of life (HRQOL). **METHOD:** Men who had completed active anti-cancer treatment for TC 6 months to 5 years previously showing no evidence of recurrence were recruited from 14 Australian cancer centres (September 2009 to February 2011). Participants completed a self-report questionnaire measuring sociodemographics, disease and treatment information, supportive care needs (CaSUN), psychological distress (DASS21) and HRQOL (SF36v2). Unmet need prevalence was evaluated with descriptive statistics: proportion of participants reporting unmet needs; mean number of unmet needs in total and each domain; and average unmet need strength. Explanatory variables associated with total number and strength of unmet needs were identified using univariate and multiple regression. **RESULTS:** Of the 486 eligible TC survivors invited to participate, 244 completed the questionnaire. Sixty-six percent reported one or more unmet supportive care needs. The mean number of unmet needs was 4.73 (SD = 7.0, Range = 0–34). The most common unmet needs related primarily to existential survivorship issues (e.g. life stress) and relationships (e.g. sex life). The strongest unmet needs largely related to comprehensive cancer care, but were relatively uncommon. Younger age and chronic illness other than TC were significantly associated with higher number of unmet needs. Number of unmet needs was more highly correlated with psychological distress and HRQOL than unmet need strength. **CONCLUSIONS:** TC survivors commonly reported unmet needs, particularly relating to existential issues, despite their favorable prognosis. Unmet needs relating to relationships were reported more com-

monly than by breast/gynecological cancer survivors, perhaps due to the youth of TC survivors. As prevalence of unmet needs was significantly associated with psychological morbidity and impaired HRQOL, interventions addressing these issues are needed. A low-intensity tailored intervention that does not require face-to-face contact and is free to access such as an Internet intervention may be well suited to addressing TC survivors' needs, and the development and piloting of such an intervention (Test-e) is underway. **RESEARCH IMPLICATIONS:** The small but noteworthy proportion of men with moderate to strong unmet needs highlights the importance of identifying characteristics associated with greater unmet needs, so that interventions can be targeted at these individuals. Further research is needed to identify such characteristics, beyond those identified here. Interventions targeting these characteristics require development and evaluation. **CLINICAL IMPLICATIONS:** Younger TC survivors should be carefully screened for unmet needs and offered tailored supportive care services. Additionally, those experiencing ongoing chronic illness/comorbidity potentially related to TC and its treatment, such as testosterone deficiency and hypertension, should be carefully monitored and managed. The predominance of existential and relationship needs suggests supportive care for TC survivors should focus more on psychosocial than physical aspects of HRQOL. **ACKNOWLEDGEMENT OF FUNDING:** This study was co-funded by *beyondblue* and Cancer Australia (grant number 507961). Allan 'Ben' Smith is supported by an Australian Rotary Health Ian Scott Scholarship. Professor Butow holds a NHMRC Senior Principal research fellowship and Professor King is supported by the Australian Government through Cancer Australia.

L-4

Psychosocial Predictors of Breast Cancer Survivors' Supportive Care Needs at the End of Radiotherapy

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BACKGROUND: Due to early detection and improved treatment there are more survivors of breast cancer than any other cancer among women. However, to date no study has assessed the supportive care needs specific to this population upon re-entry. The end of radiotherapy is a transitional moment between active treatment and surveillance

with particular concerns that warrants the reassessment of supportive care needs at this specific time and the psychosocial factors that influence these needs. **METHOD:** 360 (89% response rate) breast cancer patients completed questionnaires assessing supportive care needs (SCNS-SF34), distress (HADS), attachment style (ECR), self-esteem (RSES), social support (SSQ) and satisfaction with care (PATSAT) during the last week of radiotherapy treatment. To be eligible, patients had to be over 18, with no previous history of cancer, and a diagnosis of non-metastatic disease. **RESULTS:** Mean age was 54.7(12.5), 55.3% were married, 20.7% had a mastectomy, 44% received chemotherapy. Health system and information (42.8%) and psychological (40.42%) needs were most prevalent. Most reported "things you can do to get well" (53.89%) followed by "uncertainty about the future" (51%). Preliminary analyses by stepwise multiple regression showed that 52% score variance of total needs were explained by younger age, greater distress, insecure attachment, lower self-esteem, low social support and dissatisfaction with care (all p s < 0.01). **CONCLUSIONS:** These results identify the primary concerns of women that require attention at the end of active treatment for breast cancer, and those women most likely to experience needs post-treatment. Understanding how personal resources and social support impacts on care needs will allow for the development of tailored psychosocial interventions. **RESEARCH IMPLICATIONS:** This study is the first, as far as we know, that employs validated measures to assess supportive care needs in a large sample of women diagnosed with breast cancer at the transitional moment of re-entry, setting the stage for future research. It also adds essential theoretical information to our understanding of the mechanisms by which personal resources and social support impact on life functioning in times of stress. **CLINICAL IMPLICATIONS:** Revealing which concerns breast cancer patients consider most urgent at the specific time of re-entry, will permit health care providers to improve patient care by responding to these pressing needs. Furthermore, being able to predict which women are most at risk for greater needs early on allows for the development and implementation of fitting interventions to enhance the resources of those who will benefit most. **ACKNOWLEDGEMENT OF FUNDING:** Institut Curie; Ligue contre le cancer.

L-5

Predictors of Physical Health-Related Quality of Life in Colorectal Cancer Patients: A Systematic Review

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BACKGROUND: Identifying predictors of health-related quality of life (HRQOL) in colorectal cancer (CRC) patients may aid clinicians with the identification of patients at risk for poor HRQOL. To our knowledge, predictors of physical HRQOL have not been systematically reviewed in CRC patients before. The present study aimed to systematically review prognostic factors for physical HRQOL in CRC patients, focusing on symptoms, physical functioning, and sexual functioning. **METHOD:** A systematic, computerised literature search in Medline, EMBASE, PsycINFO, and the Cochrane Library was carried out in December 2012. Studies that analysed a minimum of 150 adult subjects with 100% CRC diagnoses in a single study were included. The methodological quality of the included studies was determined based on Hayden's criteria list. The strength of the scientific evidence was determined based on the rating system levels of evidence, consisting of five levels: strong, moderate, weak, inconclusive, and inconsistent evidence. **RESULTS:** We here present our preliminary results. Forty-four studies were included. Strong to moderate evidence suggests that females have worse physical functioning, are less physically active, are more fatigued, and suffer more often from urinary incontinence. Strong evidence suggests that low optimism and a negative cancer threat appraisal predict lower physical and CRC-specific well-being. Stoma patients had more micturition problems and worse physical well-being (moderate evidence), but non-stoma patients had more constipation (strong evidence). In males, moderate evidence was found for stoma predicting sexual problems and more erectile dysfunction. The evidence for the effect of age on physical well-being was inconsistent. **CONCLUSIONS:** Certain subgroups of CRC patients seem to be at risk for decreased physical HRQOL. This concerns female patients, patients with a stoma, lower optimism, and a negative cancer threat appraisal. **RESEARCH IMPLICATIONS:** The results of this review provide a basis for further research on predictors for physical HRQOL. With an increasingly ageing population, future research should further explore the effect of age on physical HRQOL. In addition, the role of lifestyle variables, such as alcohol intake and sedentary behaviour, could be

further looked into. **CLINICAL IMPLICATIONS:** Our results may aid clinicians in selecting patients at risk for a poor post-treatment HRQOL. During treatment and follow-up, a more informed decision can be made with regard to the provision of additional supportive care to improve HRQOL. In addition, patients may be handed certain information to create more realistic expectations about the effect of the disease on their physical HRQOL. **ACKNOWLEDGEMENT OF FUNDING:** None.

M-1

Using a Publicly Funded Population Level Survey to Explore Psychosocial Outcomes in Cancer Survivors

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BACKGROUND: Research on young adult cancer survivors (18–39 years old) is rare despite indications that this population has unique psychosocial and practical problems. This study used a large, national, public database, the Canadian Community Health Survey (CCHS, 2009–2010), to examine the impact of a past cancer diagnosis on psychosocial outcomes in young adults and older adults (40+) by comparing them with their cancer-free peers. **METHOD:** The Canadian Community Health Survey (CCHS) conducted phone interviews of 121,372 individuals between January 1st and December 31st, 2010. Using Binomial Regressions with a Log-Link and Population Weights we examined whether self-reported physical and mental health, self-reported life and work stress, anxiety and mood disorders (as diagnosed by a medical professional) were predicted by having “Ever Had Cancer” (not on active treatment). Data were stratified by sex and age, and rate ratios were used to compare cancer survivors with their cancer-free peers. **RESULTS:** Older male cancer survivors reported significantly less life stress, better overall mental health and had a lower prevalence of mood disorders than their cancer-free peers. Older females reported less life and work stress but higher anxiety and mood disorders than their peers. Young adult females report significantly higher life and work stress, anxiety and mood disorders as well as lower self-perceived physical and mental health compared with their peers. Young adult males reported more mood disorders and lower self-perceived physical and mental health but the same amount of life and work stress as their peers. **CONCLUSIONS:** Delivery of supportive care for cancer survivors is heavily weighted towards the older age range because they make up the highest proportion of cancer cases, however, young adult cancer survivors in Canada seem to experience a disproportionate amount of psychosocial challenges when compared to their cancer-free peers. Surprisingly, older male cancer survivors reported better out-

comes than their cancer-free peers. In contrast, young adult women experienced a disproportionate amount of psychosocial problems. **RESEARCH IMPLICATIONS:** More research needs to be done looking specifically at young adult cancer survivors so that the mechanisms behind the worse psychosocial outcomes can be determined. **CLINICAL IMPLICATIONS:** These findings highlight disparities between older adult and young adult populations and therefore have implications for the allocation of resources within Psychosocial Oncology departments. Specific programs for young adults with cancer should be developed as they are have worse outcomes than older adults. **ACKNOWLEDGEMENT OF FUNDING:** Canadian Cancer Society, Western Regional Training Centre for Health Services Research, Alberta Cancer Foundation, University of Calgary.

M-2

Challenging the Concept of Self Management: Ethnic Minority Women's Experiences of Early Breast Cancer Survivorship

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BACKGROUND: Little is known about the needs and experiences of breast cancer survivors from black and minority ethnic backgrounds in the UK. This study aimed to examine the needs and lives of breast cancer patients from diverse social and ethnic backgrounds during the first year of completing hospital based treatment; explore their self-management knowledge, attitudes, skills and practices. **METHOD:** Informed by socio-ecological theory (Bronfenbrenner, 1994) this qualitative study sought to interview breast cancer patients who were: diagnosed with primary invasive breast cancer that had completed all surgery and hospital treatment within previous 12 months; aged over 30 years; from a white British, Indian, Pakistani, Black Caribbean or Black African ethnic background, were English speaking; and were attending hospital follow-up appointments in one of our 5 NHS study sites in England. 54 semi-structured interviews were conducted during 2011/12; all were digitally recorded and transcribed verbatim. A framework analysis approach was employed using NVIVO 9.2 software. **RESULTS:** All participants reported the need for better preparation post-treatment. Differences in information seeking behaviours appeared to be most strongly related to social disadvantage. All participants reported reduced confidence, isolation and emotional disturbance post-treatment. However, women from minority ethnic groups, particularly young single Black

Caribbean mothers, appeared particularly vulnerable due to burden of: cultural stigma of cancer that precluded dialogue and emotional support from family and friends; previous negative experiences of cancer; maintenance of social roles and responsibilities; and more financial and employment insecurities. These women had a different sense of 'self' compared to white British women and this appears to be culturally bound within the roles and identity placed on women within their family and community. **CONCLUSIONS:** Self-management in cancer care is relatively new and is widely supported by NGO's, policy makers and clinicians. The self-management agenda is being rolled out without the necessary resources, needs assessment tools and skilled workforce to support effective implementation and delivery. Our study demonstrates the need for more intensive self-management support that assists in reducing isolation through promoting social support for women from minority ethnic groups, as this is potentially fundamental to promoting women's self-identify within the context of family and community thereby promoting self confidence. We recommend self-management care policies and interventions consider the complex socio-economic, familial and spiritual contexts of women's lives and address multifactorial barriers to accessing them. **RESEARCH IMPLICATIONS:** More complex intervention research is required to identify best models of cancer self-management for women from minority ethnic groups. Further research is required to examine more fully the appropriateness of the concept of self-management among different ethnic communities, and investigate whether there is potential for some cultural and spiritual practices (e.g. meditation, prayer, ramadam), or healing/health practices (e.g. complementary therapies) that can be drawn upon to promote self confidence and adoption of positive health behaviour practices. **CLINICAL IMPLICATIONS:** Our findings suggest that all breast cancer patients require earlier and more comprehensive preparation for the transition phase following treatment so as to effectively manage the physical, emotional, financial and social impact of cancer and its treatments. Health care professionals require training in holistic patient need assessment, as well as enhanced communication and cultural competence skills to enable them to effectively identify and address the cultural, spiritual, social and financial barriers to patients self-managing their own recovery. **ACKNOWLEDGEMENT OF FUNDING:** This study is being funded by The Big Lottery Fund, UK.

M-3

Representation in Psycho-Oncology: Exploring the Cancer Continuum for Lesbian, Gay and Bisexual PopulationsJoanna Semlyen¹, Nick Hulbert-Williams²¹London Metropolitan University, London, UK,²University of Chester, Chester, UK

BACKGROUND: Health inequalities in cancer are found in a range of groups including ethnic minorities, older age groups and people from lower socioeconomic background. One such understudied, and often forgotten group, that also experience inequalities in health are lesbian, gay and bisexual (LGB) people. In this paper we review what is and isn't known about the LGB cancer experience. **METHOD:** A non-systematic scoping literature review was conducted. Due to a paucity of research, we did not limit our searches to just published empirical research; we also included policy reports, health care surveys, and other reviews and commentary pieces. Nonetheless, the literature included was still small. A narrative method of data synthesis was used. **RESULTS:** Pre diagnosis, there is some evidence that LGB people are at more risk of certain cancers, however the primary concern here is how and why sexuality may be a barrier to screening and timely diagnosis. There is little literature on LGB experiences during treatment and in follow-up care/survivorship. What does exist suggests that LGB people experience more stress, and report poorer quality of, and satisfaction with, care provided. Throughout the cancer trajectory, communication between LGB patients and their health-care professionals, and social isolation as a result of perceived homophobia, are likely to be substantial barriers to optimal care provision. **CONCLUSIONS:** The LGB cancer experience—of screening, diagnosis, or psychosocial impact—forms a fraction of the psychosocial oncology literature. Moreover, a review of 50 years of LGB health literature, demonstrates that just 1.44% is in the specific field of cancer and/or cancer screening. As with other minority groups, we know comparatively little about the cancer experience in LGB people; we need to address this evidence gap if we are to adequately meet the needs of all cancer patients. The small literature that does exist suggests that sexuality differences may substantially impact not only on incidence, but also the self-reported, post-diagnosis experience. **RESEARCH IMPLICATIONS:** There is a clear need for more research in this area, particularly on the post-diagnosis cancer experience for LGB people. This needs to include analysis of a range of topics including: the experience of side effects, coping and emotional responses, unmet psychosocial and supportive care needs, support, and end of life issues. Identifying participants for these research studies will be difficult, but not impossible,

and may best make use of non-clinical setting recruitment strategies. **CLINICAL IMPLICATIONS:** The UK does not routinely collect sexual orientation data, so we are unable to fully establish the extent to which sexuality impacts on cancer outcome. There is a growing evidence that LGB people may be at greater risk for some cancers; delay with presentation; experience discrimination, isolation and homophobia; and experience poorer quality of life with cancer. As with other minority groups, this needs to be addressed as a priority within cancer services and policy. **ACKNOWLEDGEMENT OF FUNDING:** None.

M-4

Fear of Disease Progression in Patients With Gastrointestinal Stromal Tumors (GIST)José Custers¹, Ronald Tielen^{2,3}, Judith Prins¹, Hans De Wilt², Marieke Gielissen¹, Winette Van der Graaf³¹Radboud University Nijmegen Medical Centre, Department of Medical Psychology, Nijmegen, The Netherlands, ²Radboud University Nijmegen Medical Centre, Department of Surgery, Nijmegen, The Netherlands, ³Radboud University Nijmegen Medical Centre, Department of Medical Oncology, Nijmegen, The Netherlands

BACKGROUND: GIST are rare tumors and before 2000, patients had a dismal prognosis when metastasized. Since the introduction of imatinib and other tyrosine kinase inhibitors overall survival has increased from less than 1 year before 2001 to more than 5 years now. Research on psychosocial consequences for this particular cancer type is scarce. This study focuses on quality of life and fear of disease progression in patients with GIST. **METHOD:** Eighty patients with locally advanced or metastatic GIST, being treated with imatinib or sunitinib, from the Radboud University Nijmegen Medical Centre in the Netherlands were asked to participate. Patients completed self-report questionnaires including the EORTC-QLQ-C30, the Cancer Worry Scale (low fear: ≤ 13 , high fear: ≥ 14), and the Fear of Cancer Recurrence Inventory. **RESULTS:** Fifty five patients (median age 63.7; range 22–84 years) completed the questionnaires. Two subgroups were identified: patients with locally advanced ($n = 28$) and metastatic GIST ($n = 27$). Overall, GIST patients demonstrate a good global quality of life (EORTC-QLQ-C30 mean global health: 77). However, 51% of the patients experienced high levels of fear of cancer progression. High levels of fear were not associated with age, gender and time since diagnosis nor differed between patients with locally advanced or metastatic GIST. Patients with high levels of fear experienced significantly higher levels of psychological distress and more functioning impairments.

CONCLUSIONS: Despite a good overall quality of life, a substantial percentage of GIST patients experience high levels of fear of cancer progression, more psychological distress and more functional impairments compared to patients with low levels of fear. No relation was found with demographic variables nor with stage of disease or time since diagnosis. This research demonstrates that it is necessary to focus on more specific rather than general quality of life of these patients with GIST. **RESEARCH IMPLICATIONS:** For a specific type of cancer as GIST research on psychosocial consequences is lacking. This research demonstrates that more research is needed on specific psychosocial variables rather than on general quality of life. **CLINICAL IMPLICATIONS:** The results show that half of the patients with GIST experience high levels of fear of disease progression resulting in psychological distress and functioning impairments. Early detection of high levels of fear by clinicians is necessary to offer these patients the appropriate support. **ACKNOWLEDGEMENT OF FUNDING:** None.

M-5

Coping Strategies Among Latino Men and Women With a Cancer Diagnosis Living in the U.S.

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BACKGROUND: Addressing the psychosocial and oncological needs of foreign-born Latino women and men who have been diagnosed with cancer and who are living in the United States is essential given the increased population and urgency to provide effective cancer care. This study presents the coping strategies that Latinos use when given a cancer diagnosis; negotiating a complex medical health care system while making medical decisions; managing treatment adherence; facing treatment options; and involving family members. **METHOD:** The study consisted of 60–90 minute semi-structured interviews asking open-ended questions of 60 Latinos, diagnosed with cancer within the past 5 years. The qualitative design facilitated an understanding of coping within the participants' social and cultural contexts. Recruitment occurred in community-based organizations, clinics, and churches. Interviews were conducted in Spanish using criterion sampling at a convenient location, due to the subjects' fragile health conditions. The interviews were audiotaped, transcribed, and then translated into English. The data were analyzed using a constant comparison method and coded in the Atlas.Ti qualitative analytical application to identify for emerging themes. **RESULTS:** The

median age of the participants in the study was 55 years. Among the women, 80% had breast cancer, 12% ovarian cancer, and 8% had throat, thyroid, stomach, or skin cancers. Among the men, 94% had prostate cancer, and 6% had brain, colorectal, or lung cancers. Emerging themes associated with the development of coping strategies involved suddenness of diagnosis; expectations of diagnosis-related communication; reliance on physicians for treatment decisions; family support; and role changes. Despite the complex circumstances of migration/immigration, limited education/income, English language proficiency, and knowledge gaps, Latinos with cancer demonstrate helpful coping strategies. **CONCLUSIONS:** Experiences in seeking knowledge about the diagnosis, exploring treatment decisions, limited communication with health providers, religious/spiritual support, and involving family members and friends following a diagnosis of cancer are central themes that emerged from the study. Although participants reported miscommunication, barriers due to cultural beliefs, and differing expectations, they adhered to their physicians' recommended treatment. Participants also sought assistance from Spanish-speaking support groups and community services. Regardless of the politics of immigration and the historical impact of marginalization, Latinos living in the U.S. manifest positive coping strategies, despite obstacles and the increased risk of cancer among the growing Latino population. **RESEARCH IMPLICATIONS:** Capturing culturally relevant communication preferences among Latinos with a cancer diagnosis enables researchers to examine treatment choices and adherence. The median years in the U.S. for 45 women were 19 years and income was \$17,675, ranging from \$0-70,000. For 15 men the median years were 24.6 years and income was \$39,600, ranging from \$0-\$99,600. Latinos in the study identified valuable coping strategies which are beneficial to future cancer research on resilience and recovery. **CLINICAL IMPLICATIONS:** Social Workers and medical health providers must identify Latinos' coping strategies and their ability to adjust to changing roles, and support from family and friends. Clinicians need to assess knowledge gaps regarding diagnosis-related communication and treatment options. Forthright communication of the diagnosis and the expectation to engage in decisions are contrary to Latinos' belief of reliance on health providers' decisions. The findings contribute to the understanding of Latinos' beliefs about cancer diagnosis, communication, and coping. **ACKNOWLEDGEMENT OF FUNDING:** Funding for the research was sponsored by the Division of Population Sciences, the H. Lee Moffitt Cancer Center and Research Institute, Tampa, Florida, the Center for Equal Health at the University of South Florida in Tampa, Florida, and the

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N-1

Quality of Life, Distress and Coping in Women With Ovarian Cancer: A Population Based, Longitudinal Study

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BACKGROUND: High quality data are lacking which explore how QoL changes over time for women with ovarian cancer, and the factors which predict these changes, to guide service delivery. This study aimed to describe the trajectory of quality of life (QoL) and distress in a population based sample of women with early and late stage ovarian cancer over 2 years, and explore the predictors of these outcomes, including demographic and disease variables and coping styles. **METHOD:** The patient cohort consisted of women ($n = 798$) with early or late stage epithelial invasive ovarian cancer, recruited through major treatment centres and the Australian state-based cancer-registries, to the Australian Ovarian Cancer Study (AOCS), and then to a QoL substudy. The AOCS has detailed pathology and initial treatment data, as well as ongoing treatment and clinical outcome data. Women in the QoL sub-study completed questionnaires every 3 to 6 months over 8 assessment periods (2 years), including quality of life (FACT-O), distress (HADS), optimism (Life Orientation Test-R), minimisation and helplessness/hopelessness (MAC), social support (Duke), and demographic and disease variables. **RESULTS:** Women who died during the study had declining QoL and increasing distress. Progression had an immediate negative impact on QoL and distress ($p < 0.0001$). Women on treatment had significantly worse QoL and higher distress ($p < 0.0001$ for both) while late stage disease at study entry had only a marginal impact on QoL ($p = 0.06$) and distress ($p = 0.02$). Younger women were more distressed ($p < 0.0001$). Coping style significantly impacted QoL and distress: optimism ($p = 0.04$ for QoL, $p = 0.07$ for distress),

helplessness/hopelessness ($p < 0.0001$ for QoL, $p = 0.0009$ for distress) and minimisation ($p = 0.001$ for QoL, $p = 0.0004$ for distress); these effects were more prominent in women with late stage disease. **CONCLUSIONS:** Women with late stage disease whose disease is well controlled can enjoy good QoL and avoid distress. Being on treatment is a risk factor for poorer psychosocial outcomes, and distress should be reassessed at this time. Young women are vulnerable to distress and should be closely monitored. Interventions should target promoting optimism and minimisation, and reducing helplessness/hopelessness, particularly in women with late stage disease. **RESEARCH IMPLICATIONS:** Future research could usefully evaluate interventions targeting young women, and those with disease progression, who are recommencing treatment, to enable these women to reduce distress and maintain as optimal quality of life as possible. **CLINICAL IMPLICATIONS:** Young women, those who have recently progressed and those on treatment, should be assessed for psychosocial needs and offered appropriate care. Interventions should target promoting optimism and minimisation, and reducing helplessness/hopelessness, particularly in women with late stage disease. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the NSW Cancer Council and the Queensland Cancer Fund.

N-2

Living With Haematological Cancer: Patient Experiences of Psychosocial Need

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BACKGROUND: Haematological cancers are cancers of the blood and the bone marrow and are known to cause patients to experience high burden of illness. At present, there is little research relating to psychosocial need in haematological malignancy and there are no psychosocial needs assessment tools that specifically cater for this patient group. Focus groups were conducted to identify the psychosocial needs of particular importance to this patient group and how these shaped patient experiences of cancer. **METHOD:** The aim of this study was to conduct a series of focus groups with patients who have had a diagnosis of haematological cancer. The goal specific objective was to identify the unmet psychosocial needs that are relevant to people with haematological cancer, to better understand how these needs shaped patient's experiences of cancer, and to assess how suitable current needs assessment tools are for assessing these specific needs. Participants ($n = 6$) were between the ages of 50 and 80 and 83% of the sample was male. All had completed treatment for their diagnosis.

RESULTS: The data was analysed using a thematic analysis approach where key themes within the transcripts were identified. Our initial results indicate that key areas of need for this patient group are: availability of psychological support; fear of recurrence; having a positive relationship with the healthcare team; support for family members; and information needs. Psychological needs in particular were frequently endorsed and reported as being unmet. Participants repeatedly expressed the belief that their diagnosis differed from other cancer diagnoses in terms of needs, the support services available and how well the general population, including family and friends, understood their illness. **CONCLUSIONS:** This work highlights that patients with a haematological malignancy have unmet psychosocial needs similar to those of patients with other cancer diagnoses. Yet participants in this study reported feeling that the level of support available to them was reduced and that understanding of their diagnosis was limited when compared to other cancer diagnoses. We found that unmet psychosocial needs were prevalent within our sample yet barriers to needs being met were identified with patients reporting finding it difficult to address their unmet psychosocial needs with their clinicians. **RESEARCH IMPLICATIONS:** Psychosocial need research in patients with a haematological diagnosis is comparatively sparse. As a pilot study with a small sample size, our results highlight some of the key areas of need identified by patients and clearly demonstrates a need for further research in this area to build upon the findings presented here. Work that tracks the type, prevalence and severity of unmet need over time and seeks to investigate the implications of need is required. **CLINICAL IMPLICATIONS:** Our preliminary findings suggest areas of patient need that are directly relevant to both clinicians and to wider healthcare services. These findings suggest areas of need that clinicians need to be aware of when communicating with patients and where services as a whole need to consider the current provision of support services for this patient group. Psychological support and specialised support relevant to this patient group in particular was felt to be lacking. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by a Gladstone Fellowship funded by the University of Chester and the Countess of Chester NHS Foundation Trust.

N-3

Health-Related Quality of Life (HRQoL) Following Surgical Treatment for Penile Cancer

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BACKGROUND: Penile cancer, although relatively rare (0.58 per 100,000 men in industrialized countries), can have serious negative effects on both sexuality and HRQoL. Surgical treatments vary in invasiveness and scope. The aim of this study was to assess the impact of primary surgery ((partial-amputation or penile-preserving) and of lymphadenectomy on sexual functioning and HRQoL. **METHOD:** In this cross sectional study, patients surgically treated for penile cancer in the Netherlands Cancer Institute between 2003 and 2008 ($N = 147$) were invited to complete the following questionnaires: the International Index of Erectile Function (IIEF-15); the Short Form -36 Health Survey (SF-36); and the Impact of Cancer questionnaire, version 2 (IOCv2). Analysis of (co)variance was used to evaluate the relative impact of type and extent of surgery. We adjusted statistically for age, education, marital status and time since surgery, where appropriate. **RESULTS:** Ninety of 147 patients (62%) returned a completed questionnaire. The mean age of the sample was 64 years. Most men had a partner (83%), and had an occupational high school (42%) or college/university degree (41%). Mean time since first surgery was 3 years. The majority had undergone less invasive surgery (60%) and did not undergo lymphadenectomy (72%). Men with more invasive surgery reported significantly worse orgasmic function (IIEF-15; $p = 0.031$; $ES = 0.54$), more appearance concerns (IOCv2; $p = 0.008$; $ES = 0.61$) and more life interferences (IOCv2; $p = 0.032$; $ES = 0.49$). Men who had undergone a lymphadenectomy reported significantly more life interferences (IOCv2; $p = 0.037$; $ES = 0.50$). **CONCLUSIONS:** Contrary to expectations, type and extent of surgery was not associated significantly with most of the functional and HRQoL outcomes assessed. However, men who had undergone more extensive surgery and/or lymphadenectomy reported more problems with orgasm, body image and more life interference. **RESEARCH IMPLICATIONS:** We expected the invasiveness of the treatment for penile cancer to have more impact on the outcomes assessed. The relatively small sample size may have limited the power of the study to detect other differences. Also, the questionnaires used in this study may not have been sufficiently sensitive. Future studies should include larger samples and efforts should be made to design questionnaires specific to this population of patients. **CLINICAL IMPLICATIONS:** The results of this study with regard to the effect of surgery type and extent on orgasm, body image and life interference can be used in counselling patients with penile cancer both prior to and following treatment. **ACKNOWLEDGEMENT OF FUNDING:** None.

N-4

The relevance of implementation science to psycho-oncology: Evidence-practice gaps in lung cancer

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BACKGROUND: Implementation Science (Knowledge Translation) has emerged over the past 20 years to highlight a fundamental problem in health care: that knowledge about optimal care is not applied in real world settings. Methodologies used in Implementation Science can be applied in psycho-oncology to understand why effective clinical interventions are not routinely offered to patients. This presentation aims to describe how an implementation science project in lung cancer is highly relevant to the discipline of psycho-oncology. **METHOD:** A 'gap analysis' seeks to examine the gap between existing knowledge and what happens in current practice. We undertook a systematic approach to examining the evidence across the lung cancer patient journey. Data sources included clinical practice guidelines, systematic reviews and meta-analyses, research from peer reviewed publications as well as examining data from two clinical cancer registries and administrative data from the local setting. Data was reviewed and synthesised to create a list of evidence-practice gaps. These gaps are currently being discussed in focus groups with health professionals to determine priorities for, and barriers to, implementation in clinical settings. **RESULTS:** Seven evidence-practice gaps were identified. The psychosocial care of lung cancer patients was a significant gap. More than 40% of patients experience distress above clinical cut-offs; unmet needs are higher for lung cancer patients than for many other tumour types. The delivery of interventions to lung cancer patients is hampered by patients having advanced disease, comorbidities and having short survival times. Focus groups outcomes and a 'barrier and enabler analysis' conducted with health professionals will be discussed. Potential strategies to improve the delivery of psychosocial interventions to lung cancer patients will be presented. **CONCLUSIONS:** This project is innovative in psycho-oncology research as it seeks to demonstrate the relevance of Implementation Science methods. By focusing on one tumour type, determining the evidence base, conducting gap and barrier analyses and collaborating with clinicians from various disciplines involved in managing the care of lung cancer patients, it is possible to raise the profile of psychosocial evidence-practice gaps. Consequently, researchers and clinicians can work together to find ways to overcome barriers to incorporating psychosocial interventions as part of stan-

dard care and contribute to implementing patient-centred care pathways. **RESEARCH IMPLICATIONS:** Psycho-oncology researchers should consider ways to incorporate implementation science methodologies into their projects. These approaches will aid understanding about delivering interventions in clinical settings and how these might succeed or fail due to barriers to implementation and perceptions about evidence-practice gaps. It can show the potential barriers to implementing an intervention and will argue that multidisciplinary collaboration in clinical settings is crucial to the success of delivering care programs to patients. **CLINICAL IMPLICATIONS:** Clinicians will gain new insights from this research to understand how evidence and the lack of its application in real-world settings impacts directly on their clinical practice. The presentation will include a discussion of how clinicians can draw on the lessons from Implementation Science research to incorporate elements that will support adoption of evidence-based practice. The presentation will also be of particular relevance to clinicians working with lung cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** This research is funded by Sydney Catalyst, a Translational Cancer Research Centre of the Cancer Institute New South Wales, Australia

N-5

Psychosocial Predictors of Survival in Invasive Ovarian Cancer: A Population-Based Prospective Study

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BACKGROUND: While there is a widely held belief that the way a person responds psychologically to cancer can influence survival, the evidence for a prognostic impact of psychological variables remaining unclear, and may vary according to cancer type and stage. The aim of the study was therefore to determine if psychosocial factors, in particular depression, optimism, minimisation, helplessness/hopelessness and social support, are pre-

dictors of survival in a large population-based sample women with invasive ovarian cancer. **METHOD:** The sample comprised 798 women with invasive ovarian cancer recruited into the Australian Ovarian Cancer Study (AOCS) through major treatment centres and state-based cancer registries, and a subsequent Quality of Life (QoL) sub-study. Women completed validated questionnaire measures every 3 to 6 months for up to 2 years, including depression (HADS), optimism (Life Orientation Test-R), minimisation, helplessness/hopelessness (MAC) and social support, demographic and treatment variables. Detailed epidemiological data, pathology, treatment and clinical outcome data were available through linkage with AOCS. The primary outcome was survival, calculated in days between the recruitment into the sub-study and death or censoring. **RESULTS:** 419 of 798 participants died within the follow-up period. Depression and social support were not associated with survival. In women whose disease had progressed, optimism, minimisation and helplessness/hopelessness were not associated with survival. However, in women whose disease had not yet progressed, higher optimism (Hazard Ratio for 1 standard deviation (HR) = 0.80, CI: 0.65–0.97), higher minimisation (HR = 0.79, CI: 0.66–0.93) and lower helplessness/hopelessness (HR = 1.40, CI: 1.15–1.71) were independent predictors of longer survival. **CONCLUSIONS:** This large prospective, population-based study of women with invasive ovarian cancer is the first to comprehensively examine the ongoing impact of psychological factors in predicting survival in this group of women. The results clearly indicated that in women with invasive ovarian cancer without disease progression, higher optimism and coping by minimising the impact of their illness rather than with helplessness/hopelessness, were all significant predictors of longer survival. These results highlight the importance of addressing psychosocial responses to cancer early in the disease trajectory, as they may benefit their survival as well as quality of life. **CLINICAL IMPLICATIONS:** Guidelines for the care of women with ovarian cancer should emphasise that the focus of psychosocial management should be minimisation of the physical and psychological impacts of the cancer and its treatment, and promotion of realistic optimism about their disease early in their disease trajectory, as they may have an impact not only on quality of life but also their survival. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by The Cancer Councils of New South Wales and Queensland (RG 36/05). Financial support for the parent study was provided by the U.S. Army Medical Research and Materiel Command under DAMD17-01-1-0729, NHMRC (400413, 400281) and the Cancer Councils of NSW, QLD, SA, TAS, VIC, WA. Additional

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O-1

A Randomized Controlled Trial of the Efficacy of the Psychosocial Aspects of Hereditary Cancer (PAHC) Questionnaire in Reducing Cancer Worries and General Psychological Distress in Cancer Genetic Counselees

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BACKGROUND: Approximately 20% of individuals who undergo genetic counseling and testing for cancer experience clinically significant levels of distress, depression and/or anxiety, which are often undetected. The Psychosocial Aspects of Hereditary Cancer (PAHC) questionnaire, a cancer genetics-specific screening questionnaire, was developed to facilitate communication about psychosocial problems within cancer genetic counseling. This study evaluated the efficacy of providing the genetic counselors with the results of the PAHC and the Distress Thermometer (DT) on counselees' distress levels. **METHOD:** A randomized controlled trial was conducted at two family cancer clinics in the Netherlands. Participants were randomized to either: 1) an intervention group, in which the genetic counselors received feedback on the PAHC questionnaire and DT, which were completed by counselees prior to their genetic counseling session; or 2) a control group, where the counselors did not receive this information. The Cancer Worry Scale and Hospital Anxiety and Depression Scale were administered at baseline (before randomization) and 4 weeks after the genetic counseling. Data were analyzed on an intention-to-treat basis, using analysis of covariance, with baseline scores as covariates. **RESULTS:** In total, 252 counselees attending the family cancer clinics were randomized. The mean age was 48 years, 79% was female, 60% was counseled for hereditary breast and ovarian cancer, and 54% was without a cancer diagnosis in the past. No significant differences were observed between the intervention and the control group at baseline in background or outcome variables. At follow-up, cancer worries (CWS) and general distress levels (HADS) were significantly lower in the intervention group than the control group ($p = 0.003$ and $p = 0.02$, respectively). The effect sizes were 0.29 and 0.18 for cancer worries and generalized distress, respectively. **CONCLUSIONS:** Providing a summary of the psychosocial problems encountered by counselees to the genetic counselor prior to their counseling session resulted in significantly lower

levels of cancer worry and generalized distress four weeks after genetic counseling. However, this effect was relatively modest, with small to moderate effect sizes. **RESEARCH IMPLICATIONS:** We are currently evaluating the effect of the intervention on client-counselor communication and management of psychosocial problems (e.g. referrals to specialized psychosocial workers). This will provide more insight into the actual use of the PAHC questionnaire and the process of communication about psychosocial problems. Future research should investigate the effect of this form of intervention on the long psychosocial outcomes within the genetic counseling setting. **CLINICAL IMPLICATIONS:** The PAHC questionnaire provides genetic counselors with important information regarding the psychosocial problems experienced by their counsees. This has a significant, albeit modest impact on counsees' levels of distress. We expect that use of the PAHC questionnaire also facilitates communication and care profession. These latter issues are currently being evaluated. **ACKNOWLEDGEMENT OF FUNDING:** This study is supported financially by the Dutch Cancer Society. (grant number NKI 2008-4016).

O-2

Beware the Difference: Comparison of Cancer Patients' Responses on the DT/PL Online Versus Using Paper Forms

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BACKGROUND: It has been suggested that use of internet instead of the traditional paper forms method is a more efficient way in terms of time and associated administrative costs to collect patient reported outcome measures (PRO's) such as the Distress Thermometer (DT) and Problem List (PL). We compared answer patterns of respondents who completed the DT/PL online with those of respondents who used paper forms. **METHOD:** Of the 2640 cancer patients invited to participate in a study, 1352 patients (response = 51%) completed the DT/PL and a number of sociodemographic and illness-related variables using the paper form. The second group consisted of 1599 patients who went online to complete the DT/PL. The Dutch DT/PL consists of the thermometer (range 0 = no distress at all to 10 = extreme distress), the PL consists of practical (7 items), social (3 items), emotional (10 items), spiritual (2 items) and physical problems (25 items), and the referral wish question. T-tests and chi-square tests were used to compare the two groups. **RESULTS:** Online respondents' mean DT

score was higher than that for "paper" respondents ($DT_{\text{mean online}} = 5.2$, $DT_{\text{mean paper}} = 3.8$, $t = -15.1$; $p < 0.001$). Online patients reported experiencing more problems than "paper" patients in the total PL (mean number online = 15.3, mean paper = 10.1, $X^2 = 327$) and in the practical (mean online = 2.0, mean paper = 0.8, $X^2 = 435.1$); social (mean online = 0.9, mean paper = 0.3, $X^2 = 324.4$); emotional (mean online = 4.6, mean paper = 2.8, $X^2 = 285.8$); spiritual (mean online = 0.4, mean paper = 0.3, $X^2 = 45.6$); and physical domains (mean online = 7.5, mean paper = 5.9, $X^2 = 93.6$, all p 's < 0.001). In the online group, 23% indicated wanting a referral and 42% indicated "maybe" wanting a referral. These percentages were 13% and 21% respectively in the paper group. **CONCLUSIONS:** Cancer patients using the internet to complete a DT/PL differed significantly in their responses from patients using a paper form. Online cancer patients reported having more distress and more problems in each of the Problem List domains. Additionally, more indicated wanting or maybe wanting support from a psychosocial or allied health care professional. It appears that cancer patients who are willing to participate in a study are other people than patients who choose to go online to complete a DT/PL. **RESEARCH IMPLICATIONS:** Research is needed to explain the differences found in the present study represent differences in patient characteristics or in the responses elicited from them. Variables of interest may be sociodemographic or illness related characteristics. Additionally relevant may be patients' intrinsic/extrinsic motivation to inform health care providers about their functioning or needs, anonymity associated with means of screening instrument completion, or choice of time and place of instrument completion. **CLINICAL IMPLICATIONS:** Clinicians should be aware that means of collecting responses for instrument completion has significant implications for the pattern of responses obtained. This underscores the importance of discussing results obtained with either method with patients. Additionally, providing an online method shows that there are cancer patients willing to complete a screening instrument even though screening may not yet be standard practice in a clinic. **ACKNOWLEDGEMENT OF FUNDING:** Comprehensive Cancer Center Netherlands and Dutch Cancer Society.

O-3

Benefits and Costs of Screening in Clinical Practice to Identify Head and Neck Cancer Patients With Untreated Psychological Distress After Treatment

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BACKGROUND: Psychological distress is common in cancer survivors. In the Netherlands, national guidelines reflect broad scientific and social support for a structured, integrated approach to supportive care in cancer patients, including screening for the need for and referral to psychosocial care. The objective of this study is to evaluate the benefits and costs of screening in clinical practice to identify head and neck cancer (HNC) patients with untreated psychological distress. **METHOD:** Between 2009 and 2012, we investigated the number of HNC patients that made use of OncoQuest (a touch screen computer system to complete the Hospital Anxiety and Depression Scale (HADS) and the EORTC QLQ-C30 and H&N35 quality of life questionnaires) and consulted a specialized nurse. Patients with an increased level of distress (HADS-T > 14, HADS-A > 7, or HADS-D > 7) were telephone-based interviewed by a researcher on receipt of psychiatric or psychological treatment. Costs were calculated by dividing the total costs (estimated on 16,047 euro per year) by the total times that OncoQuest was used during the study period. **RESULTS:** During the study period of 29 months, OncoQuest was used 2365 times by 802 individual patients. Patients used OncoQuest on average 2.9 times after treatment. Psychological distress was present in 27.3% of the patients ($n = 219$). Seventeen (7.8%) of these patients were excluded or could not be reached. Of the remaining 202 patients, 39 received psychiatric or psychological treatment (19%). This results in costs for screening of 16,39 euro per time OncoQuest was used, and on average 47,55 per new patient (16,39 x 2.9 times). **CONCLUSIONS:** Identifying patients with psychological distress who do not yet receive treatment (81%) is estimated to cost between 16,39 and 47,55 euros. **RESEARCH IMPLICATIONS:** Via OncoQuest a broad spectrum of quality of life is monitored (EORTC QLQ-C30 and QLQ-HN35 module), enabling identifying not only psychological distress but also a variety of problems deteriorating quality of life. A mixed method study including qualitative and quantitative research measures is ongoing to evaluate this approach in detail including the need for and referral to supportive care. Results will be discussed at

the IPOS 2013 congress. **CLINICAL IMPLICATIONS:** It is proven that monitoring quality of life in clinical practice improves communication between patient and care professional and enhances both patient and care professional satisfaction with received or provided care. The present study reveals that screening for distress also helps to identify HNC patients with untreated psychological distress after treatment. **ACKNOWLEDGEMENT OF FUNDING:** None.

O-4

Cancer Patients' Referral Wish: Effects of Socio-Demographic, Illness-Related and Psychosocial Variables

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BACKGROUND: Identification of cancer patients having an unmet psychosocial and/or allied health care need is essential for appropriate referral to professional health care services. Few studies examined which cancer patients are likely to have a referral wish. We examined cancer patients' referral wish and the effect of socio-demographic, illness-related and psychosocial variables (distress and social support) on patients' referral wish. **METHOD:** A cross-sectional group of 1350 patients (response rate = 51%) from 22 Dutch hospitals completed questions on socio-demographic and illness-related variables; the Dutch version of the Distress Thermometer (DT), Problem List (PL, including the practical, social, emotional, spiritual and physical domains) and referral wish (yes, maybe or no); and perceived sufficiency of social support (one-item: yes or no). Patients varied in cancer diagnosis, type, phase and intent of treatment. Univariate and multivariate (ordinal regression; link function=negative log-log) analyses were performed to explore the effects of socio-demographic, illness-related and psychosocial variables on patients' referral wish. **RESULTS:** Of the patients, 13% wished, 21% considered, and 66% did not want a referral. Univariate analyses showed significant differences between these three groups. In comparison to patients with no referral wish, those having a (maybe) wish were: younger, higher educated, having no or children living at home, employed, under active treatment, receiving intensive treatment, more distressed, reporting more problems on all PL domains, and perceiving insufficient support (p 's varied between < 0.05 – < 0.001).

Ordinal regression analysis showed independent significant effects of age (estimate = -0.01 ; $p < 0.05$), education (estimate = 0.07 ; $p < 0.05$), distress (estimate = 0.22 ; $p < 0.001$), and perceived support (estimate = $.49$; $p < 0.01$) on patients' referral wish ($\chi^2 = 174.6$, $p < 0.001$; Nagelkerke's $R^2 = 0.18$). **CONCLUSIONS:** One-third of the patients (maybe) wanted a referral. Results showed that patients who expressed a referral wish and those who *considered* a referral differed from those who did not wish to be referred. Patients who were younger, completed a higher education level, reported higher distress levels, and who experienced insufficient social support were more likely to wish or consider a referral. Additional, but less important, associates of referral wish were: having no children or young children living at home, being employed, undergoing active treatment, and receiving intensive treatment (=any (combination of) treatment but surgery only and watchful waiting). **RESEARCH IMPLICATIONS:** The current study adds to the scarce knowledge presently available on determinants of cancer patients' referral wish. It has been questioned whether screening of patients' distress level is sufficient as method to identify unmet health care needs. Our results showed that distress is an important, although not decisive, variable associated with referral wish, as are age, education and lack of social support. We encourage other researchers to identify additional factors associated with patients' referral wish. **CLINICAL IMPLICATIONS:** We recommend taking distress, perceived sufficiency of social support, age and education into account when exploring which cancer patients may have unmet health care needs. Discussion of discrepancies between patient's distress level and referral wish and of perceived sufficiency of social support may provide valuable information regarding a patient's current needs and/or the type of health care services a patient would prefer. **ACKNOWLEDGEMENT OF FUNDING:** Comprehensive Cancer Center Netherlands, Dutch Cancer Society, Pink Ribbon.

O-5

Patterns and Predictors of Supportive Care Referrals in Ambulatory Oncology Patients in Victoria, Australia

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BACKGROUND: Improving the identification and management of supportive care needs is a core component of Victorian supportive care policy. Current policy reflects growing recognition of the

importance of supportive care provision to the outcomes and experiences of cancer patients. Patient- and clinician-reported data are used to identify patterns and predictors of supportive care referrals in a large metropolitan cancer centre. Implications for research and practice are considered in the context of study limitations. **METHOD:** Retrospective audit of electronic screening and medical records data for formally screened patients July 2011–June 2012. Screening data comprised patient responses to the Supportive Needs Screening Tool (SNST), which assesses multiple needs domains and putative risk factors for poorer outcomes, and clinician responses to the associated Referral Form. Descriptive statistics were used to summarise patterns of referrals offered and accepted and appointments attended. Logistic regression was used to model the probability of referrals offered. Age, sex, marital status, first language, geographical location, disease stage, physical and emotional morbidity and a variable indexing social support were included in the models. **RESULTS:** 607 patients with near-complete data were offered 711 referrals based on formal screening. Most were offered referrals to social work (40%), nutrition (18%) and/or psychology (11%). Referral acceptance rates were lowest for psychology (36%). For all services, referrals offered far exceeded appointments attended. Being female, geographically distant to the service, having more advanced disease, greater physical morbidity and less social support were associated with increased odds of a referral to social work. English as a second language, having more advanced disease and greater physical and emotional morbidity were associated with increased odds of a referral to other (non-social work) services. **CONCLUSIONS:** This is one of the first studies to map patterns and predictors of supportive care referrals based on patient- and clinician-reported data. Supportive care activity in this large cancer centre is consistent with the tiered approach to care provision advocated by policy. More often than not, screening leads to information provision and/or brief targeted interventions for practical issues; referral to specialised services for complex needs is the exception. While influenced by current physical and emotional morbidity, referral decisions appear to be greatly impacted by beliefs regarding those patients likely to be in greatest need for supportive care. **RESEARCH IMPLICATIONS:** Results are based on data from a cancer centre that services a very wide geographic area, so may not generalise to centres with more local populations. A think aloud protocol study could help elucidate specific information used by nurses to match patients to supportive care resource/service types. Research is also needed to understand and overcome the low referral acceptance and appointment attendance rates for most supportive care services. **CLINICAL IMPLICATIONS:** Results provide preliminary support for a two-stage model

of supportive care screening and referral. The first stage would focus on screening for brief targeted interventions for practical issues and treatment-related supportive care (e.g. dentistry and speech pathology). The second on screening for physical and emotional morbidity. Alongside type and level of patient-reported need, static predictors could be integrated into standard algorithms to guide the process of matching cancer patients to supportive care resources/services. **ACKNOWLEDGEMENT OF FUNDING:** None.

P-1

Initial Evidence of Religious Practice and Belief in Depressed African American Cancer Patients

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BACKGROUND: This study examined spiritual coping (beliefs and practices) of depressed African American cancer patients through a comparison with depressed White cancer patients and non-depressed African American cancer patients. **METHOD:** Using mixed methods, 74 breast ($n = 41$) and prostate ($n = 33$) cancer survivors including 34 depressed and 23 nondepressed African Americans and 17 depressed Whites were interviewed. The interviews were audiotaped and transcribed. Qualitative data analysis identified themes that were coded. The codes were entered into SPSS software. The Fisher's exact test was performed to examine group differences in self-reported spirituality and coping. **RESULTS:** Significantly more depressed African Americans questioned God when learning of a cancer diagnosis than the non-depressed African Americans ($p = 0.03$), but they did not differ from the depressed Whites in this regard ($p = 0.70$). Significantly more depressed African Americans reported having faith in God ($p = 0.04$), reading the bible ($p = 0.02$), and conversing with God ($p = 0.01$) than did the depressed Whites. They also reported praying alone ($p = 0.01$) more frequently than the depressed Whites who, on the other hand, reported praying with others (non-family members) together for one's own health more frequently ($p = 0.04$). **CONCLUSIONS:** Depression is associated with a deepening need for spirituality and it affects religious beliefs and practices more in African American than White cancer patients. Given its important role in the lives of African American cancer patients, spirituality may be utilized as a reasonable, culturally-based approach to better assess and treat depression in these patients. **RESEARCH IMPLICATIONS:** Research is needed to further explore the relation between spirituality and depres-

sion in African American cancer patients. **CLINICAL IMPLICATIONS:** Clinicians may find spirituality a good avenue for accessing emotions of African American cancer patients and evaluating their mental health status. **ACKNOWLEDGEMENT OF FUNDING:** The study was supported by National Institutes of Health / National Cancer Institute (R03 CA115191).

P-2

Abstract withdrawn

P-3

Family Members Taking Care of Cancer Patients Older Than 50 With a Turkish or Northwest African Background in Belgium: Meaning of Caregiving

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BACKGROUND: The first generation of immigrants from Turkey and Northwest African countries in Belgium are reaching an older age in which the incidence of cancer increases. Besides, many studies point out the importance of family members in severe illness. The aim of this study was to gain insight into experiences and perceptions of family members of cancer patients older than 50 with a Turkish or Northwest African background in Flanders - Belgium. **METHOD:** A qualitative research method with elements of the constructivist Grounded Theory was used, which allowed an in-depth understanding of experiences and perceptions of participants. Loosely structured interviews were conducted with 32 family members. Data collection and data analysis were alternated in a cyclic process. The constant comparative method was used in the process of analyzing. Three researchers were involved in data analysis (researcher triangulation). Furthermore, six interviews were conducted with experts and/or privileged witnesses to allow a better understanding of specific themes and to take record of the field of possible interpretations of the data. **RESULTS:** Cancer is a family affair in which the patient is not always the 'principal actor', often family is. The meaning of caregiving is a central concept. Caregiving has a strong moral meaning for all participants, particularly in the caregiving of a parent. The caregiving can be described as "guiding" the patient: leading the patient through and/or familiarize the patient the Belgian health care system. It differs to what extent family members believe care should be given by themselves. Legitimizations to omit certain tasks or to fulfil them in a

less extensive way are: employment, having children, health, and living distance. **CONCLUSIONS:** Adopting a “guiding” role characterises the caregiving of family members of an older adult cancer patient with a Turkish or Northwest African background. Cancer is considered as a family affair and caregiving has a strong moral meaning for all family members. Despite these shared principles, concrete ideas about how care should be organised and which professional care is desirable, differs strongly. **RESEARCH IMPLICATIONS:** Besides gaining insight into perspectives of family members, it is also important to provide a better understanding of the experiences of health care providers with caring for people with culturally diverse backgrounds. Furthermore, it would be beneficial to study the family member’s perspective in triad with the patient’s and the professional caregiver’s perspectives. **CLINICAL IMPLICATIONS:** Insights into moral and practical meaning of caregiving of older adult cancer patients with a Turkish or Northwest African background, help professional health care workers understand the roles family members adopt. Furthermore, individual care appears to be essential, since concrete ideas about informal caregiving by family members differ strongly despite shared principles. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by a grant from the Flemish League against Cancer.

P-4

Psychological Factors Associated With Non-Adherence to Treatment in Indonesian Patients With Breast Cancer

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BACKGROUND: The aim of the present study was to test the association between psychosocial factors (i.e. knowledge, illness perceptions, health locus of control, satisfaction with information and distress) and non-adherence to treatment in Indonesian women with breast cancer. **METHOD:** Seventy consecutive patients with breast cancer who were treated at the Outpatient Surgical Oncology Clinic in Hasan Sadikin Hospital in Indonesia were recruited. They completed a demographic form, the non-adherence questionnaire, the Breast Cancer Knowledge Test, the Brief Illness Perception Questionnaire, the Multidimensional Health Locus of Control Scales, the Satisfaction with Cancer Information Profile and the Distress Thermometer.

RESULTS: Seventeen (24%) out of seventy patients reported that they had delayed initiating treatment at the hospital, and nine (13%) out of seventy patients had missed two or more consecutive treatment sessions. In multivariate regression analyses, consulting a traditional healer before diagnosis was significantly associated with treatment delay ($\beta = 1.274$, $p = 0.04$). Poorer perceptions of illness ($\beta = 0.097$, $p = 0.02$) and whether a traditional healer had been consulted after diagnosis ($\beta = 1.668$, $p = 0.03$) were associated with missing treatment sessions. **CONCLUSIONS:** Having a more threatening view of cancer seems to be associated with missing treatment sessions, whereas having consulted a traditional healer seems to be associated with both treatment delay and missed treatment sessions. **RESEARCH IMPLICATIONS:** Our study sheds light on the importance of illness perceptions and the belief in traditional healers in explaining non-adherence to treatment. The relative importance of these factors should be studied in future prospective studies. **CLINICAL IMPLICATIONS:** Health professionals need to be aware of patients’ negative illness perceptions and unrealistic beliefs in traditional healers and provide them with clear information about their illness and its treatment. **ACKNOWLEDGEMENT OF FUNDING:** The Directorate General of Higher Education of Indonesia (DIKTI).

P-5

Coping With Breast Cancer in an Intercultural Context: The Experience of Israeli-Arab Women

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BACKGROUND: The rate of Arab women diagnosed with breast cancer in Israel is steadily increasing. Among the Arab population, breast cancer is perceived as an extremely serious illness, affecting negatively the personal, familial and social status of the woman. This study aimed to examine Arab women’s perceptions of the cause of their illness, its meaning for them, and personal, familial and social implications, as well as their coping strategies within the religious and traditional cultural context. **METHOD:** This was a qualitative study. Participants were 20 Muslim and Christian Israeli-Arab women from northern Israel, from northern Israel, aged 20–50 years, who had been diagnosed with primary breast cancer (stages I-III) in the 5 years prior to the study. They had all completed chemotherapy and/or radiation treatments. In-depth, semi-structured interviews were conducted and later transcribed and content analyzed. **RESULTS:** Four themes emerged: 1) “Family Comes First”: The Woman and Her Family; 2) To

Expose or not to Expose? That's the Dilemma; 3) Faith in God as a Source of Coping, and 4) Constructing New Meanings Following Recovery from Cancer. Participants experienced a duality in cancer coping according to the traditional cultural norms of concealing the illness, while simultaneously encountering more open Western attitudes through interactions with healthcare providers and Jewish women receiving treatment alongside them. This situation challenged the Arab women's management of the illness, such as expression of suffering versus presentation of a strong external façade. **CONCLUSIONS:** This study was a first report of Arab breast cancer patients' feelings and coping with breast cancer in the specific context of Israel. Findings revealed unique cultural aspects of coping among these women, in the personal, familial and societal spheres. Social and religious beliefs played a dual role in the women's reactions to their disease-as a source of strength, and causing difficulties and frustration. The findings elucidated a process of change in the women's perceptions of self, of the meaning of the disease, and of others, which reflected a transition towards Western perceptions while strengthening their faith in God. **RESEARCH IMPLICATIONS:** This study has added to the knowledge on perceptions, reactions and coping strategies of Arab breast cancer patients. Its findings can form the basis for developing culturally-sensitive research tools for future research into the effect of cancer on patients and their families. **CLINICAL IMPLICATIONS:** Healthcare professionals should be aware of the unique implications of cancer in the context of the traditional Arab culture intertwined with modernization processes. This context calls for interventions that consider an understanding of the specific cultural context of reactions to cancer and the use of various religious coping strategies as vital for designing effective culturally-competent psychosocial interventions, as well as sensitive physician-patient communication. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by the estate of the late Alexander Smidoda, The Israel Cancer Association grant # 20080020-B.

Q-1

A Randomized Study Assessing the Efficacy of a 38-Hour Training Program Designed to Improve Radiotherapy Team Members' Communication Skills

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BACKGROUND: No study has yet assessed the efficacy of communication skills training designed specifically to improve radiotherapy team members' communication skills. This study aims to assess the efficacy of a 38-hour training program designed to improve team members' communication skills during the radiotherapy simulation, to stimulate patients' expression of concerns, and to increase patients' satisfaction about radiotherapy. **METHOD:** Four radiotherapy teams were randomly assigned to a training program or to a waiting list. Assessments were scheduled at baseline and after training for the training group, and at baseline and 4 months later for the waiting list group. Assessments included an audio recording of the radiotherapy simulation to assess team members' communication skills and breast cancer patients' expression of concerns (analysed with content analysis software; LaComm 2) and the completion of a satisfaction with care questionnaire (EORTC Out-Patsat35). **RESULTS:** A total of 239 radiotherapy simulations were recorded. Compared to untrained team members, trained team members acquired overtime, more assessment skills ($RR = 2.68$; $p < 0.001$), more supportive skills ($RR = 1.50$; $p = 0.001$) and used more psychological words ($RR = 2.11$; $p = 0.001$) and more words related to radiotherapy ($RR = 1.22$; $p = 0.019$). Compared to patients interacting with untrained team members, patients interacting with trained team members asked overtime, more questions ($RR = 1.20$; $p = 0.020$), expressed more psychological words ($RR = 2.11$; $p = 0.001$) and showed after radiotherapy, a higher level of satisfaction with care concerning nurses' interventions ($p = 0.051$). **CONCLUSIONS:** The 38 hours training program tested in this study is effective: it has allowed the transfer of team members' learned communication skills to the workplace and has improved patients' satisfaction with care. **RESEARCH IMPLICATIONS:** Future studies should focus on the maintenance of communication skills transfer to the workplace during all radiotherapy sessions. **CLINICAL IMPLICA-**

TIONS: This type of training program may be already implemented in radiotherapy departments in order to improve quality of care. **ACKNOWLEDGEMENT OF FUNDING:** This research program was supported by the « Fonds National de la Recherche Scientifique – Section Télévie » of Belgium and by the « Centre de Psycho-oncologie » of Brussels.

Q-2

Does the Very First Disclosure of the Risk of Having Cancer Mediate the Effects of Later Communication Between the Patient and His/Her Physician on Patient Perception of Illness?

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BACKGROUND: This study focuses on how patients perceived the very first disclosure by a physician of the risk of having cancer and the impact of this disclosure on their perception of the disease. Perception of communication was measured in two situations: 1) the first time the physician informed the patient that he/she had a risk of cancer (First Consultation – FC), 2) the last consultation the patient had with his/her referred specialist (Specialist Consultation – SC). **METHOD:** The current analysis was conducted on a sample of 192 patients with cancer at all stages of the disease (curative, palliative and monitoring). Measurement tools included the Medical Communication Competence Scale (MCCS) used to measure satisfaction with communication in both situations described above as well as the Illness Perception Questionnaire short form (IPQ – SF). The questionnaire was given to the participant by the referred specialist after a consultation. Participants were asked to complete the questionnaire at home and return it by mail. Data were analysed using hierarchical multiple regression analysis. **RESULTS:** Results showed that communication with the specialist (SC) had a complete mediating effect on the relationship between the first disclosure of the risk of cancer (FC) and the understanding of the disease. In addition, the first disclosure of the risk of cancer (FC) had a complete mediating effect on the relationship between communication with the specialist (SC) and treatment control. The same relationship was also observed for the emotional representations of the disease. No mediating effect was found on the other dimensions (consequences, timeline, illness concern, identity, personal control). **CONCLUSIONS:** Many studies have been performed on communication with specialists regarding diagnosis disclosure. However, few studies have focused on the conditions in which the patient hears for the first time from a health professional the risk that he/she may have cancer.

Results of this study show that these first moments of disclosure, most often made by a general practitioner, a specialist or a resident in medicine, have an impact on the future perception of the disease by the patient. **RESEARCH IMPLICATIONS:** The perception of communication during the very first disclosure of the risk of having cancer may have an impact on other variables such as quality of life, psychological distress or well-being. Future research is needed in this area. **CLINICAL IMPLICATIONS:** Many specialists attest that the first meeting with the patient often depends on how the patient received the initial information about his/her illness. Some professionals experience the need, in certain cases, to restore a good quality of communication with the patient. This study shows that the first professional who speaks about the risk of cancer has an important role to play in the future perception of the disease by the patient. **ACKNOWLEDGEMENT OF FUNDING:** Financial support for this study was provided entirely by a contract with l'Université de Lorraine, la Région Lorraine and le Fonds Européen de Développement Régional (FEDER). The funding agreement ensured the authors' independence in designing the study, interpreting the data as well as writing and publishing the report.

Q-3

The Information Needs of Italian Breast Cancer Patients During a First Oncological Consultation

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BACKGROUND: The number of questions asked by the patient during the consultation is considered a first indicator of an active participation in the conversation and the expression of most immediate information needs. Aim of the present study is to observe the natural trend of frequency and type of questions by Italian breast cancer patients and to explore associated factors. **METHOD:** Audiotaped first oncological consultations of 70 female breast cancer patients at their first out-patient visit with the oncologist were analyzed to identify patients' information requests. The audio recorded consultations were examined for the content and number of questions asked by patients. Six category were identified previously by the researchers according to those indicated in the literature. They were symptoms and illness, aetiology, prognosis, prevention, illness management and administrative. The variables assessed for their association with question

asking, applying univariate comparisons and bivariate correlations, included clinical and psychological patient characteristics and consultation characteristics. **RESULTS:** Patients asked a mean of 18 questions, mainly about illness management, particularly treatment, and administrative procedures. Patients asked less questions about prognosis, prevention and aetiology. A greater number of questions was related to younger age, being employed, longer consultation length, the prescription of chemotherapy, to oncologists' patient-centered attitude and their correct guesses of patients' role preference in decision making. Cancer stage and psychological distress in terms symptoms of anxiety and depression, as well as the presence of a relative were unrelated to question asking. **CONCLUSIONS:** Italian breast cancer patients have several questions that can vary in number from one patient to the other and have information needs similar to those observed in other countries, although they asked more questions. Physicians should be aware that patients prescribed chemotherapy are likely to ask many pertinent questions which not only require the provision of appropriate information but also the handling of underlying concerns. Knowledge of associated factors contributes to achieve a major involvement of patients and consequently a better quality of patient-centred care. **RESEARCH IMPLICATIONS:** As far as we know, this is the first study in Italy analyzing audiotapes of routine oncological consultations to identify context specific information requests of breast cancer patients, an approach which has inherent ecological validity and is a recommended research tool. **CLINICAL IMPLICATIONS:** To have a better idea of patients informative needs and their preferences can help physicians to tailor the information giving process according to the informative needs of the single patient and to improve collaboration with the treatment program. Communication courses for health professionals, including a reflection on the most frequent questions raised by the patients during the consultations could be helpful tools to improve doctor-patient-communication. **ACKNOWLEDGEMENT OF FUNDING:** None.

Q-4

How can Oncologist Communication and Patient Personality Characteristics Impact on Cancer Patients' Trust? An Experimental Study

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BACKGROUND: For cancer patients, it is essential to trust their oncologist. Patients' trust may follow from how oncologists communicate, as well as from patient characteristics such as socio-demographics, attachment style and health locus of control. We sought to experimentally investigate how specific oncologist communication behaviours impacted cancer patients' trust, using a scripted video-vignettes study. Moreover, we aimed to investigate whether patient characteristics correlate with trust, or moderate the relation between oncologist communication and trust. **METHOD:** A basic script of a surgeon-patient consultation was developed (standard condition). Next, three aspects of the surgeon's communication were systematically manipulated. Small segments were added to the script expressing the oncologist's enhanced competence, honesty and caring behaviour. This resulted in standard and manipulated versions of the script for all three communication aspects. Following a 2x2x2 design, 8 versions of the script were created. Scripts were videorecorded using professional actors. (Former) cancer patients viewed two randomly selected videos, and rated trust in the observed surgeon. Patients' background characteristics, attachment style (i.e. avoidant and anxious), and health locus of control were assessed. **RESULTS:** Oncologist's enhanced expression of competence ($p < 0.001$), honesty ($p < 0.001$), and caring ($p < 0.001$), resulted in higher trust compared to standard conditions. Older ($p < 0.001$) and lower educated patients ($p = 0.001$) were more trusting overall. A strong external health locus of control was predictive of stronger trust in the observed oncologist ($p < 0.001$). Patients' avoidant and anxious attachment style predicted trust in patients' own oncologist ($p < 0.01$ and $p < 0.001$, respectively), but not in the observed oncologist. However, the positive effect of oncologist caring behavior and honest information-giving on trust was weaker for patients with a more avoidant attachment style ($p < 0.05$). **CONCLUSIONS:** We demonstrated that oncologists can directly influence patients' trust with even small alterations of their communication. Oncologists' caring behavior, i.e. addressing patient cues and stressing availability, most strongly impacted on patients' perception of them. Considering the importance of a trusting relationship for cancer patients' treatment and well-being, these results are encouraging as they demonstrate that such trust is modifiable. We confirmed observational findings that patients with an external health locus of control are more trusting of their oncologist than those with an internal locus of control. Finally, as expected, oncologist communication impacts on trust differently, based on patients' attachment styles. **RESEARCH IMPLICATIONS:** We provided new and experimental evidence for the importance of communication to cancer patients' trust. Previously, such evidence

came mostly from correlational studies. Methodologically, we demonstrated how an experimental design using scripted video-vignettes is feasible and can provide valuable evidence for investigating the impact of communication on patient-reported outcomes. **CLINICAL IMPLICATIONS:** Our results provide clear directions for which types of communication oncologists may employ to strengthen the relationship with their patients. Thus, these findings can be translated into specific recommendations for oncologist training. Oncologists may realize that expressing relational statements ('caring communication') may be effective in gaining patients' trust. Nevertheless, the moderating effect of patients' attachment anxiety suggests that not all patients appreciate similar communication, underlining the importance of oncologists tailoring their communication to individual patients. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by the Dutch Cancer Society (grant number: UVA 2008-4015).

Q-5

Age-Differences in Cancer Beliefs, Coping Style, Stress Reactions, Communication Needs, Information Source Usage and Their Relationship With Knowledge of Chemotherapy

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BACKGROUND: Cancer is frequently a disease of older adults. This study aims to investigate age differences in psychological factors (i.e. cancer beliefs, monitoring coping style and cancer-related stress reactions), (unfulfilled) information and communication needs, information source usage and knowledge of chemotherapy. In addition, a model is tested including the above-mentioned factors, based on theory and previous research, which might influence the level of chemotherapy knowledge, next to age. **METHOD:** 1074 (former) chemotherapy patients with a mean age of 57.0 years (range 18–100) completed an online questionnaire, 273 respondents were aged 65 years or older. Cancer beliefs were measured with a self-developed scale (5-items), coping style with the shortened Threatening Medical Situations Inventory (TMSI) and cancer-related stress reactions with the Impact of Events Scale. A shortened version of the QUOTE^{chemo} was used to measure (unfulfilled) information and communication needs (28 items). Information source usage was measured with 17 items, based on a previous study, and knowledge with 33 items especially developed for this study. All measurements were reliable and valid. **RESULTS:** Discussing 'realistic expectations (e.g. prognosis)', 'rehabilitation information (e.g. dealing with side-effects)' and 'interper-

sonal communication (e.g. attention for significant others)' were the most prevalent unfulfilled needs. Older cancer patients reported more unfulfilled needs in 'affective communication' than younger ones. They also reported a lower usage of the 'Internet', 'other patients' and 'patient association'. Moreover, older patients had less chemotherapy knowledge than younger patients. When testing the model, older patients, men, lower educated patients and patients with stronger negative cancer beliefs, a less monitoring (i.e. 'blunting') coping style, less stress reactions and more unfulfilled needs had less chemotherapy knowledge than their counterparts. **CONCLUSIONS:** Older cancer patients have less chemotherapy knowledge than younger ones. According to the *Elaboration Likelihood Model*, information provision that is tailored to the patients' needs will result in better information processing and, consequently, more knowledge. The findings of this study confirm this expectation: meeting information and communication needs of (older) cancer patients leads to more knowledge. Especially the need for discussing 'realistic expectations', 'rehabilitation information', interpersonal communication' and, in older patients, 'affective communication' is often unfulfilled and needs more attention. Moreover, assumptions about the role of cancer beliefs, coping style and cancer-related stress reactions are confirmed. **RESEARCH IMPLICATIONS:** Knowledge is considered a prerequisite for healthy behavior, such as optimal self-management or, in case of oral chemotherapy, medication adherence. This study gives a theoretical foundation of factors related to knowledge. Until now, little is known about older cancer patients' cancer beliefs, coping style, stress reactions, (unfulfilled) information and communication needs, information source usage and the relationship of these factors with knowledge. The current study fills this gap and gives more insight in underlying mechanisms. **CLINICAL IMPLICATIONS:** The results of this study provide guidance to improve patient education about chemotherapy and adjust the information to personal characteristics and existing knowledge. Insight in older cancer patients' cancer beliefs, their coping style and the stress reactions they perceive is needed to be able to adjust the patient education to these factors. Understanding older cancer patients' (unfulfilled) information and communication needs is also essential to improve treatment knowledge and to achieve optimal outcomes. **ACKNOWLEDGEMENT OF FUNDING:** This study was commissioned by Public Eyes and supported by the Dutch Cancer Society (KWF) and an unrestricted grant from AMGEN.

R-1

Balint Inspired Reflective Forum in Oncology for Resident Physicians: A Summary of Main Themes After Seven YearsPär Salander¹, Maria Sandström²¹*Social Work, Umeå, Sweden*, ²*Radiation Sciences, Umeå, Sweden*

BACKGROUND: After education and in clinical practice there are mainly two structured established ways of refining competence in communication in health care: delimited courses for 'communication skills training' and different kinds of scheduled supervision and reflections on a group basis for clinicians, often called Balint-groups. Balint-groups are mainly studied by experimental designs – the evaluation being restricted to different outcome variables. **METHOD:** The present study is focused on the *inside* of this kind of group, on its structure and content, i.e. on the kind of cases that residents are concerned about in clinical practice. At the Department of Oncology in Northern Sweden a Balint-inspired 'Reflective Forum' has since 2005 been a part of the academic seminar program for physicians under training. The Forum takes place once a month during one hour with an experienced certified psychologist as a facilitator for the meetings. The present study is based on all 63 main cases from the written notes taken during 2005–2012. **RESULTS:** Taking part in the Forum is not mandatory, presence is not checked, but at most meetings all physicians on duty (about eight physicians) took part. The facilitator is contracted on a half-year basis. So far the residents themselves have initiated prolongation with no discontinuation. The cases were categorized into three kinds of challenges: Communicative challenges in the relationship to patients (46); Communicative challenges based on organizational matters (11); and Communicative challenges with close relatives (6). These challenges will be presented together with reflections made by the residents and the facilitating psychologist. **CONCLUSIONS:** The level of presence and the continuous prolongation is a sign telling that the residents find the Forum meaningful. Even if challenges in the physician-patient relationship were dominant, challenges also emanated from relation to close relatives, to other staff members and departments. **RESEARCH IMPLICATIONS:** A more structured evaluation of the Forum would be valuable, preferable by interviews with residents who have resigned their appointment and thus left the Forum. Such interviews should focus on if, and how, the residents could narrate something they learned from the Forum. **CLINICAL IMPLICATIONS:** The study tells us something about the vulnerability of being a resident and it bears impact on the curricula in medical education as well as on the organisation of health care

for junior physicians under training. **ACKNOWLEDGEMENT OF FUNDING:** None.

R-2

Training Front-Line Health Professionals: An Innovative Approach to Building Psychosocial Capacity in Routine Clinical CareJane Turner¹, Brian Kelly², David Clarke³, Patsy Yates⁴, Sanchia Aranda⁵, Suzanne Chambers⁶, Maryanne Hargraves⁷¹*University of Queensland, Brisbane, Australia*,²*University of Newcastle and John Hunter Hospital,**Newcastle, Australia*, ³*Monash University and Monash Medical Centre, Melbourne, Australia*,⁴*Queensland University of Technology, Brisbane,**Australia*, ⁵*University of Melbourne: the Sir Peter MacCallum Department of Oncology and**Department of Nursing and Cancer Institute of**NSW, Melbourne and Sydney, Australia*, ⁶*Griffith Health Institute, Griffith University, Nathan,**Australia*, ⁷*Haematology and Oncology Clinics of Australia, Brisbane, Australia*

BACKGROUND: Despite increased screening for distress, there is limited research examining the most effective, efficient and sustainable way of delivering appropriate and timely psychosocial interventions for distressed patients. This study examined the effectiveness of a brief psychosocial intervention delivered by front-line health professionals who participated in focused training in reducing depression and anxiety in distressed cancer patients. This presentation describes the therapies delivered and the perceptions of health professionals about their participation in this study. **METHOD:** Nurses, physiotherapists and radiation therapists (HPs) completed a self-directed training manual addressing topics such as: provision of emotional support; managing physical symptoms; problem-solving; relaxation training and dignity-enhancing techniques. Day-long skills development focused on application of learning into the clinical setting. HPs delivered up to four brief tailored therapy sessions to patients with HADS scores of 8 to 20, and participated in weekly clinical supervision facilitated by an experienced psychiatrist. HP records of therapy sessions and interviews with HPs were transcribed verbatim and thematic analysis undertaken to identify key themes regarding HP's perceptions of the implementation and impact of the intervention. **RESULTS:** 44 HPs expressed interest and 37 completed the manual and skills development, recording 275 intervention sessions for 85 patients. 120 sessions were conducted face-to-face, 155 by telephone. Techniques included support (e.g. active listening); facilitating emotional expression (e.g. uncertainty about the future, grief); structured problem-solving; information-giving; discussing physical concerns, and promoting coping

(e.g. encouraging family communication). 8 HPS withdrew from the study because of personal or family illness or conflicting work commitments. Participating HPs described ongoing benefits of study participation: increased confidence discussing psychosocial issues; ability to tolerate distress without rushing to “fix it”; reduced avoidance/blocking and enhanced personal reflection. **CONCLUSIONS:** This study provides preliminary evidence about an innovative model of service delivery designed to address current gaps in knowledge about translating evidence-based guidelines regarding screening for distress and psychosocial treatments into routine clinical care. It demonstrates that front-line health professionals can be trained to deliver brief, flexible psychosocial interventions for distressed cancer patients. This model of service delivery has the potential to improve psychosocial capacity across diverse settings. **RESEARCH IMPLICATIONS:** Further analysis is currently being undertaken to determine the effectiveness of the interventions in reducing patient depression and anxiety. Incorporation of a cost-effectiveness analysis of the intervention compared with usual care, using outcomes of health system costs and quality-adjusted life years will provide valuable information about the feasibility of further application of this model of care across diverse treatment settings. **CLINICAL IMPLICATIONS:** The practical focus of the training including multiple opportunities for health professionals to apply their learning into a clinical setting (problem-solving, reflective exercises and clinical vignettes to demonstrate issues), and ongoing supervision were considered by participants to be central to their ability to deliver the intervention. The training and supervision were highly acceptable and by self-report participants have incorporated their new skills into their ongoing clinical work, and continue to reflect on their experience. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by beyond-blue, The National Depression Initiative (ID631570).

R-3

The Cancer Patient Anno 2013: Informed, Decisive, Assertive and Critical?

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BACKGROUND: The role of the patient in relation to the doctor has changed dramatically over the past decennia. The shift towards patient-centered medicine, the formal establishment of patients' rights, patients' increasing use of the internet, as well as attention for patient empowerment

resulted in a societal image of an active and autonomous cancer patient. We aim to demonstrate that the average cancer patient might be less fully informed, decisive, assertive and critical than generally assumed. **METHOD:** To this end, we present findings from four lines of research addressing: cancer patients' information needs, their participation in consultations and in decision making, and their trust in oncologists. Additionally, we will describe mechanisms that might explain the discrepancy between the societal image of empowered patients and clinical reality. Finally, we address whether and how patients might be stimulated to be active participants. **RESULTS:** Studies show that not all cancer patients are, or want to be, fully informed, decisive and assertive. Moreover, patients' trust in their oncologist is generally so high that it hinders a critical view, i.e. tends to blind trust. Patient passivity might be explained by factors related to inability, i.e. lack of knowledge and skills, as well as individual preference, i.e. dependency and self-protection. **CONCLUSIONS:** We argue on the basis of the empirical literature that patient autonomy should be facilitated wherever possible, yet an active role should not be forced upon patients. In other words, a tailored approach is advocated, taking into account that a cancer diagnosis makes people extremely vulnerable. **RESEARCH IMPLICATIONS:** More research is needed to investigate to what extent tailoring indeed leads to patients receiving the participatory role they feel most comfortable with. **CLINICAL IMPLICATIONS:** To enhance patient participation, oncologists need the skills to inform patients in such a way that they can understand and recall the information provided to them. To allow for tailoring, oncologists should ask for patients' preferences concerning the amount of information and their role in decision making. Patients in turn can be supported to prepare themselves for consultations using tools such as question prompt sheets or decision aids. **ACKNOWLEDGEMENT OF FUNDING:** None.

R-4

Identification of Distinct Trajectories of Benefit Finding and Psychological Symptoms in Cancer Patients

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BACKGROUND: This study aims to (1) identify distinct trajectories of benefit finding among cancer patients receiving psychosocial care; (2) identify distinct trajectories of psychological symptoms (i.e.

depressive and anxiety symptoms) over time; (3) examine the associations of trajectories of benefit finding with trajectories of psychological symptoms. **METHOD:** Participants were cancer patients who were receiving psychosocial care at 7 out of 8 psycho-oncology centers in the Netherlands ($N = 241$). Data were collected before the start of psychosocial care (Time 1), and 3 months (Time 2) and 9 months (Time 3) thereafter. A longitudinal latent class analysis was applied to identify trajectories in Mplus 7. The relationship between trajectories of benefit finding and trajectories of psychological symptoms was examined using chi-square analyses. **RESULTS:** Five trajectories of benefit finding were identified: “stable high” (8%), “stable moderate” (28%), “starting low and large improvement” (9%), “starting low and small improvement” (39%), “stable very low” (16%). Four trajectories of depressive symptoms were identified: “no depression” (55%), “improvement” (24%), “stable moderate” (17%), “deterioration” (5%). Four trajectories of anxiety symptoms were identified: “improvement”, “moderate anxiety” (31%), “no anxiety” (12%), “high anxiety” (9%). A non-significant chi-square indicated that the benefit finding trajectories were equally distributed across the depression trajectories. In contrast, a significant chi-square ($p < 0.01$) showed that the benefit finding trajectories were unequally distributed across the anxiety trajectories. **CONCLUSIONS:** During psychosocial care, half of cancer patients were able to maintain a high level of benefit finding or experience improvements on benefit finding over time. However, there were still half of patients who remained low on benefit finding. Regarding psychological symptoms, majority of cancer patients experienced improvements in symptoms of depression and anxiety over the period of psychosocial care. Still there were small subgroups of patients reporting a high level of depression and anxiety over time. Furthermore, the trajectories of benefit finding did not influence trajectories of depressive symptoms, but had impacts on trajectories of anxiety symptoms. **RESEARCH IMPLICATIONS:** This is the first study identifying trajectories of benefit finding among cancer patients who were receiving psychosocial care. Our results warrant more research on distinct patterns of benefit finding among cancer patients. **CLINICAL IMPLICATIONS:** There might be a vulnerable group of cancer patients, who were having difficulties in searching benefits from cancer and improving their psychological symptoms. It might also be possible that for these patients, benefit finding is not that important. Special attention should be given to this group in future psychosocial care. **ACKNOWLEDGEMENT OF FUNDING:** This study was financially supported by the Pink Ribbon and the Ingeborg Douwes Stichting.

R-5

Effects of Covert Sensitization and Group Therapy Intervention in Fostering Tobacco Smoking Cessation Among Nigerian Commercial Motorcyclists in Ibadan

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BACKGROUND: The trend of tobacco smoking in the Nigerian society is assuming a dangerous dimension. Most often, tobacco smoking stimulates smokers thereby predisposing them to irrational behaviours. This could be responsible for most of the accidents recorded by motorcyclists that has either caused death, or crippled most people, rendering them non-functional or unproductive. The study investigated the effects of CS and GTI in fostering tobacco smoking cessation among commercial motorcyclists in Ibadan. **METHOD:** The study adopted pre-test, post-test, control group experimental design with a $3 \times 2 \times 2$ factorial matrix. The purposive sampling technique was used to select 61 participants from ten randomly selected motorcycle parks in three local government areas in Ibadan. The participants were randomly assigned to treatment and control groups. Participants in the two treatment groups were exposed to eight weeks covert sensitization and group therapy intervention programmes respectively. Two instruments were used: Tobacco Addiction Questionnaire ($\alpha = 0.73$), and Kim's Smoking Cessation Motivation Scale ($\alpha = 0.74$). Seven hypotheses were tested at 0.05 level of significance. Data were analyzed using Analysis of Covariance. **RESULTS:** The participants for this study were made up of 61 tobacco smoking male adults in Ibadan. Their age ranges between 18 to 55 years from urban and less urban local government areas. 32 (52.5%) of the participants had high self efficacy, while 29 (47.5%) had low self efficacy. There was a significant main effect of treatment on tobacco smoking cessation among the participants ($F(2, 49) = 19.850, p < 0.05$). The Group Therapy Intervention ($x = 27.30$) was more effective than Covert Sensitization ($x = 28.95$). However, there was no significant main effect of age in fostering smoking cessation. **CONCLUSIONS:** Covert Sensitisation and group therapy intervention were effective in fostering tobacco smoking cessation among commercial motorcyclists in Ibadan. Clinical psychologists and other mental health care professionals would find these two approaches are useful in helping smokers to quit smoking. **RESEARCH IMPLICATIONS:** This is an experimental study in which two psychological interventions were used in fostering smoking cessation among motorcyclist commercial riders in two local government areas in Ibadan. Researchers could replicate these interventions in their environment. **CLINICAL IMPLICATIONS:** This is an

experimental study in which two psychological interventions were used in fostering smoking cessation among motorcyclist commercial riders in two local government areas in Ibadan. Clinician could apply the psychological therapy in helping patients with similar psychological problems and other addictive problems in their own setting. ACKNOWLEDGEMENT OF FUNDING: None.

S-1

Improving Subjective Perception of Personal Cancer Risk: Systematic Review and Meta-Analysis of Educational Interventions for People With Cancer or at High Risk of Cancer

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BACKGROUND: Newly diagnosed patients with cancer require education about the disease, the available treatments and potential consequences of treatment. Greater understanding of cancer risk has been found to be associated with greater health-related quality of life, improved psychological adjustment and greater health-related behaviours. The aim of this systematic review was to assess the effectiveness of educational interventions in improving cancer risk perceptions, across all types of interventions and cancers. **METHOD:** We conducted a systematic review and meta-analysis of randomised controlled trials (RCTs) and prospective observational studies. Studies were identified via Medline, PsycINFO, Allied and Complementary Medicine (AMED), Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Embase. A total of 206 articles were fully reviewed by two reviewers to assess eligibility. We included all studies that investigated the effect of educational interventions on perceived risk of cancer, reported personal cancer risk perception and targeted people affected by cancer or people who were at high or moderate risk of developing cancer. **RESULTS:** 39 papers were included in the review. Pooled results from RCTs ($n = 11$) showed that, both in the short and long term, educational interventions did not influence level (standardised mean difference 0.05, 95% CI -0.24 to 0.34 ; $p = 0.74$) or accuracy (odds ratio for improved risk accuracy $=1.96$, 95% CI: 0.61 to 6.25 ; $p = 0.26$) of risk perception. Only one RCT reported a short term difference in risk ratings ($p = 0.01$). Of prospective observational studies ($n = 28$), many did demonstrate changes in level of perceived risk, and improved risk accuracy and risk ratings in both the short and long term. **CONCLUSIONS:** Despite favourable results from prospective studies, there

was no clear evidence from RCTs to support the effectiveness of educational interventions in improving cancer risk perception. In addition many challenges remain in improving cancer risk perception. Many studies used one dimensional risk perception measures (i.e. measuring magnitude or frequency of risk, but not both). Cancer patients or people at moderate or high risk of cancer often overestimate their risk of developing cancer. Analyses of predictors of change in risk perception indicated that several variables such as baseline risk perception, age, ethnicity, and cancer-related worry were associated with changes in risk perception. **RESEARCH IMPLICATIONS:** Further research should focus on the development of new measures for cancer risk perception and test whether a multi-dimensional measure, combining different elements of risk perception, is feasible and adequate. Integration of demographic characteristics and psychosocial factors into the design and implementation of educational interventions, and well-designed educational interventions using good quality, randomised controlled trials are warranted. These future research directions will help to clarify the effectiveness of educational interventions for improving cancer risk perception. **CLINICAL IMPLICATIONS:** Based on the results of this review, we would not recommend broad use in clinical practice of educational interventions to improve cancer risk perception. Despite favourable results from prospective studies, there was no clear evidence from RCTs to support their effectiveness. Systematic review registration: PROSPERO register (Registration number: CRD42012002861). ACKNOWLEDGEMENT OF FUNDING: None.

S-2

An Online Psychological Intervention for Partners of Cancer Patients: Interest, Influencing Factors and Preferences

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BACKGROUND: Partners of cancer patients may suffer from diminished emotional, social, physical and relational functioning. However, the availability of evidence-based and easily accessible supportive interventions for partners of cancer patients is limited. Moreover, participation in existing interventions is low. Aim of the present study was (1) to examine partners' interest in an online psychologi-

cal intervention and variables associated with it, and (2) to discover which preconditions an intervention should meet and which elements it should contain. **METHOD:** A questionnaire was spread via various channels, and was filled in by 139 partners of cancer patients. Questions included: socio-demographics, disease-related characteristics (stage and duration of cancer), partners' health (physical and mental health, resilience) and the psychological impact of their role as caregiver (caregiver strain, communication, posttraumatic growth). Additionally, we asked partners about their intention to use an online psychological intervention, which preconditions (maximum time, participate alone or with patient) the intervention should meet, and which elements (information, peer support, psychological guidance) it should contain. **RESULTS:** Of all respondents, 60 partners were not, 49 maybe and 14 definitively interested in an online intervention. Partners who intended to participate were significantly younger, more often employed and perceived more posttraumatic growth. None of the other variables, including disease related factors, were significantly associated with the intention to participate. Most respondents felt the intervention should take less than 1 hour a week, and should contain information and peer support. Respondents differed in their preferences about the maximum duration, the need for having regular (e-mail) contact with a psychologist, and about the need to address both partners (vs. partner-only). **CONCLUSIONS:** There is interest in an online intervention for partners of cancer patients. Younger and employed partners are more likely to use such an intervention. Remarkably, the intention to use the intervention is neither associated with stage and severity of the illness of the patient, nor with psychological distress of the partner. This suggests that there is a difference between an objective and subjective need for support. **RESEARCH IMPLICATIONS:** Based on the results of this study we are developing an online intervention for partners of cancer patients. Partners' needs and preferences will be addressed and partners are actively involved in the development of the content and the design of the intervention. Effectiveness of the intervention will be investigated in a randomized controlled trial, which will start by the end of 2013. **CLINICAL IMPLICATIONS:** In case the newly developed online intervention will be effective, this intervention will be implemented in regular care. **ACKNOWLEDGEMENT OF FUNDING:** This research was supported by a grant from the Dutch Cancer Society (KWF)/ Alpe d'HuZes with the grant number 5248.

S-3

Introducing "CancerStories" an Innovative Video Diary Programme Providing Peer Support Online: Development and Pilot Evaluation

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BACKGROUND: Research evidence shows that self-help, peer support and internet-based therapies can all be therapeutic for distress, depression and anxiety. Meta-analyses suggest about 40% of people suffer significant psychological complications early in the course of cancer whilst 28% of long-term survivors suffer anxiety. Yet uptake of conventional treatment is low with only 40% accepting help. Self-help resources are highly acceptable but often of variable quality. **METHOD:** CancerStories © is an innovative video diary programme aiming to be acceptable, effective and widely available. CancerStories presents personal accounts from real life patients of how they coped with cancer on video. Recording is conducted by experienced clinicians with the help of patient volunteers. High quality (HD) video and audio in a neutral setting is recorded and edited into a 30–60 minute account. The edited draft video is approved by patients and with consent, uploaded as a resource for new patients. Video links are embedded into YouTube or a custom site www.CancerStories.info. To date we have collected 50 accounts. **RESULTS:** The main issues for cancer patients include: living with cancer, communication with clinicians, coping with treatment, emotional complications, reactions of friends, return to work and maximising quality of life. Preliminary analysis of the video programme by 25 existing patients suggests high satisfaction and perceived clinical benefit. Common responses to watching other people's accounts include "felt I wasn't alone" "gave me helpful hints" "inspiration story" "helped me face the future". Most patients viewed the programme as simple to use and would recommend it to others. **CONCLUSIONS:** CancerStories is an innovative online video diary programme which appears to be acceptable to patients and effective for emotional distress. Video accounts carry much of the normal emotion as face-to-face meetings but can be re-watched and shared. The accounts must be long enough to be meaningful but short enough to be watchable. It will be shortly launched nationally and internationally for the benefit of all patients and their families worldwide. **RESEARCH IMPLICATIONS:** Online peer support appears to be acceptable, but further work needs to be conducted to examine effectiveness. Patients appear to prefer to look at case-examples of their own cancer type. One limitation is online availability, but this can be overcome using smartphone and hard-copy DVDs. **CLINICAL IMPLICATIONS:** Further work will clarify how

CancerStories can be used in clinical practice. We have had success using it for teaching and training. Clinicians can also access cancerstories online in the hospital as a form of guided self-help. To date we have collected patients with breast cancer, SCC, myeloma, lymphoma, lung cancer, colorectal cancer, prostate, renal cancer, brain tumour, cervical cancer but are looking for rare cancers. **ACKNOWLEDGEMENT OF FUNDING:** None.

S-4

Adherence to Medication – A Nation-Wide Study From the Children’s Cancer Hospital, Egypt

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BACKGROUND: Little is known about the extent of adherence to chemotherapy treatment in children, teenagers and adolescents in the Arab region. Our aim was to investigate adherence to the medical recommendations that are provided upon discharge to children newly diagnosed with cancer. We also wanted to investigate the degree of non-adherence and possible predictors. **METHOD:** We examined in some detail the pattern of adherence to medication upon discharge from hospital at the time of the third chemotherapy treatment. This was done by administering two questionnaires to 304 parents of children diagnosed with cancer at the Children’s Cancer Hospital in Cairo (CCHE), Egypt, one before the first chemotherapy treatment and the other before the third. **RESULTS:** 281 (90%) parents answered the second questionnaire, regarding their child’s adherence behaviour. Approximately two thirds of the children admitted to their third chemotherapy treatment had received medical recommendations upon discharge from the first or second chemotherapy treatment (181/281, 64%). Sixty-eight percent (123/181) of the parents who were given medical recommendations reported that their child did not follow the recommendations. Two main predictors were found for non-adherence: child resistance (111/123, 90%) and inadequate information (100/123, 81%). **CONCLUSIONS:** Non-adherence to medical regimen is common among children diagnosed with cancer in Egypt, the main reasons being child resistance and inadequate information. **RESEARCH IMPLICATIONS:** Further research aimed at identification of specific barriers to adherence, appreciating the magnitude of the problem and the reasons for failure to adhere to the medication regimen as well as development of interventional strategies to facilitate the process of adherence need to be pursued.

CLINICAL IMPLICATIONS: Working together in partnership with a parent and health-care provider may optimize the child’s adherence to oral chemotherapy regimen. Nonetheless, further research aimed at identification of specific barriers to adherence, appreciating the magnitude of the problem and the reasons for failure to adhere to the medication regimen as well as development of interventional strategies to facilitate the process of adherence need to be pursued, despite the barriers. **ACKNOWLEDGEMENT OF FUNDING:** None.

S-5

Navigating the Cancer Experience: A Study of LIVESTRONG Cancer Navigation Services

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BACKGROUND: Patient Navigation is a service model that aims to reduce barriers to care with the goal of improving health and quality of life outcomes for people affected by cancer. The **LIVESTRONG** Foundation provides navigation services by phone, online and in person, to people affected by cancer, regardless of cancer type or survivorship stage, identify and access resources to meet their needs. In 2011, a research study was initiated to investigate the impact of the program. **METHOD:** This study fills a gap in research by not limiting study participants based on cancer type, treatment status or identified needs. The study incorporated mixed-methods including conducting surveys with 737 English-speaking navigation service clients at intake, 2 weeks and 6 weeks post-intake through December, 2012. Survey items included questions related to the client’s distress level, thoughts about cancer negatively affecting their lives, confidence in achieving tasks and preparedness for health care visits. Additionally, 22 semi-structures phone interviews were conducted at 12 weeks post-intake to assess quantitative findings and provide data for understanding the mechanisms by which positive outcomes were attained. **RESULTS:** Findings of the over 700 participants and 22 semi-structured interviews are still under review for final analysis but in preliminary findings, 6 weeks after contacting LIVESTRONG’s navigation services, the study population overall reported:

- A decrease in levels of distress and thoughts about cancer negatively affecting their lives;
- An increase in their confidence in achieving tasks and how prepared they felt for their most recent visit with a healthcare provider.

CONCLUSIONS: Navigation clients reported increased psychosocial health outcomes related to reducing barriers to care and increasing quality of life. Areas of patient navigation services client data collection were identified which could assist programs in developing a more nuanced understanding

of the mechanisms by which positive outcomes are achieved:

- Whether clients connected or not with the referral(s) provided by LIVESTRONG's navigation services
- The number and type of interactions clients had with LIVESTRONG partners
- Whether clients felt their individual cancer survivorship-related needs were met or not after contacting LIVESTRONG's navigation services or referral partners
- Customize data collection

RESEARCH IMPLICATIONS: This study aims to look at the psychosocial impacts navigation can have on quality of life, through the lens of supportive services. Researchers may want to determine what combination of psychosocial factors (e.g. distress, preparedness for appointments, and reduction of barriers) are most effective in influencing the timeliness of cancer diagnosis and treatment. Further investigation into associations between the specific client need and outcomes may provide a better understanding of what positive outcomes are achieved. **CLINICAL IMPLICATIONS:** Clinicians understand that many factors influence the outcomes of a cancer diagnosis. While access to treatment is imperative, it is also important to review the additional factors that have an impact on those outcomes, such as distress levels and the impact cancer has on one's interactions with their loved ones. Determining these additional risk factors and how to address them through appropriate referrals, support services and interventions is suggested. **ACKNOWLEDGEMENT OF FUNDING:** None.

T-1

Patients With Head and Neck Cancer Narrate the Importance of Being Included in a Helping System

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BACKGROUND: Most studies of the psychosocial needs of patients with head and neck cancer (HNC) use predefined categories and explicitly ask for specified needs. These studies are important but should be complemented with inductive studies based on patients' own descriptions of experiences of routine health care in their own words. Their needs are a sounding board for what is helpful and detrimental when they in their disease trajectory are in contact with health care. **METHOD:** 137 patients with HNC were consecutively included (137/166 = 83%) in a prospective project on patients experiences of health care. They were interviewed during radiotherapy treatment, and at 6, 12, and 24 months post treatment. All positive and

negative experiences, narrated as critical incidents, were then sorted out and coded independently by the authors, i.e. characterizing codes were assigned to each narrative, which facilitated their grouping (similar/different) into categories. **RESULTS:** The analysis generated four categories of negative/positive experiences revealing different aspects of what was found to be helpful and detrimental in the patients contact with the health care system (engagement/disengagement, competence/lack of competence, sufficiently/insufficiently informed, and being included/neglected by a helping system). When seen separately, the needs expressed in the first three categories are dimensions well known in caring research. However, these categories overlap and merge into the fourth category. Accordingly, experiences of engagement/disengagement, staffs' competence/lack of competence, as well as being sufficiently/insufficiently informed, all contribute to the patients' sense of being included or neglected by a helping system. **CONCLUSIONS:** The HNC-patients' experiences may easily be understood in the light of attachment theory. When faced with a real threat, people strive for contacts with nurturing caregivers in order to find a 'secure base'. The 'secure base' may be described as a feeling of being included into a helping system constituted by feeling cared for as a person, experiencing trustful relationships, continuously receiving adapted information, having access to competent staff and of having an unbroken bond to the system. However, if the experiences are not positive enough, the patient feels vulnerable indicating that s/he feels disconnected from the helping system. **RESEARCH IMPLICATIONS:** This is, to the best of our knowledge, the first study that examines HNC-patients' overall experiences in terms of positive and negative critical incidents. Given the fact that HNC-patients often are considered to be in an especially vulnerable situation compared to other groups of patients with cancer, further research should preferably focus on the creation of guidelines for the constitution of health care as a helping system. **CLINICAL IMPLICATIONS:** The helping system is made up of relationships. However, our study shows that the relationship to health care cannot be reduced to the patient-physician relationship; other relationships to the health care must be taken into consideration. In the constitution of health care as a helping system, all encounters between the patient and the health care staff matters, whether they take place at the reception desk, when receiving radiation treatment or in medical consultation. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by grants from the Swedish Cancer Society and the Swedish Larynx Foundation

T-2

Feasibility of Assessing Quality of Prostate Cancer Care by Means of Patient Reported Outcome Measures (PROMS): Results From the Population-Based PROFILES Registry

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BACKGROUND: In the past years attention has increasingly been paid to Patient Reported Outcomes Measures (PROMs) for measuring and benchmarking the performance of oncological health care providers. Our aim was to investigate the feasibility of using the EORTC QLQ-C30 and QLQ-PR25 as measures of health related quality of life (HRQoL) and prostate cancer specific symptoms to assess potential variation in health care performance on hospital level among patients treated for localized prostate cancer. **METHOD:** We estimated to need 65 patients with localized prostate cancer per hospital to be able to find clinically meaningful differences in HRQoL between hospitals. We randomly selected 150 patients per hospital diagnosed with prostate cancer between 2006 and 2009. 1050 prostate cancer patients from 7 hospitals as registered in the Eindhoven Cancer Registry were asked to complete a questionnaire 2–6 years after diagnosis. The questionnaire included a survey on HRQoL (EORTC QLQ-C30) and symptoms (EORTC QLQ-PR25). Analyses of covariance were conducted, correcting for differences in case mix, to investigate the variation in HRQoL and symptoms between hospitals. **RESULTS:** Response rate was 66%. Despite similar case-mix of participating patients in the different hospitals, treatment at diagnosis varied between hospitals. Patients treated with prostatectomy reported clinically meaningful higher incontinence scores compared to other treatment groups (20 vs. 6–15), but also best physical functioning (89 vs. 80–87) and most sexual activity (33 vs. 22–30), whereas patients treated with external radiotherapy reported most bowel symptoms (9 vs. 2–4). When comparing HRQoL or prostate cancer symptoms between hospitals we only observed a statistically significant and clinically meaningful difference regarding incontinence scores, ranging from 8–23 points. No differences were observed regarding other symptoms. **CONCLUSIONS:** As expected, we observed a strong association between prostate cancer treatment and PROMS (HRQoL and symptoms). We also observed a large treatment variation between hospitals, despite similar patient and disease characteristics of included patients. However, we did not observe clinically meaningful

differences in PROMS when comparing patients *between* hospitals, except for urinary incontinence. This might imply that although variation in treatment is large for localized prostate, the ultimate hospital outcome performance is almost similar. Or, using PROMS to measure and benchmark hospital performance is less sensitive than we thought. **ACKNOWLEDGEMENT OF FUNDING:** The present research was supported by the Comprehensive Cancer Centre South CCCS, Eindhoven, the Netherlands; the Centre of Research on Psychology in Somatic Diseases (CoRPS), Tilburg University, the Netherlands; and an Investment Subsidy (#480-08-009) of the Netherlands Organisation for Scientific Research (The Hague, The Netherlands). Prof. Dr. Lonneke van de Poll-Franse is supported by a Cancer Research Award from the Dutch Cancer Society (#UVT-2009-4349).

T-3

Effect of Acceptance and Commitment Therapy (ACT) on Weight Loss and the Acceptance of Body Image in Breast Cancer Patients

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BACKGROUND: The weight gain affects a high number of breast cancer patients, during and after the treatments. The Acceptance and Commitment Therapy (ACT), offers strategies in order to increase psychological flexibility, and has shown to be effective in reducing and maintaining weight. The aim is to evaluate the effect of ACT on weight loss in breast cancer patients with BMI \geq 28. **METHOD:** Thirty-one breast cancer patients attending the oncological out-patient clinic of the Verona General Hospital, with a BMI \geq 28 were enrolled in the intervention. The intervention consists in a set of eight bi-monthly encounters and six monthly maintenance phase encounters. At the first, eighth and last encounter patients' weight is reported and questionnaires on clinical state (RSCL, PWBQ, Distress Thermometer), eating behaviour (TFE.Q-51), psychological flexibility (AAQ-2, Bull's-eye) and the BIAAQ are administered. **RESULTS:** Eleven patients have completed the protocol, while the second and third group are

finishing. Data showed high mean scores of physical and psychological symptoms, quality of life and distress level. A high degree of acceptance (AAQ2 $M = 48.7$; $SD 14$), consistency with the values ($M = 5.5$; $SD 1.4$), psychological well being ($M = 72.7$; $SD 11.3$), while an improvement of 21 points ($SD = 17$) on the Body Image Acceptance (BIAAQ) was observed. The attendance rate was 89% and patients showed a weight loss of 6.5% at the eighth encounter ($M = 5.4$ Kg ($SD 3.5$ kg)), and a weight loss of 9.5% at the follow up (1 year). **CONCLUSIONS:** These data show that patients collaborated actively, despite high initial levels of psychological and physical distress, adhered to the encounters, completed the intervention tasks and achieved the weight loss expected of 5%. The ACT intervention thus seems feasible in the oncological context: the patients are able to manage their own thoughts in a less judgmental way, and showing a remarkable improvement in the acceptance of body image. **ACKNOWLEDGEMENT OF FUNDING:** None.

T-4

Power of the Past: A Randomized Controlled Trial to Assess Efficacy of Life Review Therapy in Palliative Cancer Patients

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BACKGROUND: In clinical practice there is an urgent need for evidence-based interventions targeting palliative cancer patients. The aim of this study is to assess the efficacy of the structured life review therapy (LRT). **METHOD:** LRT is a 4-session psychological intervention focusing on retrieving positive memories and generating a coherent and meaningful autobiography. This enables patients to re-evaluate life events and reconstruct the story of their lives, including the diagnosis of incurable cancer. We aim to include 122 palliative cancer patients in the current randomized controlled trial (RCT). Patients in the intervention group receive LRT (at their residence) and will be compared to a waiting list control group. Outcome measures include quality of life, specificity of autobiographical memory, and depressive symptoms. Additionally, qualitative interviews will be conducted to obtain insight into

how patients experience LRT. **RESULTS:** The pilot study revealed that palliative cancer patients are able to retrieve positive memories after LRT. Patients report that they appreciated the intervention and would recommend LRT to other patients. The RCT started in 2009 and will be completed by the end of 2013. Patients participating in the RCT report that they appreciate the home visits and the LRT. We encountered issues with patient recruitment during this study. Patients are often too sick or had already passed away before they were able to participate. Therefore, it is important to have intensive cooperation with health care professionals. **CONCLUSIONS:** In the pilot study, LRT is positively valued by patients and psychologists and may be an effective intervention to help palliative cancer patients improve their quality of life. **RESEARCH IMPLICATIONS:** A strategic plan was developed to improve conducting a RCT among palliative cancer patients that may be used in future studies. **CLINICAL IMPLICATIONS:** There is an urgent need for evidence based psychosocial interventions in clinical practice of palliative cancer care. If LRT proves to be effective, LRT can be implemented in clinical practice. **ACKNOWLEDGEMENT OF FUNDING:** This project is funded by The Netherlands Organisation for Health Research and Development (ZonMW).

T-5

Work it out for Carers: The Development of a Work-Focused Self-Management Tool for Informal Carers of People Affected by Cancer

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BACKGROUND: A diagnosis of cancer and its treatment can affect the quality of life of family members and other close associates. In particular, it affects the working lives of those who take on the role of an informal caregiver since they regularly provide unpaid practical and emotional support throughout the trajectory of the illness. To help informal caregivers successfully balance their caring and work responsibilities we developed a work-related guidance tool (Work it Out for Carers). **METHOD:** The tool was developed following a systematic three-step process: 1) *Determining the content of the tool* by conducting interviews with experienced working carers ($n = 19$) and a review of existing lay literature, 2) *Tool design* by using the data gathered in step 1 together with a brainstorming exercise with the research team and 3) *Tool finalisation* by conducting an online evaluation with experienced working carers ($n = 13$) and employer representatives ($n = 17$). **RESULTS:** The outcome

of this three-step process was a self-led, work-focused 'power questions' tool covering a broad range of issues applicable to those from a variety of occupational backgrounds. Initial feedback suggested that the tool was well received and needed by both informal cancer caregivers and relevant stakeholders. **CONCLUSIONS:** To date, no interventions have been implemented to help caregivers manage their dual (work and care) responsibilities. Our tool was developed to empower informal cancer carers by: 1) enabling them to identify the impact of caring on work (and vice versa) by posing key questions to relevant stakeholders, 2) assisting them to find solutions to their work and caring-related needs by providing structured guidance and 3) helping them to reduce absence from work by identifying ways in which to manage their work and caring responsibilities. The tool was perceived to be robust, comprehensive, and appropriately designed. **RESEARCH IMPLICATIONS:** The three-step mixed methodological process used to develop the tool ensured that it covered a comprehensive range of important situations and issues often faced by informal cancer carers. Such an approach can be applied to the development of other tools. **CLINICAL IMPLICATIONS:** The carer's tool enhances the exchange of information and support between informal cancer carers and healthcare professionals and other key stakeholders. This is important since carers often neglect their own needs when providing regular assistance to those with a diagnosis of cancer. **ACKNOWLEDGEMENT OF FUNDING:** National Cancer Survivorship Initiative (Department of Health and Macmillan Cancer Support)

U-1

A Patient-Centered Approach to Persistent Urinary Incontinence in Prostate Cancer Patients

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BACKGROUND: The incidence of urinary incontinence (UI) resulting from prostatectomy is as high as 87%. Evidence suggests that biofeedback-assisted pelvic floor muscle exercises (PFME) improves continence in the early months after prostatectomy, but its effect on UI persisting for more than six months is inconclusive. We proposed a "STAY DRY" inter-

vention program that combines biofeedback-PFME and the Problem-Solving Therapy focusing on self-management to treat persistent UI. Preliminary results of this patient-centered intervention approach are reported. **METHOD:** 127 incontinent prostate cancer survivors were randomly assigned to either usual care (UC) or one of the two intervention arms: biofeedback PFME plus a Problem-Solving Therapy delivered through a support group (BF+GROUP) or telephone (BF+PHONE). The Problem-Solving Therapy consisted of six biweekly sessions. The UC participants did not receive intervention but continued receiving usual medical care. An interim analysis was performed to examine data collected from the 1-hour pad test at baseline, 3 months (post-intervention) and 6-month follow-up. Multivariate repeated measures analysis was conducted to examine group differences in the amount of urinary leakage over time, controlling for sociodemographic covariates. **RESULTS:** Having controlled for medical and demographic covariates, the repeated measures analysis showed that the amount of leakage was reduced in both intervention groups by the end of the study, and significantly more so in the support group ($p \leq 0.015$). **CONCLUSIONS:** The finding suggests that the STAY DRY patient-centered intervention is an effective treatment for persistent urinary incontinence. This intervention program has a potential to be incorporated into standard care practice to improve long-term follow-up care for prostate cancer survivors. **RESEARCH IMPLICATIONS:** Because the interim analysis used a small sample size and a single measure of urinary incontinence, we are not able to infer the working mechanism of the proposed patient-centered intervention at this time. However, the findings imply that adherence to PFME and self-management of incontinent symptoms played an important role in achieving the incontinence reduction. The appropriate analysis will be conducted at a later time and the report will be forthcoming. **CLINICAL IMPLICATIONS:** The proposed interventions can be applied to incontinent prostate cancer patients across geographic locations and socioeconomic spectrum. The initial evidence informs physicians, their assistants, and nurse specialists that teaching biofeedback-assisted PFME and self-management skills at any time and continuously monitoring patient adherence have a potential to improve prostate cancer patients' urinary function. **ACKNOWLEDGEMENT OF FUNDING:** The study was supported by National Institutes of Health / National Cancer Institute (R01CA127493).

U-2

Evaluation of Cancer Care Talks: Community Cancer Self-Management eEducation

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BACKGROUND: It is estimated that half of Canadians will develop cancer in their lifetime and one in four will die of the disease. Unfortunately, the psychosocial sequelae of cancer and its treatments are profound, including lasting stressors that are physical, psychological, and social. The impact of unmet psychosocial needs on cancer patients and survivors, families, and caregivers has prompted Canadian and international initiatives for the integration of psychosocial or supportive care into primary cancer treatment. **METHOD:** *Cancer Care Talks* are monthly self-management education seminars for persons affected by cancer in London, Ontario and the surrounding region. Evidence-based patient self-management education is delivered at the community level. Tangible cognitive-behavioural strategies are provided in an accessible manner by expert clinical and research scientists for the self-management of cancer-related symptoms. Seminar participants ($N = 114$; 68% female; 58.8% 50–69 years old) completed feedback surveys post-seminar. The survey data collected includes basic demographic information and evaluates participant knowledge and understanding of the topic, intentions and confidence to implement the strategies, and open-ended items to address feasibility (i.e. acceptability and satisfaction). **RESULTS:** Descriptive statistics of the sample reveal that half (57.0%) of seminar participants completed cancer-related treatment, 14.0% were in active treatment, and 9.6% of participants declared themselves caregivers or support persons. **Feasibility:** Overall, 57.0% and 18.4% of seminar participants understood “all” and “most of” the seminar content, respectively. Almost half (40.4%) of seminar participants stated their knowledge of the topic “improved a lot” and only 5.3% stated that their knowledge “did not change”. Furthermore, 42.1% of participants reported significant increases to motivation with regards to their implementation of the self-management strategies. **CONCLUSIONS:** Despite the effectiveness of self-management in managing cancer-related symptoms, it is not well-integrated into supportive care at the system level. Evidence-based self-management education is essential to activating cancer patients, families, and caregivers for shared care. Evaluation

of *Cancer Care Talks* indicates a high level of participant understanding, knowledge attainment, and motivation to change. Effective self-management of cancer-related symptoms requires active decision-making and problem solving skills. The dissemination of self-management education through *Cancer Care Talks* aims to transfer recent and relevant symptom self-management research into the hands of the community. **RESEARCH IMPLICATIONS:** This study provides an evaluation of *Cancer Care Talks*, an initiative to disseminate evidence-based self-management education to cancer survivors, caregivers, healthcare professionals, and interested community members. These findings will help define the needs of the community and inform the growth and development of future community self-management education programs. **CLINICAL IMPLICATIONS:** The physical and psychological impact of cancer and its treatments are extensive and often overwhelming for patients, families, and caregivers. Unfortunately, self-management education is not integrated into pan-Canadian cancer care initiatives, despite consistent evidence that demonstrates its effectiveness for management of chronic illness and patient activation. *Cancer Care Talks* aims to engage the London community in evidence-based tenets of self-management education for cognitive and behavioural change. **ACKNOWLEDGEMENT OF FUNDING:** Canadian Institutes of Health Research - KDE284498.

U-3

The Effect of Modafinil on Fatigue, Cognitive Functioning and Mood in Primary Brain Tumor Patients: A Multi-Center RCT

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BACKGROUND: Fatigue, cognitive deficits, and depression are frequently reported, but often under-treated symptoms that can profoundly affect daily life in patients with primary brain tumors (PBTs). To evaluate the effects of the psychostimulant modafinil on fatigue, depression, health-related quality of life (HRQOL) and cognitive functioning in PBT patients, we performed a multi-center, double-blind placebo-controlled crossover trial. **METHOD:** Patients randomly received either 6 weeks of treatment with modafinil (up to 400 mg/day) or 6 weeks with placebo. After a one week washout period, the opposite treatment was provided. Assessments took place at baseline, and

immediately after the first and second condition. Patients completed self-reported questionnaires on fatigue (CIS), depression (CES-D), HRQOL (SF-36), and self-perceived cognitive functioning (MOS). They also underwent comprehensive neuro-cognitive testing. **RESULTS:** In total, 37 patients participated. Relative to baseline, patients reported lower fatigue severity (CIS) and better motivation (CIS) both in the modafinil ($p = 0.010$ and $p = 0.021$, respectively) and placebo condition ($p < 0.001$ and $p = 0.027$, respectively). The same held for physical health (SF-36 PCS score; $p = 0.001$ and $p = 0.008$, respectively), working memory ($p = 0.040$ and $p = 0.043$, respectively) and information processing capacity ($p = 0.036$ and $p = 0.040$, respectively). No improvement in depressive symptoms was found in either condition. **CONCLUSIONS:** Modafinil did not exceed the effects of placebo with respect to symptom management. Patient accrual was slow and relatively many patients dropped out during the trial, mostly due to experienced side-effects. Other, preferably non-pharmacological intervention studies should be considered to improve symptom management of PBT patients. **RESEARCH IMPLICATIONS:** Our results prove that further, costly studies on the effect of this pharmacological agent on symptom management are, at least for studies with primary brain tumor patients, unnecessary. This novel insight is key for the development of new symptom management interventions for patients with primary brain tumors. **CLINICAL IMPLICATIONS:** Our results are important for clinicians, as we show that subscribing modafinil to primary brain tumor patients who suffer from fatigue or other symptoms that profoundly affect daily life such as depression and cognitive deficits, is no more effective than placebo. Other treatment options are to be considered for these patients. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by an unrestricted grant from Fonds NutsOhra.

U-4

'Navigation' for High Grade Brain Tumour Patients. A Longitudinal Qualitative Evaluation of a Shared Decision Making Intervention

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BACKGROUND: In medical consultations the need to know and understand what is happening and the need to feel known and understood by the Doctor are recognised as fundamental patient needs. Many High Grade brain tumour patients

describe a lack of specific information about their condition, treatment and 'what's next.' This unique study explores the experiences of Navigation with HGG patients. Navigation is a communication and decision support intervention, evaluated successfully in prostate and breast cancer patients. **METHOD:** Patients ($n = 20$) attending the Edinburgh Neuro-oncology Centre diagnosed with a High Grade brain tumour participated in Navigation and serial evaluation interviews. Patients were navigated for three oncology clinic appointments over 6 months. Interviews were undertaken at baseline and after navigated clinic appointments. Framework analysis was undertaken. Navigation involves question listing, recording and summarising. Prior to oncology consultations, Navigators helped patients create a list of their questions for use in the consultation. Subsequently, patients were given an audio recording of their consultation (CD) and a written record of the key points discussed. **RESULTS:** Preliminary themes:

- Preparing to discuss: Taking time to create a question list afforded patients the clarity to understand what it was they actually wanted to talk to their oncologist about.
- A consultation tailored to me: Patients felt confident to take part in the consultation and ask questions. They felt the consultants provided personalised information.
- Facilitating understanding and memory: Summaries and recordings were used as memory aids, most remembered little.
- Difficult to listen again: Some found listening to the CD hard, e.g. to hear phrases such as "incurable," but felt able to return to it when ready.

CONCLUSIONS: High grade brain tumour patients described positive experiences of Navigation. Preliminary results indicate Navigation is enhancing the current service for patients through the individualised preparation of questions for consultations and the provision of tailored memory aids for patients to review. This study draws on self efficacy theory and the decision conflict model. Results suggest Navigation facilitated patients to meet the need to feel known and understood in their consultation by helping them create a question list. It also facilitated the need to understand through providing tools to ask questions, and to remember through the provision of consultation summary and CD. **RESEARCH IMPLICATIONS:** Further research is needed to identify the impact of using a Navigator to help patients create a question list versus patients doing this alone. Evaluation of the impact of Navigation on oncology consultants and GPs is being carried out. It will be important to understand how this intervention can be embedded as routine. **CLINICAL IMPLICATIONS:** Results suggest encouraging patients to take time to prepare may ensure a more effective

medical consultation. Patients responded positively to having a record of their consultation. Providing high grade brain tumour patients with aids to help recall could prevent contact with healthcare staff that is avoidable. In Scotland it is not common place to provide patients with clinic outcome letters, the results of this study may support this practice. **ACKNOWLEDGEMENT OF FUNDING:** Funding for this project was provided by Coventry University, NHS Lothian and Macmillan cancer support.

U-5

How do Patients Cope With Living With Untreated Prostate Cancer?

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BACKGROUND: Active Surveillance (AS) is increasingly considered as an alternative to active treatments for low-risk localised prostate cancer (PCa). Psychological burden possibly deriving from living with untreated PCa is still debated. Some studies reported that only few patients on AS protocols experienced worse quality of life (QoL) which could be predicted by factors of vulnerability. But how do patients cope with untreated PCa? Our aim was to assess the coping strategies of men on AS. **METHOD:** Patients participated in the Prostate Cancer Research International Active Surveillance QoL study conducted at National Cancer Institute in Milan. Self-report instruments were completed at enrolment (T0, 215) and after 1 year (T1, 131), including: Mini-Mental Adjustment to Cancer Scale (Mini-MAC); Memorial Anxiety Scale for Prostate Cancer (Max-PC) (ongoing validation for Italian version, Cronbach α for this subset = 0.77). T-test was used to compare AS Mini-MAC with scores of patients who underwent active treatment. Data for comparison was obtained by a longitudinal study conducted at the University of Melbourne. Pearson correlation was used to evaluate association between Mini-MAC and MAX-PC. **RESULTS:** Patients' mean age was 67 (SD = 7.38, range 43–80). Median scores (range 1–4) for Mini-MAC subscales at T0 were: fighting spirit = 2.8, helplessness/hopelessness = 1.2, avoidance and fatalism = 2.3 and anxious preoccupation = 1.9. T-test showed significant differences at T0 for fighting spirit ($p < 0.0001$), anxious preoccu-

pation ($p = 0.0068$) and fatalism ($p < 0.0001$) between AS patients and treated patients with lower scores for AS patients. Fighting spirit ($p = 0.0001$), helplessness/hopelessness ($p = 0.0028$), fatalism ($p < 0.0001$) and avoidance ($p = 0.0027$) were lower in AS patients also at T1. Significant positive correlations were found between all the Mini-MAC (except for fighting spirit) and MAX-PC subscales (all $p < 0.05$). **CONCLUSIONS:** AS patients reported a more functional style of adjustment to cancer compared to patients who underwent radical therapies. Lower fighting attitude was probably due to the understanding of having a non-aggressive form of PCa. AS patients reported less despair, fatalism and avoidance. "Having PCa" does not seem to represent a thought that should be actively avoided; patients can think about it without developing a sense of anguish. The way patients cope with cancer (in particular an apprehensive attitude towards the disease) was found to be associated with anxiety due to repetition of PSA, PCa-related anxiety and fear of progression. **RESEARCH IMPLICATIONS:** Our study showed interesting relationships between coping and PCa-related anxiety. Specifically, the Mini-MAC dimension exploring anxious preoccupation towards disease progression was further explained by the more specific dimensions of anxiety related to PCa. Administering the two surveys together allowed a comprehensive evaluation of how patients deal with cancer when choosing the observational strategy rather than immediate active treatment. Further research will need to consider the coping and anxiety levels of partners and other family members. **CLINICAL IMPLICATIONS:** Despite the benefits deriving from avoiding the side effects of PCa radical treatments its diagnosis is a traumatic event and AS could be counterintuitive from the patients' perspective. Physicians should effectively communicate about AS in order to support patients in making an informed and aware choice. Psychological assessment should be routinely conducted in order to offer support to those patients who experience higher levels of distress or present risk factors for poorer QoL over time. **ACKNOWLEDGEMENT OF FUNDING:** Foundation I. Monzino and Fondazione ProADAMO Onlus for support to the project "Per un sentire condiviso: l'uomo e il tumore alla prostata".

V-1

Course of Behavioral Adjustment of Children Diagnosed With Acute Lymphoblastic Leukemia: From Diagnosis Until End of Treatment

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BACKGROUND: Studies regarding behavioral adjustment problems in children with cancer show inconclusive and partly contradictory results, partly due to the use of a heterogenous research population and the lack of a longitudinal design. In this study we aimed to: 1) describe the course of emotional adjustment of children with Acute Lymphoblastic Leukaemia (ALL) from diagnosis until end of treatment, and 2) investigate to what extent sex, age and risk-adapted treatment regime contributes to adjustment. **METHOD:** In a multicenter longitudinal study 131 parents of children aged 1–17 (response rate 82%), diagnosed with ALL, completed a behavioral questionnaire (Child Behavior Checklist) at time of diagnosis (T0), halfway treatment (T1) and at end of treatment (T2). 90 parents returned questionnaires on all three measurement moments. **RESULTS:** Parent report showed that children with ALL in our study experienced more behavioral problems than healthy peers at each time point (T0 $M = 52.6$, $p = 0.008$; T1 $M = 53.9$, $p = 0.001$, T2 $M = 52.3$, $p = 0.045$), mainly due to general internalizing problems (T0 $M = 55.7$, $p = 0.000$; T1 $M = 56.6$, $p = 0.000$, T2 $M = 54.7$, $p = 0.000$) and all internalizing subscales. Over time externalizing problems increased, mainly caused by an increase in aggressive behavior ($F = 4.96$, $p = 0.028$). Analyses revealed an interaction effect for internalizing problems between time and age ($F = 6.29$, $p = 0.014$). Next to this, children in the MR group experienced more emotional problems halfway treatment compared to the SR group ($F = 4.90$, $p = 0.033$). **CONCLUSIONS:** Children with ALL show high levels of internalizing behavioral problems during the entire treatment period whereas externalizing behavioral problems tend to increase over time, which could not solely be explained by somatic complaints. In addition, we found that young children tend to have more internalizing behavioral problems at the start of treatment than older children. We also found that children in the MR group experienced higher levels of emotional problems halfway treatment compared to children in the SR group. **RESEARCH IMPLICATIONS:** This study shows the impor-

tance of including a homogeneous study population. With this information we know more about the specific behavioral problems children with ALL can encounter during treatment, and the differences between various age and treatment groups. Further studies need to be performed with a longer follow-up period and predictors to evaluate the course of behavioral adjustment on the long term. **CLINICAL IMPLICATIONS:** Our results can be used in clinical practice for the identification of patients at risk for developing behavioral problems during treatment. Early identification of patients at risk for developing problems can help optimize and tailor care in an early phase. This may improve future behavioral and psychosocial functioning of children with cancer. **ACKNOWLEDGEMENT OF FUNDING:** The data gathering of the QoL ad ALL study has been supported by the Dutch Childhood Oncology Group (SKION).

V-2

Providing Care to a Child With Cancer: A Longitudinal Study on Parents' Experiences With Caregiving During the First Year After Diagnosis

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BACKGROUND: In order to assist parents with the difficult task to provide care to their child with cancer, it is important to know what they go through. Due to the cross-sectional nature of previous research, very little is known about variations in parents' caregiving stress over time. Therefore, this study longitudinally investigated the course, predictors and impact of caregiving stress on well-being in the first year after the child's cancer diagnosis. **METHOD:** Primary caregivers ($n = 95$, 100% mother) of consecutive newly diagnosed pediatric cancer patients (0–18 years, all types of cancer) completed measures of caregiving stress (*Pediatric Inventory for Parents*), depressive symptoms (*The Center for Epidemiologic Studies Depression Scale*), anxiety (*The State-Trait Anxiety Inventory*), and self-reported health (*SF-20*) at diagnosis, and 3, 6 and 12 months thereafter. Multilevel analysis was used to analyze the data. **RESULTS:** Results showed a significant reduction of caregiving stress over time, with a rapid decline

in the first 3 months post-diagnosis ($b = -4.80$; 95%CI -6.33 to -3.27). Predictors of caregiving stress were parental age, marital status, the ill child being parent's only child, and treatment intensity. Multilevel analyses, controlled for sociodemographic and medical covariates, showed that, over time, the decline in caregiving stress was accompanied by a reduction in depressive symptoms and anxiety, and an improvement in self-reported health. The amount of variance explained by the full model was 55% for depressive symptoms, 36% for anxiety, and 5% for self-reported health. **CONCLUSIONS:** Our findings suggest that the improvement of parental functioning reported in this research could be partly understood from a reduction of caregiving stress over time. Extra clinical attention should be paid however, to younger parents, single parents, parents whose ill child is their only child or whose child is on intensive treatment. Targeted support starting early in the disease trajectory might help them to cope better with the stressors of caregiving. **RESEARCH IMPLICATIONS:** This prospective study which is as far as we know the largest longitudinal study on caregiving in this field, underscores our assumption that caregiving is a dynamic process that has to be studied through longitudinal research. Due to the low number of fathers in the sample, the study focused on mothers only. Future studies should consider investigating fathers' experiences too. The examination of psychosocial factors associated with caregiving is another topic worth to explore. **CLINICAL IMPLICATIONS:** The study shows that the alleviation of caregiving stress could be used as a gateway to improve overall functioning. Although most parents adapt relatively well to the stressors of caregiving, healthcare providers should be mindful that some parents are more vulnerable for caregiving stress than others. For those at risk, targeted support starting early in the disease trajectory might help them to cope better with the stressors of caregiving, and indirectly benefit the child too. **ACKNOWLEDGEMENT OF FUNDING:** None.

V-3

Effect of Communication Styles on Marital Satisfaction of Parents of Pediatric Cancer Patients: A Prospective Longitudinal Study

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BACKGROUND: The aim of this study was to examine the effect of communication styles on marital satisfaction of parents of children treated for cancer across time from diagnosis to 5 years later. **METHOD:** Parents completed the Maudsley Marital Questionnaire to assess marital satisfaction, and the Communication Skills Index to assess: intimacy, avoidance, destructive and incongruent communication, at time of diagnosis (T1) and 5 years later (T2). Paired t-tests were used to investigate between time differences, unpaired t-tests to investigate gender differences, and univariate and multivariate analyses to examine the long-term effects of communication styles on marital dissatisfaction. **RESULTS:** 74% of parents ($n = 115$) responded at both times. Only mothers' marital dissatisfaction increased significantly (though clinically irrelevant) over time. No gender differences in dissatisfaction were found. Mothers had a significantly higher lack of intimacy score than fathers ($p = 0.05$ $es = 0.18$). All four T1 communication styles were significantly related to fathers' and mothers' T2 marital dissatisfaction (univariate, p 's between <0.05 – <0.01). Multivariate analyses showed that mothers' T1 marital dissatisfaction contributed largely to her T2 dissatisfaction 5 years later (67%), for fathers this was 12%. Additionally, T1 destructive communication uniquely affected fathers' T2 marital dissatisfaction ($\beta = -0.40$) and T1 avoidant communication ($\beta = -0.18$) that of mothers. **CONCLUSIONS:** Five years after the cancer diagnosis in their children, the quality of parents' marital relationships seemed largely unchanged. Parents' use of communication styles at diagnosis appeared to have limited effect on their marital dissatisfaction 5 years later. When an effect was found, different communication styles appeared to affect parents' functioning. While avoidant communication seemed indicative of mothers' marital distress, fathers' marital distress seemed more affected by destructive communication. **RESEARCH IMPLICATIONS:** More longitudinal prospective research is needed to better understand associations between patterns of communication and marriage quality in parents of children treated for cancer. Especially the surprising lack of long-term impact in use of different communication styles on marital quality needs further validation. Research could focus on the effect of change in communication over time, on the effect of change on parents' marital dissatisfaction and on finding other risk factors. **CLINICAL IMPLICATIONS:** Clinicians should be aware that different communication styles impact fathers' and mothers' marriage differently. This underscores the need to include both parents in psycho-social interventions. **ACKNOWLEDGEMENT OF FUNDING:** Dutch Cancer Society, Pediatric Oncology Foundation Groningen, the Netherlands.

V-4

Multicenter Implementation of Electronic Patient Reported Outcomes (ePROs) During Treatment in Pediatric Oncology Practice (KLIK): Is it Feasible?

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BACKGROUND: The Emma Children's Hospital developed a web-based program (KLIK) to systematically monitor and discuss Health-Related Quality of Life (HRQoL). Research shows that implementation of KLIK-PROs in clinical practice increases discussion of psychosocial functioning and detects problems at an early stage. At the evaluation of a study conducted after successful cancer-treatment, parents and pediatric oncologists (POs) suggested earlier implementation during treatment, and discussing HRQoL every 3 months. The current study describes the feasibility of this implementation. **METHOD:** Newly diagnosed children with cancer (age 8–18) or parents (child's age 0–8) from three Dutch pediatric oncology centers (AMC/VUmc/RUMCN) completed the online generic PedsQL or TAPQOL and the PedsQL cancer module. Questionnaires were transformed into an ePROfile displaying a longitudinal line graph and individual items in traffic light colors (www.hetklikt.nu). The ePROfile was discussed by POs during consultation/hospitalization at 1(T1), 3(T2) and 6(T3) months post-diagnosis. After each consultation, general satisfaction of parent/POs was assessed on a 100 mm VAS-scale. The implementation was monitored in terms of website registration rate, consultation rate, questionnaire completion rate, ePROfile discussion rate, and general satisfaction by POs and parents. **RESULTS:** During a 1-year period 219 children were diagnosed with cancer of which 148 were eligible (excluded: language problems, relapse, palliative treatment). 122 families agreed to participate and 118 registered on the website. 31 POs were trained in using the ePROfiles. Consultation rate was 74% at T1, 55%(T2), 60% (T3), for which 84%, 83%, and 69% of participants completed questionnaires at T1,T2,T3. Monitoring HRQoL and discussion of the ePROfile was feasi-

ble in 64% at T1, 56% at T2 and 64% at T3. General satisfaction for POs/parents was *Mean* 62.55 versus 56.62(T1), *Mean* 60.29 versus 56.50(T2), and *Mean* 63.90 versus 65.75(T3). **CONCLUSIONS:** Implementation of ePROs shortly after diagnosis is sometimes complicated in pediatric oncology. Hospitalisation and complications of treatment make adequate discussion of ePROs more difficult. Some POs find using the ePROfile less appropriate for very young or inpatient children. Nevertheless, almost all patients registered within 1 month after diagnosis and the majority was able to complete questionnaires/discuss the ePROfile. Overall, POs are positive about the method although they prefer the ePROfile to be inserted into the electronic patient record. The implementation of KLIK will be adapted according to parents/POs comments and continued throughout the treatment trajectory and during follow-up. **RESEARCH IMPLICATIONS:** The KLIK website offers a unique opportunity to longitudinally collect data starting from diagnosis and continuing during treatment and follow-up. On the website, before completing the first KLIK questionnaire, parents and children (12 years and older) are asked for their permission to use their data for scientific research. The database can easily be imported into Excel and SPSS to facilitate statistical analysis. **CLINICAL IMPLICATIONS:** KLIK is an innovative and easily accessible tool in a time when resources are scarce. Monitoring and discussing HRQoL from diagnosis and continuing into treatment and follow-up facilitates early recognition of problems. The longitudinal graph and individual items presented by the website show clinicians comparison of individual scores over time. Using both generic and disease-specific questionnaires draws attention to different aspects that play a role in child's life and in each phase of the disease. **ACKNOWLEDGEMENT OF FUNDING:** The KLIK oncology portal has been funded by the Dutch Cancer Society.

V-5

Cognitive Functioning in Children With Acute Lymphoblastic Leukemia Pre and Post Chemo and Radiation Therapy - A Cancer Institute (WIA), India Study

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BACKGROUND: Fortunately, due to medical advancements the cure rate of Acute Lymphoblastic Leukemia has improved to a greater extend in recent years. While considering cure as the major goal, managing the side effects and other toxicities,

becomes the major challenge for the medical fraternity. However, very limited studies were reported this in India. Present study aims determine whether there are any cognitive deficits in children with Acute Lymphoblastic Leukemia (ALL), pre and post medical oncological treatment. **METHOD:** Children ($N = 26$ (age; 9–16 years) with Acute Lymphoblastic Leukemia (ALL) (treated with MCP841 treatment protocol) with no past history of any psychiatric or neurological disorders or severe head injuries and mental retardation, were assessed for cognitive functions before (at diagnosis) and after (four post treatment assessments) chemotherapy and radiation. Cognitive functions were assessed using Digit span Test, Digit Symbol Substitution Test (DSST), Trail Making Test (TMT), Vigilance Test, Object Assembly(OA), Block Design(BD), Verbal Learning and Memory Test (VLM), Complex Figure Test (CFT), Benton Visual Retention Test (BVRT), Ideation Fluency Test (IFT), and Series Completion Test (SCT). Repeated measure Analysis of Variance was used. **RESULTS:** Analysis revealed that there is a progressive decline in the attention level (DF; $F = 25.28$, $p < .001$, DB; $F = 24.23$, $p < 0.001$), DSST($F = 54.34$, $p < 0.000$) and TMT ($F = 28.47$, $p < 0.000$), Vigilance ($F = 5.16$, $p < 0.004$), visuo spatial functioning (OA; $F = 48.49$, $p < 0.000$, BD; $F = 43.01$, $p < 0.000$), Learning and Memory ($F = 96.44$, $p < 0.000$) and visual memory(CFT; $F = 70.94$, $p < 0.000$, BVRT; $F = 8.41$, $p < 0.008$) of children with ALL after cranial radiation and chemotherapy. Similarly there is a decline in ideation fluency ($F = 12.87$, $p < 0.001$). The concept formation (SCT; $F = 50.49$, $p < 0.000$) of children with Acute Lymphoblastic Leukemia has declined in terms of taking more time to process after cranial radiation and chemotherapy. **CONCLUSIONS:** Chemotherapy and radiation therapy affects the cognitive function including attention, vigilance, visuospatial functioning, learning and memory, ideation fluency and concept formation. It is also observed that the decline is progressive over a period of time. **RESEARCH IMPLICATIONS:** Further studies to find out the individual effect of chemotherapy and radiation therapy are warranted. Multi center study can be conducted to understand the definite impact of the treatment over cognitive function of the ALL survivors. The effect of treatment in relation to different age group of patients can be investigated. Longitudinal studies can be carried out to understand the late effects of treatment on cognitive functioning of ALL survivors. **CLINICAL IMPLICATIONS:** Continuous comprehensive neuropsychological assessment need to be done for all children treated with chemotherapy and cranial radiation. As childhood is an important period of human development, early intervention on cognitive rehabilitation is vital for

the ALL survivors. **ACKNOWLEDGEMENT OF FUNDING:** None.

W-1

Existential Interventions in Cancer: A Systematic Review and Meta-Analysis

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BACKGROUND: Existential-therapies are a family of psychological interventions that draw on themes from existential philosophy to help clients address such issues in their lives as meaning and death anxiety. They assume that, by overcoming existential distress, psychopathology may be decreased or prevented. This seems especially relevant in crisis-situations, when individuals are confronted with life as such, for instance if they develop cancer. This is the first systematic literature-review and meta-analyses of the quantitative efficacy of existential-therapies. **METHOD:** Relevant electronic databases, journals and reference lists were searched for eligible studies, following PRISMA guidelines. Effects on meaning, psychopathology, self-efficacy and physical well-being were extracted from each publication or obtained directly from its authors. All types of existential therapy and of adult samples were included. Weighted pooled mean effects were calculated, and analyses performed assuming fixed-effects model. Moderator analyses included testing differences between different types of existential interventions, and between different types of patients such as patients with and without cancer. The result-section is here limited to randomized controlled trials (RCT), but additional analyses will be presented at the conference. **RESULTS:** We found 20 RCTs and 27 non-RCTs. We included 14 RCTs with unique data, comprising a total of 1545 participants. Nine included cancer-patients, three patients with other physical diseases, and two care professionals; no significant group differences were found. Meaning therapies ($n = 6$ studies) showed large effects on positive meaning in life immediately post-intervention and at follow-up, and moderate effects on anxiety/depression and self-efficacy (Cohen's $d = 0.64$, 0.57 , 0.47 , 0.48 , respectively). Supportive-expressive therapy($n = 4$) had small post-treatment effects on anxiety/depression($d = 0.19$). Experiential-existential($n = 2$) and cognitive-existential therapies($n = 1$) had no significant effects. No significant long-term effects were shown for supportive-expressive, experiential-existential and cognitive-existential interventions. All interventions had small, not-significant effects on physical well-being($n = 5$). **CONCLUSIONS:** Despite the small number and quality of studies, some existential

therapies appear beneficial for individuals in crisis situations in life, such as cancer patients. The effect sizes seem to be similar to other interventions in psycho-oncology. We found particular support for meaning therapies (e.g. Breitbart et al., 2010; Lee et al., 2006; Henry et al., 2010). These are relatively strongly structured interventions incorporating psycho-education, exercises, and discussing meaning in life directly and in positive terms with physically ill patients. The relatively large variations between individuals within the studies suggest that it is important to select and tailor existential interventions to individual needs. **RESEARCH IMPLICATIONS:** As some existential-therapists have argued, quantitative effect-studies may not fully account for the idiosyncrasies of existential-therapeutic practice and its subjective benefits to clients. However, our meta-analyses suggest the possibility and usefulness of quantitative effect-studies. More high-quality research is needed to study the effects of existential interventions in cancer-patients. We suggest to include more frequently psychometric instruments measuring 'experiences of positive meaning in life', as these instruments showed the largest effects; this also seems clinically relevant for psycho-oncological interventions. **CLINICAL IMPLICATIONS:** Although many questions have still to be answered, our findings suggest that existential therapies are a promising group of interventions. Individuals with existential questions, including cancer patients, may benefit from this. **ACKNOWLEDGEMENT OF FUNDING:** We gratefully acknowledge funding from the Society of Existential Analysis, UK; and by the School of Psychological Sciences and Health, University of Strathclyde, for funding to complete this project.

W-2

Reducing Breast Cancer Patients' Psychological Distress Related to Fear of Recurrence: A Randomized Study Comparing the Efficacy of a Therapy Group and a Support Group

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BACKGROUND: No study has yet compared the efficacy of two different types of group interventions on patients' psychological distress related to fear of cancer recurrence (FCR). The aim of this study is to compare for breast cancer patients at the end of radiotherapy the efficacy of a 15-session Therapy Group with FCR Exposure (TG) to a 15-session Support Group without FCR Exposure (SG). **METHOD:** 76 breast cancer patients were

randomly assigned either to TG or SG. Before and after group interventions patients completed questionnaires assessing FCR (Fear of Cancer Recurrence Inventory), psychological distress (Hospital Anxiety and Depression Scale) and post-group personal growth (questionnaire specifically designed for this study). Patients' emotional regulation was also assessed through measures of state anxiety (visual analogue scales) and measures of heart rate before and after a relaxation task. **RESULTS:** Compared to patients attending GS ($n = 31$), patients attending GT ($n = 45$) showed a significantly greater reduction in psychological distress associated to FCR ($p = 0.038$; Cohen's d effect size = 0.5) and a similar reduction in HADS ($p < 0.001$). No group by time effect of GT was noticed on measures of emotional regulation during the relaxation task. Moreover, patients attending GT reported a more important post-group personal growth compared to patients attending GS ($p = 0.001$). **CONCLUSIONS:** GT is more effective than GS in reducing psychological distress related to FCR and in increasing post-group personal growth for breast cancer at the end of radiotherapy. **RESEARCH IMPLICATIONS:** Future studies are still needed to improve the effect size of interventions designed to reduce psychological distress related to FCR. **CLINICAL IMPLICATIONS:** Clinicians should be aware that FCR exposure is needed to reduce psychological distress related to FCR. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the "Plan Cancer" of Belgium and by the "Centre de Psycho-oncologie" (Training and Research group) of Belgium.

W-3

Effectiveness of an Integrated Adventure-Based Training and Health Education Program in Promoting Physical Activity Among Childhood Cancer Survivors

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BACKGROUND: Research indicates that regular physical activity enhances the physical and psychological well-being of childhood cancer survivors. Nevertheless, there is growing concern about declining levels of physical activity in childhood cancer survivors. This study aimed to examine the effectiveness of an integrated adventure-based training and health education program in promoting changes in exercise behavior and enhancing the physical activity levels, self-efficacy, and quality of life of Hong Kong Chinese childhood cancer survivors. **METHOD:** A randomized controlled trial, two-group pretest and repeated post-test, between-subjects design was conducted to 71 childhood cancer survivors (9–16-year olds). Participants in the

experimental group joined a four-day integrated adventure-based training and health education program. Control group participants received the same amount of time and attention as the experimental group, but not in such a way as to have any specific effect on the outcome measures. Participants' exercise behavior changes, levels of physical activity, self-efficacy and quality of life were assessed at the time of recruitment, 3, 6, and 9 months after starting the intervention. **RESULTS:** Participants in the experimental group reported statistically significant difference in physical activity stages of change ($p < 0.001$), higher levels of physical activity ($p < 0.001$) and self-efficacy ($p = 0.04$) than those in the control group. Besides, there were statistically significant mean differences ($p < 0.001$) in physical activity levels (-2.6), self-efficacy (-2.0) and quality of life (-4.3) of participants in the experimental group from baseline to 9 months after starting the intervention. **CONCLUSIONS:** The integrated adventure-based training and health education program was found to be effective in promoting physical activity among childhood cancer survivors. **RESEARCH IMPLICATIONS:** This study did not measure physiological changes in the participants, although previous research has indicated that engaging in physical activity may help to ameliorate adverse treatment-related effects such as fatigue and decreased muscle strength and endurance. Therefore, it is recommended that future longitudinal studies be conducted to monitor the level of physical activity and physical activity behavior of childhood cancer survivors, and to detect any physiological changes that occur over an extended period of time. **CLINICAL IMPLICATIONS:** (1) To advocate the idea of having regular physical activity in childhood cancer survivors, and (2) To implement the integrated adventure-based training and education program to those survivors without engaging in regular physical activity, and (3) Healthcare professionals should go beyond their normal roles by building partnerships with schools and communities to promote the adoption and maintenance of regular physical activity among childhood cancer survivors using a multi-disciplinary approach. **ACKNOWLEDGEMENT OF FUNDING:** None.

W-4

A Randomised Controlled Trial of a Psycho-Educational Intervention for Melanoma Survivors at High Risk of Developing New Primary Disease

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BACKGROUND: Previous studies show that fear of cancer recurrence (FCR) is high amongst melanoma survivors. Despite this, little research has been conducted to address FCR in this setting. Our team has developed a psycho-educational intervention comprising a booklet and four telephone-based psychological support sessions, aimed at addressing FCR. This study aims to evaluate the efficacy and cost-effectiveness of the newly developed psycho-educational intervention in reducing FCR among melanoma survivors at high risk of developing new primary. **METHOD:** This study is a multi-centre two-arm RCT with in-built economic evaluation designed in line with the CONSORT statement. Individuals aged over 18 years, with previous melanoma diagnosed at stages I or II, and attending one of the three melanoma high risk clinics across New South Wales will be eligible. Participants in the intervention arm will receive two booklets (the newly developed psycho-educational booklet + the Cancer Council booklet 'Understanding Melanoma'), and four individual, telephone-based psychological support sessions (each 50 minutes) facilitated by a Clinical Psychologist. Participants in the control group will receive the Cancer Council booklet 'Understanding Melanoma' only. **RESULTS:** All participants will be asked to complete a questionnaire at baseline (6 weeks before their full dermatological consultation at the High Risk Clinic), 2 weeks after their consultation, and again at 6 and 12 months, to evaluate the effect of the intervention on fear of melanoma recurrence, anxiety, stress, depression, quality of life, doctor-patient communication, melanoma risk knowledge, healthy behavioural adjustment to melanoma risk, and unmet supportive care needs. Data will be collected regarding costs of the psycho-educational intervention (including material costs, Psychologist costs, capital costs and consumables), access to psychological support, complementary therapies used and medications used. **CONCLUSIONS:** Should the hypotheses of this study be supported, this intervention is likely to be of benefit to melanoma patients and their health care providers. If successful, we anticipate the study will provide a tailored, evidence-based psycho-educational intervention to reduce psychological morbidity in melanoma patients, improve healthy coping and adaptation, and provide a cost-effective health care service for this cancer patient group. **RESEARCH IMPLICATIONS:** This project aims to bridge the gap between existing research evidence demonstrating a critical need for psycho-educational support for melanoma patients, and clinical practice. In addition to using a gold-standard study design to determine the effectiveness of the intervention on psycho-social health of melanoma patients, doctor-patient communication and quality of life, we will also evaluate the cost-effectiveness from a health system perspective. **CLINICAL IMPLICATIONS:** The key fea-

tures of this study will be essential to successful implementation of this research into clinical practice. We also anticipate the findings of this study could be used to inform the development and appropriate delivery of innovative psycho-educational interventions tailored to address the supportive care needs of other types of cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

W-5

Reducing the Psychological Distress of Family Caregivers of Home Based Palliative Care Patients: Short Term Effects From a Randomised Controlled Trial

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BACKGROUND: Palliative care incorporates comprehensive support for family caregivers given that many caregivers suffer psychological morbidity. However, systematically implemented evidence based psychological support initiatives are lacking. The purpose of this study was to examine the effectiveness of a psycho-educational intervention for family caregivers of community palliative care patients. We hypothesised that caregivers who received the intervention would report decreased psychological distress (primary outcome), fewer unmet needs and increased levels of perceived preparedness, competence, and positive emotions. **METHOD:** Based upon pilot work a three arm randomised controlled trial (phase III) comparing two versions of the intervention (one face to face visit versus two visits) plus standard care to a control group (standard care) across four community (home based sites) palliative care services in Australia. Trained palliative care nurses delivered the intervention. Validated measures were administered at commencement of palliative care input and 5 weeks later (two weeks after completion of the intervention for those in the experimental arm). **RESULTS:** 298 participants were recruited; 148 were in the Control condition, 57 in Intervention 1 (1 visit), and 93 in Intervention 2 (2 visits). Relative to participants in the control group, the psychological wellbeing of participants in the intervention condition improved by a small amount but non-significantly. No significant reduction in unmet needs or improvements in positive aspects of caregiving amongst the intervention group were identified.

However, the intervention demonstrated significant improvements in participants' levels of preparedness and competence for Intervention 2. **CONCLUSIONS:** This research adds to accumulating body of evidence demonstrating that relatively short psycho-educational interventions can assist family caregivers to support a dying relative. Further investigation is required to determine the longer term outcomes of such interventions and to explore other strategies to reduce psychological distress. Most palliative care patients want to be cared for at home yet this is commonly unachievable if they do not have a well prepared and supported family caregiver. This brief intervention demonstrated improved sense of preparedness and competence for the caregiver role. **ACKNOWLEDGEMENT OF FUNDING:** National Health and Medical Research Council Australia.

X-1

A Comprehensive Model of Evidence-Based Practices of Distress Screening, Interventions, and Outcomes Assessment

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BACKGROUND: High quality and comprehensive psychosocial oncology programs tend to be only located in large or National Cancer Institute-designated cancer centers in the U.S. In reality, nearly 85% of all cancer patients do not receive treatments in these centers, but rather through a range of community-based programs and settings (Institute of Medicine, 2007). Models of care are necessary that integrate mental health approaches with the delivery of care for cancer. **METHOD:** Methods are necessary to provide rapid and effective models of distress screening to identify high-risk patients in order to provide effective mental health interventions at the community level. This workshop will present a model of care that has been developed over the past 20 years in a community-based format and setting that provides psychosocial care to patients and families at no-cost. **RESULTS:** Essential elements of this model include: 1. Distress screening; 2. Evidence-based interventions which are also theoretically based; 3. Multidisciplinary staffing; 4. Focus on survivorship; 5. Dedication to diversity through outreach that promote access to care, and; 6. Commitment to outcomes assessment through an ongoing research committee. Specific issues that will be addressed include: 1. Critical leadership and management issues; 2. Distress screening algorithm; 3. Evidence-based interventions that include psycho-education, skill-development groups, short therapy as well as other complementary approaches; 4. Specific approaches to critical issues such as sexuality and intimacy, and; 5. Outcomes assessment model. **CONCLUSIONS:** Finally, resource development

will also be addressed that include fundraising, grant development, and outcomes assessment that can demonstrate the relationship between distress and health care utilization. Consequently, this model of care could demonstrate that reductions in patients' distress can also result in institutional cost savings (Zabora, 2011). **RESEARCH IMPLICATIONS:** This program is an example of how clinical practice can inform research, and how clinical research can inform practice. The existence of a research committee within the structure of a clinical program assures the capability to assure evidence-based interventions. **CLINICAL IMPLICATIONS:** This type of model creates the greatest potential for the maximum benefit of clinical programs and interventions for cancer patients and their families. **ACKNOWLEDGEMENT OF FUNDING:** Not applicable.

X-2

Trajectory Patterns of Supportive Care Needs Among Chinese Women With Advanced Breast Cancer

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BACKGROUND: Little is known about the changes in supportive care needs among women with advanced breast cancer (ABC). Understanding how patients' supportive care needs change during their cancer journey enable us to develop tailored interventions to meet their needs and help control health care costs. The aim of this study was to (1) examine patterns of supportive care needs over the first year following the diagnosis of advanced breast cancer and (2) identify related determinants. **METHOD:** 228/276 Chinese women newly diagnosed with ABC were recruited from six public oncology units and completed an interview before their first course of chemotherapy, and follow-up interviews at 6-, 12-, 18-weeks, and 12 months subsequently. At baseline, participants were assessed for supportive care needs (SCNS-34), psychological distress (HADS), symptom distress (MSAS), and optimism (C-LOT-R), and patient satisfaction (PSEQ-9). At follow-up, participants completed the measure of supportive care needs. Latent growth mixture modeling was used to identify discreet supportive care needs trajectories. Logistic regression was used to identify predictors of trajectory pat-

terns adjusted for demographic and medical characteristics. **RESULTS:** Two distinct trajectories were identified within Health system & information need (HSI) and Sexuality need domains and three distinct trajectories within Psychological and Physical daily living (PDL) need domains. Most women showed stable low levels of HIS (79%), Psychological (82%), PDL (84%), and Sexuality (97%) supportive care needs. One in five and one in eight women showed high initial needs in HIS, Psychological, and PDL domains, respectively. With the exception of Sexuality needs, trajectory patterns were predicted by physical symptom distress. **CONCLUSIONS:** Contrary to expectations, most Chinese women with advanced breast cancer showed low stable levels of supportive care needs. Physical symptom distress predicted high supportive care needs. **RESEARCH IMPLICATIONS:** This report is the first describing trajectories of different supportive care need domains in advanced breast cancer, thereby offering new insights into patterns of supportive care needs not previously addressed. The findings challenge assumptions that supportive care needs inevitably increase with advancing disease and raise important questions about the influences on adaptation in advanced breast cancer. **CLINICAL IMPLICATIONS:** Effective physical symptom management plays an important role in fulfilling women's supportive care needs, highlighting the importance of the implementation of comprehensive symptom assessment and management in cancer care. This is particularly important as progressive disease generates more impacts. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by a grant from the Hong Kong Cancer Fund and a grant from the Seed Funding Programme for Basic Research by The University of Hong Kong.

X-3

Psychosocial Care for Cancer Patients: A Key Priority in the Dutch Cancer Society's Policy

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BACKGROUND: Most cancer patients need psychosocial care during and/or after treatment. Therefore, optimal psychosocial care is very important. The Working-Group 'Integration of psychosocial care in oncology' of the Dutch National Cancer Control Plan determined a gap between patients' needs and delivered care, and stated that progress is needed on screening, evidence for interventions, guidelines, financial barriers and qualified care (2010). Based on these recommendations, the Dutch Cancer Society (DCS) has appointed psy-

chosocial care as a key priority. **METHOD:** In the years 2011–2014 the DCS focuses on:

- Screening: by conducting a pilot on the implementation of a psychosocial screening instrument in two hospitals.
- Evidence: by a call for proposals to strengthen evidence for psychological interventions.
- Financial Barriers: by collaboration with relevant organizations to lobby for affordable care.
- Qualified Care: by funding the constitution of an online expert database (the 'NVPO Experts Directory'), and 'inloophuizen' (Dutch support centers) which focus on quality of support.
- Awareness: by awareness campaigns for medical specialists and nurses, and relatives of cancer patients.

RESULTS: Most promising preliminary results:

- Screening: the results will be used for further (national) implementation.
- Evidence: the call for proposals is recently issued.
- Financial barriers: following an appeal from the Minister of Health, the collaborating organizations work on a proposal for alternative legal restrictions to ensure affordable care.
- Qualified care: the experts directory is open for registration. The support centers are organized into task forces to work on quality of support.
- Awareness: to reach specialists and nurses, illustrative scenes are videotaped. Hospitals will be approached one at a time to make sure that as many professionals as possible will see the videos.

CONCLUSIONS: By appointing psychosocial care as a key priority for 2011–2014 and by focusing on essential, relating aspects of psychosocial care, the DCS is working together with other relevant organizations on minimizing the gap between needs of cancer patients and delivered care. This multidisciplinary focus on the improvement of psychosocial care is innovative and relevant for all aspects of psychosocial care. **RESEARCH IMPLICATIONS:** With the results of the call for proposals that was issued this year, evidence for psychological interventions will be strengthened. With this strengthened evidence, the DCS will enhance the implementation of scientific evidence into clinical practice. **CLINICAL IMPLICATIONS:** The multidisciplinary focus is aiming to minimize the gap between needs of cancer patients and delivered care. This will lead to access to optimal psychosocial care as an integral part of comprehensive cancer care, addressing patients' needs in all stages of the disease. **ACKNOWLEDGEMENT OF FUNDING:** Insurance company Menzis contributes to the implementation of a psychosocial screening instrument.

X-4

Current Research Activities in the EORTC Quality of Life Group (QLG)

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BACKGROUND: The QLG was created by the European Organisation for Research and Treatment of Cancer in 1981 with the mission to develop instruments to measure health-related quality of life in cancer clinical trials. The group developed the successful 'core + module' strategy, and currently has 229 members from about 20 countries in and outside Europe. The purpose of this presentation is to review the work conducted till date with an emphasis on current activities. **METHOD:** The QLG develops disease and symptom specific modules according to a four phase international process (Guidelines for Module Development, Johnson 2011). All questionnaires are rigorously translated (Translation Guidelines, Dewolf 2009). Among newer initiatives, a computerized adaptive testing (CAT) version of the QLQ-C30 is being developed: the item banks are calibrated in large samples and will be field tested longitudinally in eight countries. A system for electronic questionnaire administration with instant reporting to clinicians is being developed in collaboration with the CHES group. All work takes places in internationally heterogeneous subgroups ensuring cross-cultural applicability. Several additional initiatives have started recently. **RESULTS:** There are currently more than 1,750 PubMed 'hits' for the EORTC QLQ-C30 'core' questionnaire, published in 1993. Thirty-three disease or symptom specific modules and a satisfaction with care questionnaire have been developed and translated into up to 70 languages. Several additional modules, including a sexual function module, are in development. CAT item banks (8–34 items) for ten of the fourteen QLQ-C30 domains have been developed, and simulations show increased precision and relative validity. The EORTC.CHES software facilitates electronic patient assessment in the clinic or at home via web. EORTC reference data by disease site etc. is available at <http://groups.eortc.be/qol/> **CONCLUSIONS:** The international portfolio of instruments allows for international research into patient-reported outcomes using rigorously

developed questionnaires in appropriate translations. The CAT version of the EORTC QLQ-C30 is expected to facilitate international psychosocial research by providing more precise measurement of e.g. emotional function, thus allowing smaller sample size. **RESEARCH IMPLICATIONS:** Researchers using the QLQ-C30 are now invited to take part in the validation of the EORTC CAT (administered electronically or as CAT based 'short-forms' in paper questionnaires. is expected to facilitate international psychosocial research by providing more precise measurement of e.g. emotional function, thus allowing smaller sample size. EORTC.CHES can be tested at the web site, <http://groups.eortc.be/qol/> **CLINICAL IMPLICATIONS:** EORTC instruments are used in numerous clinical trials providing clinically important results. The instruments are also increasingly used in clinical practice, where various reference data is being used in interpretation. Electronic data capture via EORTC.CHES and other systems will further facilitate this, and the EORTC CAT will assure high reliability in individual measurements. **ACKNOWLEDGEMENT OF FUNDING:** None.

X-5

From Vision to Action - Innovation and Implementation of an Integrated Cancer Rehabilitation Within Clinical Practice

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BACKGROUND: A government funded pilot project was finalized in the beginning of 2013. The aim was an integrated cancer rehabilitation, addressing, assessing and meeting the physical, psychological, social and existential needs of cancer patients and their significant others independent of cancer site and stage of the disease. The innovational process, which included the active participation of patients, significant others and medical staff, have delivered new services, resources routines and a plan for implementation and continuing development. **METHOD:** Within one hospital, with different processes for cancer care based on diagnosis, a project group with the mission to develop services, resources, routines and support to foster integrated cancer rehabilitation was created. Through the active use of social media channels and reference groups patients, significant others and medical staff could take an active role in the development. In the model physicians and nurses routinely address, assess and meet patients different needs of cancer rehabilitation through the whole cancer care process and a multi-professional cancer rehabilitation team supports the medical staff. The model was tested and evaluated in a small scale.

RESULTS: After evaluation in reference groups, clinical practice and focus groups run by innovation science researchers the model was adjusted and, together with an implementation plan, presented to the Hallands Hospitals board of directors. Following the positive response the next step is to implement the model across the regions three hospitals. This should be conducted as an implementation study. The following has been developed:

- A multi-professional cancer rehabilitation team
- Routines for addressing and assessing patient's needs
- Routines for the providing of cancer rehabilitation services
- Routines for documentation
- Educational resources
- Individual care plans
- Quality indicators for evaluation and further development

CONCLUSIONS: There's a need for research from the multi-scientific approach of innovational sciences to draw forth organizational, social and technical innovations concerning cancer rehabilitation. The development and implementation of these innovations needs to be conducted close to clinical practice and include stakeholders to take an active role in the innovation process. Through national guidelines we can define the "what" should be done when it comes to cancer rehabilitation. When it comes to putting the guidelines into practice the next step is to define the "how", "when" and "who" and this should be done within the context where it shall thrive. **RESEARCH IMPLICATIONS:** How can we create working models for integrated services that really can put science and policy into practice? This project has been initiated and conducted within clinical practice but has evolved into a model which gives a perfect platform for research on the innovation and implementation of integrated cancer rehabilitation services. **CLINICAL IMPLICATIONS:** How can clinicians get policies and guidelines to work in their unique context? How can cancer care work together with cancer survivors to facilitate an innovational process that will evolve cancer care services that can face the needs of cancer survivors that today stand as unmet needs? **ACKNOWLEDGEMENT OF FUNDING:** None.

Y-1

Sex: A Lost Frontier for Adolescent and Young Adult (AYA) Cancer Patients

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BACKGROUND: Sexuality and intimacy are identified among the unmet needs of adolescents and young adults (AYAs) with cancer, yet a paucity of studies have focused on sexuality in this population. Recent findings confirm that AYAs experience difficulties in sexual relationships, as indicated by lower sexual esteem, higher sexual distress and lower sexual function. The present study investigates the prevalence of sexual difficulties and factors that predict sexual functioning over time. **METHOD:** This prospective, longitudinal study assessed multiple and varied aspects of quality of life and sexual functioning among 141 patients aged 14–39 years. Data were collected within the first 4 months of diagnosis, and again 6 and 24 months after baseline with the MOS Sexual Functioning Scale. A longitudinal multilevel analysis conducted with MLwiN program examined the effect of socio-demographic variables, clinical characteristics, psychosocial factors, reproductive concerns and quality of life (BSI-18) on sexual functioning. **RESULTS:** Results indicate that sexual functioning did not significantly change over the two-year time span post diagnosis, with sexual functioning scores in the mid-range for all participants. For the individuals included in our analysis worse sexual functioning was predicted for older, female cancer patients, in a relationship, who were not employed at baseline, who received two types of treatment, and who had lower quality of life. Social support acted as a moderator of sexual functioning for race and amount of treatment, indicating that non-Hispanic minority patients and those receiving one type of treatment benefitted the most from social support. **CONCLUSIONS:** The study represents the first longitudinal analysis of sexual functioning in this population. Findings confirm the importance of sexuality and intimacy for AYAs and that sexual functioning represents a problematic aspect of the cancer diagnosis. Furthermore, the study unveils the role of specific socio-demographic and relational factors that influence the development of

healthy sexual relationships. **RESEARCH IMPLICATIONS:** Future research will explore more in depth protective and risk factors that affect AYAs sexual functioning. As some results indicate the importance of social relationships, it will be critical to investigate sexual functioning within the context of close relationships and dyadic coping. Finally, the development and evaluation of psychosocial interventions appears to be a promising direction to promote the development of healthy sexual relationships. **CLINICAL IMPLICATIONS:** Identifying risk factors for sexual dysfunction is an important step in guiding health professionals to design effective ways to address sexuality and sexual functioning (including timing, contents and modality) with this population and to develop evidence-based practices for screening and intervention. **ACKNOWLEDGEMENT OF FUNDING:** HopeLab Foundation, Redwood City, CA.

Y-2

The Significance of Testicular Cancer for Younger Adult Survivors: A Conceptual Model

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BACKGROUND: Testicular Cancer (TC) predominately affects younger men in the prime of their lives. Fortunately, it is the most curable cancer in the UK, with survival rates reaching 96%. Yet little is known about men's experiences of adjustment and recovery during early survivorship. This study aimed to explore younger men's evolving experiences of TC over time, the psychosocial impact on their lives, as well as men's needs during early survivorship. **METHOD:** A longitudinal qualitative design was chosen. Patients were recruited from several NHS hospitals in the UK. In-depth, semi-structured interviews were conducted within 1–4 months of treatment completion, with TC patients between 20- and 45-year old ($n = 11$, to date). Interviews were conducted in patient's homes or place of work and lasted approximately 90 minutes. A Grounded Theory methodology was employed. Longitudinal interviews are currently being conducted at 6-month follow-up ($n = 2$, to date) and data collection is on-going. **RESULTS:** Participants engaged in a process of *weighing up the significance of TC*; for some, this declined from a *major to relatively minor biographical event*, particularly if fatherhood was achieved already. TC was often perceived as *more significant for partners/family*. Adjustment involved resolving the mismatch between men's initial expectations versus actual experience of TC, which could lead to *ambivalent acceptance*. 'Striving for normality' was an important goal, involving many *challenges and facilitators*. TC could be perceived as a significant

transformative event. Yet, recurrence was a major 'body blow', putting *life on hold*. **CONCLUSIONS:** This study highlights the unique challenges which TC survivors may face during the recovery transition, and illustrates important facilitators which may promote adjustment. Men's experiences challenged societal notions and existing survivorship literature. Following successful treatment, TC can be perceived as a positive, life changing experience promoting men's self-efficacy. Perceptions of the significance of TC may be impacted by fatherhood status, and childless men may experience greater disruption. Men who underwent 'surgery only' may be vulnerable to difficulties processing the experience due to the rapid treatment transition. The findings highlight men's specific support needs along the treatment trajectory. **RESEARCH IMPLICATIONS:** The findings lay the foundations for future quantitative studies exploring recovery and adjustment in larger samples of TC survivors, in order to examine which sub-groups are most vulnerable. The development of a measure to explore the concept of *illness significance* and associated predictor variables in TC patients would facilitate further large scale quantitative studies. Further research exploring the psychosocial impact of TC on partners' and families' would inform the development of supportive interventions. **CLINICAL IMPLICATIONS:** The findings have implications for the development of a psychosocial intervention aimed at promoting positive adjustment in TC survivors. Emotional support for spouses and one-to-one peer mentoring for TC patients may be appropriate. Men also expressed a need for 'someone to talk to' although disliked the idea of formal psychological support, highlighting the importance of the Clinical Nurse Specialist role. **ACKNOWLEDGEMENT OF FUNDING:** The study was funded by Oxford Brookes University.

Y-3

Bone Health for Younger Women With Breast Cancer: Effects of a YMCA-Based Intervention on Exercise, Bone Density, Body Mass, and Physical and Mental Health in a Multi-Ethnic Sample

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BACKGROUND: Premenopausal women treated by chemotherapy for breast cancer are likely to experience abrupt menopause, which is generally permanent. These women are at high risk for rapid

bone mineral loss beginning at menopause. We conducted a RCT in partnership with the YMCA to determine whether participating in an individualized weight-bearing and aerobic exercise program helps to reduce bone loss, achieve normal body weight, and improve physical and mental health following breast cancer treatment. **METHOD:** A total of 273 women age 55 and under and premenopausal at diagnosis were recruited from the California Cancer Registry no more than 2 years after starting chemotherapy; 256 completed the study. Women randomized to the exercise group were given a year's YMCA membership and received a fitness assessment, exercise goals, and individual coaching from a YMCA personal trainer. Control group participants received a monthly letter on wellness including exercise regimens. Self-reported physical activity (modified Ainsworth CAPS), physical and mental health (SF-36), bone density, and markers of bone turnover (osteocalcin and cross-links) were measured at baseline and 12 months. **RESULTS:** Most women were menopausal after treatment (79%). On average, intervention group participants reported greater increases than controls ($p < 0.01$) in exercise frequency and MET-hours per day of overall and weight bearing physical activity. Groups did not differ significantly in mean change in spine or hip bone density, which decreased significantly among controls. Bone turnover decreased in both groups, with a greater decrease in osteocalcin in the intervention group. Body mass index did not change significantly in either group. Physical and mental health generally improved over time, with a greater increase in the intervention group in mean SF-36 physical role score. **CONCLUSIONS:** Premenopausal women treated with chemotherapy became menopausal almost 10 years earlier than the average woman, putting them at risk for bone mineral loss. Although the women in the intervention group reported greater increases in exercise, intervention impacts on bone health and physical and mental well-being were minimal. Recruiting women who were not active was difficult, a limitation. **RESEARCH IMPLICATIONS:** Assessing the effectiveness of an exercise intervention that includes resistance training is warranted especially for women with normal or low BMI (including Asians). Motivating women to restart physical activity following breast cancer treatment was effective, and required use of a financial incentive (YMCA membership). Still to be answered is whether even vigorous exercise can reduce the gradient of bone mineral loss following menopause. **CLINICAL IMPLICATIONS:** Clinicians should encourage pre-menopausal women to start an exercise program that includes resistance training following the completion of chemotherapy, and for those who do not exercise, to include physical activity by walking or other physical modes.

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Y-4

The Role of Dyadic Interactions in Parent and Sibling Distress After a Child's Death From Cancer

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BACKGROUND: Losing a child to cancer is devastating for families. Research suggests that parent distress increases risk for child distress via negative parent-child interactions. However, it is unknown whether this is more pronounced among bereaved siblings. We expected that the association between parent and child internalizing problems would be mediated by the quality of parenting and parent-child communication, and that negative parent-child interactions would be more strongly associated with internalizing problems among bereaved siblings than controls. **METHOD:** Three to twelve months after a child's death from cancer ($M = 12.45$ months, $SD = 3.73$), families with a surviving child ($n = 88$) and matched comparison families ($n = 73$) were recruited from three participating institutions in the U.S. and Canada. The Internalizing Problems composite score on the Adult and Youth Self-Reports were used to measure parent and child distress. Child and parent reports of Openness and Problems in communication on the Parent-Adolescent Communication Scale were averaged, and the Child Report of Parent Behavior Inventory measured parental Warmth/Acceptance and Psychological Control. Pearson correlations and multiple regression analyses tested moderated mediation models. **RESULTS:** Mothers' self-reports of Internalizing Problems were positively associated with child reported Internalizing Problems ($r = 0.25$); a non-significant association was found between father and child distress ($r = 0.03$). Child distress was positively related to maternal and paternal Problems in communication ($r = 0.42$, $r = 0.34$) and Psychological Control ($r = 0.33$, $r = 0.28$) and negatively related to Openness in communication ($r = -0.28$, $r = -0.30$) and Warmth/Acceptance ($r = -0.39$, $r = -0.28$). The association between mother and child distress was mediated by Openness and Problems in communication, Warmth/Acceptance, and Psychological Con-

trol. The association between father and child distress was mediated only by Openness. No evidence for moderated mediation was found between the two groups. **CONCLUSIONS:** Consistent with prior research, results suggest concordance in distress between mothers and children; however, fathers did not show a similar trend. The association between mother and child distress was accounted for by multiple indicators of the quality of dyadic interactions, but only Openness in communication mediated the impact of fathers' distress on children. Contrary to our hypothesis, the impact of parenting and communication on child distress was not stronger for families who lost a child to cancer relative to controls. This suggests that the quality of dyadic interactions is important for all children's adjustment when their parent is distressed. **RESEARCH IMPLICATIONS:** Future studies should explore other factors that may account for concordance in distress between bereaved parents and siblings. Larger, more diverse samples are needed, in addition to mixed method approaches that include direct observations of family interactions. Longitudinal studies that follow families during treatment and after the child's death may identify the long-term repercussions of pediatric cancer on bereaved parents and siblings, as well as inform intervention trials with this vulnerable population. **CLINICAL IMPLICATIONS:** The results of our study justify the importance of family-focused interventions that emphasize positive aspects of communication and parenting to assist both parents and children who are distressed. Particular attention to screening for distress and allocating services for bereaved families is important given their increased risk for internalizing symptoms and family disruption both during treatment for pediatric cancer and post-bereavement. **ACKNOWLEDGEMENT OF FUNDING:** Funding was provided by the American Cancer Society and the National Cancer Institute.

Y-5

Mother-Adolescent Dyads in Paediatric Oncology During Remission Stage: Factors Associated With Their Respective Emotional Status

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BACKGROUND: The cancer experience and the adverse somatic late effects of the disease and its treatment may influence mother and adolescent's emotional status much later in life. This first aim of this study was to assess the respective adolescent cancer patients' and their mother's emotional status during remission stage. The second aim was to identify adolescent cancer patients' characteristics

associated with their mother's emotional status and mothers' characteristics associated with adolescent cancer patients' emotional status. **METHOD:** This is a cross-sectional study assessing 64 consecutive mother-adolescent dyads. Emotional status (depression, anxiety and distress) was assessed with the Hospital Anxiety and Depression Scale. Each subject also completed separately the Ways of Coping Checklist and a revised and adapted version of the Cancer Rehabilitation Evaluation System. **RESULTS:** Anxiety is the most frequent problem reported by mothers and adolescents: twenty-nine mothers (45%) and nine adolescents (14%) reached the cut-off score for probable clinical anxiety. With regard to the relationships between characteristics of one member of the dyad and emotional status of the other, mothers' depression was related with adolescents' poor prognosis ($p = 0,040$) while adolescents' depression was related with the use of emotion-focused coping by their mother ($p = 0,029$) and adolescents' distress was related with the age of their mother ($p = 0,038$). **CONCLUSIONS:** A majority of mothers - despite reporting high levels of emotional discomfort and a hypersensitivity to their adolescent's condition - are effective «protective shields» allowing a majority of adolescents to experience low emotional discomfort in remission stage. **RESEARCH IMPLICATIONS:** Future research should focus on the content and the effectiveness of specific psychological interventions taking the mother-adolescent dyads' dynamic and study the mother-father-adolescent triad's dynamic in remission stage. **CLINICAL IMPLICATIONS:** Mothers and adolescents should be supported by specific psychological interventions taking their dyad's dynamic into account in this period. **ACKNOWLEDGEMENT OF FUNDING:** This research program was supported by the «Appel d'offre 2002-16» of the Service Publique Fédéral Santé Publique, Sécurité de la Chaîne Alimentaire of Belgium and by the C.A.M., training and research group (Brussels - Belgium).

Z-1

Prognostic Factors of Work Disability in Sick-Listed Cancer Survivors

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BACKGROUND: Sick-listed cancer survivors may face lasting side-effects, even after a successful completion of treatment. As a consequence, they are at risk of work disability, which may lead to job loss. Knowledge of prognostic factors of work disability may support cancer survivors in their trajectory of vocational rehabilitation. The purpose of this study was to identify prognostic factors of work disability in sick-listed cancer survivors. **METHOD:** Our

study involved a longitudinal cohort of sick-listed workers, registered at the Dutch Social Security Agency. The data collected for this study was part of a national cohort study. From the first day of sick-leave, a cohort of 131 cancer survivors was followed for 24 months. Included participants were aged between 20 and 63 years. Data were collected, using questionnaires, at 10 months after reporting sick. The level of work disability, i.e. entitlement for disability compensation, was assessed by an insurance physician and a labour expert at 24 months. Univariate and multiple logistic regression analyses were performed. **RESULTS:** Respondents' mean age was 49.2 years (SD 7.2), and 67% were women. Perceived health was reported as poor by 24% of the respondents. In the univariate analysis, 14 variables were found to be associated with the level of work disability at 24 months. These factors were related to socio-demographics, health characteristics, work-related characteristics, and return to work (RTW) expectations. Multiple logistic regression showed that at 10-month sick-leave, perception of health care providers on cancer survivors' work ability and experienced influence on RTW, both reported by workers, were significantly associated with the level of work disability at 24 months. **CONCLUSIONS:** We conclude that having no influence on RTW as well as negative expectations of health care providers on cancer survivors' work ability might be associated with an increased risk of work disability. Health care providers should be aware of their potential role in counselling cancer survivors in a RTW trajectory in which employee and employer share responsibilities making a joint effort. It seems in the interest of cancer survivors to take an active role in planning their RTW trajectory and to discuss RTW with their health care providers. **RESEARCH IMPLICATIONS:** Considering the effect of health care providers' RTW expectations at 10-month sick-leave, this emphasizes the need for an evidence based advice in counselling sick-listed cancer survivors. The results of this study call for more research on the topics of enhancing RTW of cancer survivors and communication between cancer survivors and their health care providers. **CLINICAL IMPLICATIONS:** Having influence on a RTW trajectory seems positively related in reducing the risk of work disability. This emphasizes the relative importance of cancer survivors actively taking the lead in this process. As such, they may consider themselves as the principal stakeholder seeking advice from other parties involved. Health care providers should be aware of their potential role in communicating with cancer survivors on RTW queries. **ACKNOWLEDGEMENT OF FUNDING:** The study was funded by the Research Center for Insurance Medicine, a collaboration between AMC-UMCG-UWV-VUmc, Amsterdam.

Z-2

Methods and Measures for Assessing the HRQoL of Long-Term Survivors of Testicular and Prostate Cancer Previously Participating in EORTC Phase III Clinical Trials

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BACKGROUND: This pilot-study had two primary objectives: (1) to test the logistics required to conduct survivorship studies, with specific focus on long-term follow-up of patients treated in phase III clinical trials; and (2) to pilot test questionnaires for assessing the health-related quality of life (HRQoL) of long-term cancer survivors (>10 years disease-free). The ultimate goal of this study was to lay the groundwork for a cancer survivorship research program within the EORTC. **METHOD:** Patients were recruited who had participated in one of two EORTC phase III clinical trials; one in prostate and one in testicular cancer, and who had remained disease-free. Patients were drawn from 3 broad geographic/cultural regions: (1) Northern Europe; (2) Southern Europe; and (3) the United Kingdom. HRQoL was assessed at three levels: (1) generic (the SF-36 Health Survey); (2) cancer-specific (the EORTC QLQ-C30 plus condition-specific modules); and (3) cancer survivor-specific (the Impact of Cancer questionnaire (IOCv2)). **RESULTS:** Time to obtain medical ethical approval for the study ranged from 1.5 to 25 months. We encountered most problems with ethical approval in the UK, Italy and Belgium. In most cases, data collection was completed within 3 months (range 10 weeks–1 year). Completed questionnaires were obtained for 242 of 364 patients. Average time since treatment was 12 years. Although many survivors scored at the upper extremes of the questionnaires, in general, the SF36, the QLQ-C30 and the IOCv2 exhibited adequate reliability, and known groups validity. The QLQ-C30 condition-specific modules could benefit from modification for cancer survivor populations. **CONCLUSIONS:** HRQoL research

among long-term survivors of EORTC phase III clinical trials is feasible, but the process of ethical approval and data collection can be a lengthy one. Rules and regulations within EU should better standardized and implemented to facilitate international multicentre trials. General and cancer-specific HRQoL questionnaires developed for cancer patients are with some modifications (e.g. by deleting acute, treatment-related side effects and adding items to improve measurement precision in the upper extremes) suitable to assess HRQoL in long-term survivor populations. **RESEARCH IMPLICATIONS:** Many of the obstacles we encountered in this feasibility study could be avoided by integrating long-term follow-up in phase III clinical trials. This should already be built in the initial consent procedure of these trials and after treatment patients should be followed prospectively at regular intervals. Further, research should be aimed at modifying general and cancer-specific HRQoL questionnaires developed for cancer patients to make them more suitable for survivor populations. **CLINICAL IMPLICATIONS:** The study shows that although many cancer survivors have adequate HRQoL, a subset suffers more than 10 years after initial diagnosis from specific health problems. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by a grant of EORTC Quality of Life Group.

Z-3

Do Healthy Single People Want to Date a Cancer Survivor?

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BACKGROUND: A considerable number of young adult (40%) and middle-aged (15%) cancer patients will be single when diagnosed and will be looking for a partner after treatment. Survivors report fear of rejection from a potential partner and not knowing the best time to disclose their cancer history, which leaves them feeling insecure. We studied willingness to date a cancer survivor (CS) and desired moment of disclosure among two groups of healthy single people. **METHOD:** Members of two dating websites ($n = 288$, mean age 38) and first year university students ($n = 132$, mean age 19) participated in an online survey. They indicated their willingness to date a CS (yes, no) and the students were asked to indicate the best time point they would like to hear about a cancer history (before first date, on first date, after a few dates, when being exclusive). Logistic regression analysis was done with willingness as outcome and gender (women are found to be more critical when choosing a partner), age and sample (actively dating vs. students) as possible predictors. **RESULTS:** In the

total sample 78% ($n = 329$) would date a CS. The overall regression model was significant ($\chi^2 = 15.2$; $p = 0.002$, $df = 3$), and a main effect for group but not for age or gender was found. Students were 3 times more likely to want to date a cancer survivor than members of a dating website ($\text{Exp}(B) = 3.3$; $\text{Wald} = 11.5$; $p < 0.001$). Students indicated they wanted to hear about the cancer history after a few dates (82%), on the first date (13%), before the first date (4%) and 1% wanted to know when dating became exclusive. **CONCLUSIONS:** This is the first study to check whether single CSs romantic insecurities are valid. The vast majority of healthy singles would date someone who has had cancer, even though members of a dating website are less open for it than emerging adult students (irrespective of age). It might be that members are actively looking for a more steady partner and are therefore more critical to past health issues. For young adult CSs it is to be recommended to wait a while before disclosing their cancer history, as most young singles would like to hear this after a few dates. **RESEARCH IMPLICATIONS:** Researchers that focus on psychosocial late effects of cancer, such as self-esteem, body image and sexuality, should at best include opinions from healthy people in their studies to gain a complete view. To study willingness to date a CS more thoroughly, and to understand why some adult singles are less inclined to date a CS we recommend future experimental studies assessing reactions from healthy singles towards CSs or comparable healthy persons **CLINICAL IMPLICATIONS:** Health care workers, patient associations and other institutions who provide care or information for young cancer survivors can include practical advice on when to disclose a cancer history in romantic and social settings. They can also point out the fact that possible rejection for a date is not likely, especially when you are a young adult. **ACKNOWLEDGEMENT OF FUNDING:** M. A. Tuinman works on the basis of a grant from the Dutch Cancer Society, no RUG 2009-4442.

Z-4

Posttraumatic Growth in Parents of Childhood Cancer Survivors

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BACKGROUND: When a child is diagnosed with cancer, parents are confronted with the potential fatality of the disease. This traumatic stressor is often followed by additional stressful events during

treatment. However, once their child is cured many parents also reported experiencing psychological growth. We aimed to describe post-traumatic growth (PTG) in parents of adolescent childhood cancer survivors, compare it with PTG in existing samples experiencing stressful events, and describe characteristics of parents who report PTG. **METHOD:** We sent questionnaires to parents of childhood cancer survivors registered in the Swiss Childhood Cancer Registry (SCCR), aged 11–17 years at study and ≥ 5 years after diagnosis. We included the Post-Traumatic Growth Inventory assessing five areas of PTG (*Relating with others, New possibilities, Personal strength, Spirituality, Appreciation of life*) and an overall PTG score, and the Brief Illness-Perception-Questionnaire (Brief-IPQ). Information on diagnosis and treatment were available from the SCCR. We compared our data with a sample of students and hospital patients who experienced a stressful life event (Maercker, 2001). We used descriptive statistics, t-tests, Pearson correlations and linear regression models. **RESULTS:** Of 306 eligible parents, 188 (61%) responded (mean age: 46 years; $SD = 4.8$; mean time since diagnosis: 11.3 years, $SD = 2.5$). Most parents reported some PTG in one or more areas. Overall, they reported more PTG than the comparison sample (all $p < 0.001$). We found no association with sex, parents' age, migration background, divorce, time since diagnosis, or diagnosis. Higher educated parents reported less relating ($p = 0.021$). Unemployed participants reported more life-appreciation ($p = 0.016$), and parents of survivors older at diagnosis reported more relating ($p = 0.046$). Parents experiencing more control over late effects, believing in help of follow-up and still being emotionally affected reported more PTG. **CONCLUSIONS:** Our findings showed that most parents of children diagnosed with cancer also reported positive experiences in the long term. The cure of their child from a potentially fatal disease resulted in much higher PTG than found in other samples experiencing highly stressful events such as the death of a close relative or one's own disease. These positive outcomes were also associated with the perception of being in control over late sequelae and a generally positive attitude towards follow-up. **RESEARCH IMPLICATIONS:** Future research in the field of PTG in parents of children with a serious and potentially fatal disease could profit from more detailed qualitative assessment of the aspects parents feel were crucial for their later experience of growth. Knowing these aspects would help to organize parents' support in a more effective way. **CLINICAL IMPLICATIONS:** Our findings may help parents to keep an optimistic attitude during the difficult time of their child's cancer diagnosis and treatment. During treatment and early follow-up treating institutions might be able to facilitate PTG through the provision of low-thresh-

old services such as parent groups, but also through professional psychosocial support. **ACKNOWLEDGEMENT OF FUNDING:** The present study was funded by the Swiss National Science Foundation (Ambizione Fellowship” grant no. PZ00P3-121682 and PZ00P3-141722) granted to Gisela Michel.

Z-5

Unmet Needs: What do Hematological Cancer Survivors Want Help With?

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BACKGROUND: Determining programs and services that best address the needs of cancer survivors has been identified as an area of importance. Doing so assists health care providers, researchers and policy makers to deliver appropriate supportive care services to this population. Few methodologically rigorous studies have assessed the supportive care needs of population-based samples of hematological cancer survivors. The aim of the current study is to identify the most prevalent unmet needs of hematological cancer survivors. **METHOD:** Eligible survivors are adults aged 18 to 80 years at time of study and diagnosed with a hematological cancer and recruited from four Australian state population-based cancer registries. Survivors complete a self-report questionnaire, containing the Survivor Unmet Needs Survey (SUNS). The SUNS is an 89-item measure of cancer survivor unmet needs across five domains. The top ten “high/very high” unmet needs items endorsed by the highest percentage of survivors were identified. **RESULTS:** To date, SUNS data from 492 survivors from three registries are available. Preliminary analysis identified “*dealing with feeling tired*”, “*dealing with having a bad memory or lack of focus*” and “*dealing with changes in my physical ability*” as items endorsed by the highest percentage of survivors as a “high/very high” unmet need. Six of the top ten “high/very high” unmet needs were from the emotional health domain. **CONCLUSIONS:** High/very high unmet needs are reported by some hematological cancer survivors, particularly in relation to emotional issues. Effective intervention strategies that can assist hematological cancer survivors reduce emotional concerns, and cope with cancer-related fatigue should be available to such

survivors. **RESEARCH IMPLICATIONS:** Measures that identify the most common unmet needs among cancer survivors can be used to inform improvements to care. Future studies should strive to design and assess the effectiveness of interventions targeted towards addressing the most prevalent unmet needs experienced by hematological cancer survivors. **CLINICAL IMPLICATIONS:** Identifying the most prevalent unmet needs experienced by hematological cancer survivors provides an indication as to where supportive care could be improved and appropriate interventions developed. Health care providers should be aware that some hematological cancer survivors may require additional support to address their unmet needs, particularly in relation to their emotional needs. **ACKNOWLEDGEMENT OF FUNDING:** This research was co-funded by *beyondblue* and Cancer Australia (Application ID: 569290). Alix Hall was previously supported by an Australian Postgraduate Award and is currently supported by a 2012 Prime Minister’s Australia Asia Endeavour Postgraduate Award. Dr Flora Tzelepis is supported by a Leukaemia Foundation of Australia and Cure Cancer Australia Foundation Post-Doctoral Research Fellowship.

Symposium Abstracts

S1-1

Cancer Related Fatigue, Depression and Optimism: The Psycho-Immune Association

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BACKGROUND: Cancer-related fatigue (CRF) is a long-term and prevalent symptom among cancer survivors, but its psycho-biological antecedents and its relations to psycho-immune factors are not fully understood. The theoretical background and results of a prospective study that assessed the relation between age, inflammatory markers, CRF, depression and optimism will be presented. **METHOD:** Participants were 129 breast cancer patients, stages I-III. Participants were assessed 1 month after completion of chemotherapy (T1) and a subsample was assessed 6 months later (T2). At both time points, blood samples were assessed for pro-inflammatory cytokines (IL-6 and IL-8) in serum and participants answered questionnaires for fatigue (Fatigue Symptom Inventory), depression (Center of Epidemiological Studies- Depression) and optimism (Life

Orientation Test). In addition, disease-related variables were recorded from medical files. **RESULTS:** Participants reported low levels of depression, moderate levels of fatigue and high levels of optimism. Depressive symptoms increased after 6 months, levels of optimism decreased and levels of fatigue did not change between the two time points. At T1, depressive symptoms and optimism, but not CRF, were associated with higher levels of the serum pro-inflammatory cytokines, IL-6 and IL-8. Controlling for age, IL-6 at T1 predicted levels of CRF at T2 ($b = 0.55, p < 0.05$), but not of depressive symptoms. The later were predicted by optimism at T1 ($b = 0.47, p = 0.05$). **CONCLUSIONS:** Results suggest that high serum IL-6 soon after ending chemotherapy might be an antecedent of long term CRF. High levels of IL-6 were associated with high depressive symptoms and low optimism, that may together in the long-run accelerate CRF. **RESEARCH IMPLICATIONS:** Complex associations exist between optimism (a personal trait), depression (an emotional state), CRF and pro-inflammatory cytokines. These results suggest that depressive symptoms at the end of chemotherapy may increase inflammatory state that in the long run may accelerate CRF. However, these results are preliminary, and a larger sample size together with longer follow-up period would provide additional and better established results. **CLINICAL IMPLICATIONS:** These results add to the existing knowledge on risk factors for CRF. The study suggests that individuals who are low on optimism, or have high depressive symptoms, or have high level of serum IL-6 are at risk for developing CRF within 6 months post-treatment. Their identification at the start of chemotherapy will allow to provide them with psycho-social treatment and support that may prevent the long term CRF. **ACKNOWLEDGEMENT OF FUNDING:** The study is funded by the Israel Cancer Association and the Israel Science Foundation.

S1-2

Prostate Cancer Related Fatigue

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BACKGROUND: Cancer-related fatigue is highly prevalent, under-recognized, and under-treated. Fatigue is prevalent in men with prostate cancer with estimates of up to 67% of hospitalized and ambulatory prostate cancer patients. Fatigue may be related to the illness or to specific treatments given to these men: radiation, chemotherapy and hormonal treatment, and may be present even 2 years after treatment. Finding interventions that are safe and effective in this population is impor-

tant. **METHOD:** This talk will review the literature about incidence of fatigue in the prostate cancer population as well as various non-pharmacologic and pharmacologic interventions to address this important issue. **RESULTS:** Despite the high levels of fatigue in the prostate cancer population, there are few interventions targeted to relieve this debilitating symptom; these interventions, including a trial by the author testing methylphenidate in men with prostate cancer, show varying degrees of success and acceptance by men with prostate cancer. **CONCLUSIONS:** Fatigue is a significant issue in men with prostate cancer but may be inadequately identified and addressed by oncology teams. An understanding of the high prevalence of fatigue, its likely causes, and potential remedies, will encourage oncologists, nurses and psycho-oncologists to address this significant quality of life problem. **RESEARCH IMPLICATIONS:** More research trials are needed to find interventions that are better accepted, tolerated and successful in this mostly older male cancer population. **CLINICAL IMPLICATIONS:** Oncology teams need to think broadly about a fatigue-related differential diagnosis and treat fatigue with situation-appropriate interventions. Communication about the availability, effectiveness and safety of interventions for cancer-related fatigue must be fostered between patients and health care providers. **ACKNOWLEDGEMENT OF FUNDING:** Supported by a grant from the National Institutes of Health (grant #CA-85229) and support from the PepsiCo Foundation, and The Research and Therapeutics Program in Prostate Cancer of Memorial Sloan-Kettering Cancer Society.

S1-3

Cancer-Related Fatigue and Exercise Interventions: Physiological and Psychosocial Aspects

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BACKGROUND: Cancer-related fatigue (CRF) is a common, distressing symptom in cancer patients. However, knowledge about its pathophysiology, different manifestations, and effective treatment is insufficient. Exercise has been observed to decrease CRF, but it is unclear to what extent these effects were based on physical adaptations by exercise itself, or rather on psychosocial factors. Therefore, physiological and psychological factors contributing to CRF and the potential pathways of exercise on reducing CRF need further investigation. **METHOD:** Effects of existing exercise interven-

tions on CRF are reviewed and current knowledge on biopsychosocial pathways is summarized. Results from our BEST study, a randomized controlled intervention trial in 160 patients with breast cancer undergoing adjuvant radiotherapy, are presented. Using the baseline data, physiological and psychosocial determinants of CRF were investigated by multiple regression analyses. To determine the effect of the 12-week group-based progressive resistance training beyond potential psychosocial effects related to group support or increased attention by a trainer, the control group performed group-based muscle relaxation training. **RESULTS:** Several randomized controlled trials have shown beneficial effects of exercise training on CRF in breast cancer patients, however the programs were typically compared against 'usual care'. Discrimination between the physiological and the psychosocial effects of an exercise intervention is lacking but seems important, because CRF is frequently associated with psychological or depressive symptoms. Likewise, in our study determinants of physical fatigue were chemotherapy ($p < 0.001$) and increased BMI ($p < 0.01$) but also lack of social support ($p = 0.04$). Regarding affective fatigue, lack of social support was even the strongest determinant ($p < 0.0001$). Further results regarding the exercise effect beyond psychosocial effects will be presented. **CONCLUSIONS:** Physiological as well as psychosocial factors significantly contribute to CRF. Hereby, different etiologic pathways appear to exist with regard to the different dimensions of fatigue. Aerobic and resistance exercise interventions have shown beneficial effects on CRF, which appear to act in part via physiological pathways such as inflammation, but also via psychological pathways. **RESEARCH IMPLICATIONS:** Multiple etiological factors contribute to the development and persistence of CRF. Future research on CRF needs to distinguish the different types and aspects of fatigue to disentangle the heterogeneous biopsychosocial mechanisms of exercise interventions. **CLINICAL IMPLICATIONS:** To-date still little is known about the optimal treatment of CRF. Exercise interventions are a promising treatment approach. However, it needs to be clarified which type, intensity and mode of intervention is most effective for the different manifestations of CRF. A clearer distinction between physiological and psychosocial pathways seems to be important to provide concrete evidence-based recommendations with respect to CRF therapies. **ACKNOWLEDGEMENT OF FUNDING:** The BEST trial is funded by the Interdisciplinary Research Funding Program (intramural) of the National Center for Tumor Diseases (NCT), Heidelberg.

S1-4

Cognitive Behavior Therapy for Fatigue in Cancer Survivors: Recent Findings and Developments

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BACKGROUND: Fatigue is one of the most frequent reported symptom during cancer treatment. After cancer treatment is successfully finished a subgroup remain severely fatigued. Cognitive behavior therapy for fatigue proved to be an effective intervention for patients during and after cancer treatment. Experiencing fatigue often goes hand in hand with cognitive problems such as difficulty concentrating or forgetfulness, but does CBT for fatigue also reduces cognitive problems? These findings and new developments will be discussed here.

METHOD: The positive impact of CBT on fatigue severity and daily functioning in severely fatigued cancer survivors has been demonstrated in a previous randomized controlled trial. Secondary outcome measures were used to determine the impact on cognitive functioning. Ninety-eight participants were assessed at baseline, (CBT $n = 50$, waiting list (WL) $n = 48$) and 6 months later (T2). The CBT was aimed at six fatigue perpetuating factors; such as fear of disease recurrence, dysfunctional beliefs concerning fatigue, and sleep dysregulation. Two questionnaires were used to assess self-reported cognitive disabilities and two tests were used to assess neuropsychological performance.

RESULTS: MANCOVA analysis demonstrated a significant effect of condition (CBT vs. WL) for self-reported cognitive disability ($p = 0.040$). Patients in the CBT condition had significantly less concentration problems ($p = 0.029$) and better alertness behavior ($p = 0.015$) compared to patients in the WL condition. Results showed no significant effect for condition on neuropsychological test performance. At T2, fewer patients in the CBT group (48%) had clinically relevant concentration problems compared to the WL group (73%) (at baseline 78%). In the CBT group, changes in concentration problems or alertness behavior were significantly associated with a change in fatigue ($p = 0.020$), but not changed depressed mood or anxiety. **CONCLUSIONS:** The present study shows CBT for postcancer fatigue is not only effective in reducing fatigue in severely fatigued cancer survivors, but also leads to a significant reduction in self-reported

cognitive disability. After CBT for fatigue, cancer survivors not only reported less and clinically relevant concentration problems, but also less disability in other domains of cognitive functioning. CBT for postcancer fatigue did improve self-reported cognitive disability, but did not improve neuropsychological test performance. The reduction in perceived cognitive disability appeared to go hand-in-hand with reductions in fatigue and could not be explained by a reduction in depression or anxiety. **RESEARCH IMPLICATIONS:** CBT for postcancer fatigue is effective in reducing fatigue in severely fatigued cancer survivors, and currently shown it also leads to a significant reduction in self-reported cognitive disability. CBT for postcancer fatigue did not improve neuropsychological test performance. A plausible explanation for the lack of relationship between neuropsychological test performance and self-reported cognitive disability is that the two are largely independent phenomena. **CLINICAL IMPLICATIONS:** CBT for postcancer fatigue is effective in reducing fatigue and currently shown it also leads to a significant reduction in self-reported cognitive disability. Treatment capacity in the Netherlands is limited and therefore many fatigued cancer patients do not get treated. Not only disease free cancer survivors, but also palliative cancer patients could benefit from treatment. Web-based interventions are in potential possibilities to extend the treatment capacity. New developments will be presented here too. **ACKNOWLEDGEMENT OF FUNDING:** Funding for this study was provided by the Dutch Cancer Society.

S2-1

Is Implementing Screening for Distress an Efficient Means to Recruit Patients to a Psychosocial Intervention Trial?

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BACKGROUND: There is evidence that psychosocial interventions for cancer patients show greater benefit when evaluated with patients selected for heightened distress. The first aim of our study was to evaluate the use of routine screening as a means to recruit a consecutive sample of distressed cancer patients to a randomized trial on the effectiveness of problem solving therapy (PST). The second aim was to describe the investment of time and chal-

lenges of implementing screening. **METHOD:** Four treatment settings implemented routine screening for distress immediately after patients completed cancer treatment (T1) and 2 months later (T2), using the Hopkins Symptom Checklist-25 and one question about need for services. Patients screening positive (HSCL-25 \geq 39) were interviewed and, when expressing a need for services, offered the possibility to participate in the PST intervention. The time required for screening activities was recorded. **RESULTS:** 366 of 970 patients (37%) scored above the cut-off at T1 and 208 of 689 patients (30%) at T2. Regarding our first study aim, only 36 distressed patients consented to participate in the trial, representing 4% of all patients screened. Put differently, 27 patients were needed to be screened to recruit one new patient. Regarding our second aim, 16 hours of screening staff time were required per patient recruited. The main problems in relying on screening to recruit patients were nurses' time constraints, competition with other research, staff unwillingness to deliver the screening as standard care, and technical problems with touch screens. **CONCLUSIONS:** The implementation of routine screening did not prove an efficient means to obtain a sufficient sample of distressed patients. For the realisation of an adequately powered intervention trial, routine screening requires an integration of screening procedures in standard medical care and dedicated and funded research assistance at each site. However, still then, the question remains whether the number of eligible patients in need for services, as detected with screening, is worth the large investment of staff and time. **RESEARCH IMPLICATIONS:** Although a consecutive sampling design is a high standard in randomized controlled trials in order to strengthen the generalizability of the study, alternatives of recruiting patients to a clinical trial should be considered. **CLINICAL IMPLICATIONS:** Given the current lack of evidence for the efficiency of implementing screening in cancer care, it is recommended to look for alternative ways of identifying distressed cancer patients who may benefit from psychological interventions. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Dutch Cancer Society (KWF: RUG 2007-3805).

S2-2

Psychological Distress in Patients With Cancer: Is Screening the Effective Solution?

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BACKGROUND: The effectiveness of screening for psychological distress in patients with cancer is currently being debated. It is time to step back and consider optimal approaches towards the detection

and treatment of psychological distress. Purpose: (i) to summarize findings on the prevalence of psychological distress, and (ii) to describe two alternative approaches towards detecting and treating psychological distress in patients with cancer. METHOD: (i) Narrative review of recent findings on human resilience in the face of potentially traumatic events; a recent quantitative meta-analysis on mood disorders in patients with cancer; a recent review on predictors of psychological distress in patients with cancer; and narrative review of literature on the optimal organization of psychological care for patients with cancer. (ii) Development of two alternative approaches towards detecting and treating psychological distress in patients with cancer. RESULTS: Approximately two thirds of patients show strong resilience in the face of a cancer diagnosis and treatment, while approximately one third of patients show mood disorders. 'Screening for psychological distress' is one approach towards detecting and treating psychological distress: highly organized care is an essential requirement, including triage, enhanced care, and stepped care. 'Supporting resilience and case finding' is another approach: it relies on supporting resilience in patients likely to be resilient, and case finding in patients with risk factors for the development of mood disorders. CONCLUSIONS: Research on resilience provides a new perspective, which may help to solve the debate on detecting and treating psychological distress in patients with cancer. Because the majority of patients with cancer is resilient and may not need psychological treatment, screening is likely to be effective only if screening and treatment are highly organized. Alternatively, one could rely on supporting resilience; patients in need of psychological treatment can be identified based on an empirically derived set of risk factors and case finding. RESEARCH IMPLICATIONS: Models to deliver care based on the principle of 'screening for psychological distress' or on the principle of 'supporting resilience and case finding' need to be developed and evaluated. CLINICAL IMPLICATIONS: Effective models for the detection and treatment of psychological distress need to be developed, as elevated levels of psychological distress have been consistently observed in patients with cancer and clinicians tend to overlook the need of psychological support. ACKNOWLEDGEMENT OF FUNDING: Supported by a grant from Alpe d'Huzes/ Dutch Cancer Society (VU 2011-5279).

S2-3

Does Psychosocial Screening Improve Patients' Health Related Outcomes, Referral to Caregivers and Patient-Radiotherapist Communication?

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BACKGROUND: Despite the growing recognition of the need to identify psychosocial problems in cancer patients, large-scale, and well-designed trials establishing evidence of the effect of psychosocial screening are scarce. This study examined whether screening had positive short- and long-term effects on patients' health related outcomes, including psychosocial distress and quality of life. In addition, effects of screening on referral patterns to psychosocial caregivers and on patient-radiotherapist communication were evaluated. METHOD: A randomised controlled trial with cluster randomisation at the level of 14 radiotherapists was conducted at a radiation oncology department in The Netherlands. The radiotherapists rather than the 568 participating patients were randomly allocated to the experimental or the control group; the patients were linked to their radiotherapists. Patients were asked to complete questionnaires before and after the first consultation and at 3 and 12 months follow-up. The patients of the intervention group ($n = 268$) filled in the Screening Inventory of Psychosocial Problems (SIPP) twice during treatment; patients of the control groups ($n = 300$) received care as usual. RESULTS: No short- and long-term effects of the SIPP were found on patients' extent of psychosocial distress and quality of life. No general effect was observed for the proportion of referred patients, nor for improvement of patients-radiotherapist communication. Yet, patients of the intervention group were compared to the patients of the control group referred to social workers at an earlier stage ($p < 0.01$). Mean time to referral was on average three weeks shorter. Furthermore, post-hoc analyses revealed significant interactions of the intervention with early referral and improved quality of life and symptoms of anxiety on the short-term. CONCLUSIONS: The psychosocial screening procedure had less favourable effects on patients' health related outcomes, proportion of referred patients and patient-radiotherapist communication. Yet,

screening can be valuable in timely treatment of psychosocial problems. It seems that screening in patients on its own does not sufficiently improve patients' outcomes. It is not only about the use of a specific screening instrument but also about patient-radiotherapist communication and taking actions based on the results of a screening instrument. **RESEARCH IMPLICATIONS:** Efforts should be taken to meet the psychosocial needs of patients receiving radiotherapy. Research should focus not only on one single components of psychosocial care but also on the combination of components as identification of psychosocial needs, linking patients with caregivers, coordinating psychosocial and medical care, and follow-up and re-evaluation. Moreover, research could focus on the identification of conditions needed for successful implementation of screening procedures. **CLINICAL IMPLICATIONS:** Based on our own findings and experiences, we do not recommend the implementation of the screening procedure in its current form. Since effective delivery of psychosocial care to cancer patients seems to depend upon a combination of elements, appropriate psychosocial care should be ensured by: 1) designing a screening procedure which includes combination of components; 2) effective patient-radiotherapist communication; and 3) successful implementation of psychosocial care in radiation departments. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Dutch Cancer Society (KWF Kankerbestrijding, UM2008-4008).

S2-4

Implementation of Distress Screening by Cancer Clinicians During Routine Clinical Care. Part I. Focus on Efficiency and Acceptability of Frontline Screening

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BACKGROUND: There is considerable debate regarding screening for distress. The success of screening may depend on the environment and resources e.g it can be conducted by funded researchers or frontline clinicians. Clinicians must fit screening into routine care and must be clear about how to respond to results. Here we report on an implementation study of routine clinical screening using the distress thermometer (DT) and Emotion Thermometers (ET), together with problem list and action list. **METHOD:** We asked 50 clinicians (chemotherapy nurses and treatment radiographers/radiation technologists) to implement a screening programme for distress as part of routine care and record their intervention (action) and feedback (acceptability) after each clinical encounter. After 851 patient-clinician consultations where clinical staff considered applying screening, screening

was actually conducted on 539 occasions (60.2%) (518 with full data). As screening could be applied more than once, this comprised 379 patients with mixed cancers. 56% of patients scored positive on the ET and 39% scored positive on the DT and 72% reported an unmet problem list need. **RESULTS: Screening Yield (Efficiency)** Recognition of distress improved by 9% (overall accuracy 54.4% before screening 63.7% after screening) but screening was inconsistently implemented. Clinicians implemented screening during 60.2% of consultations. Of 518 screens, 291 were screen positive and 137 were helped or referred. Screening assisted clinicians in helping 47% of those with high distress versus 18% of those with low distress. **Screening Acceptability** Clinicians felt screening was useful during 43% of assessments, not useful in 35.9% of assessments and were unsure or neutral in 21.1%. Cancer clinicians felt screening was impractical in 37.5% (on 17.2% of occasions staff expressed no opinion). **CONCLUSIONS:** The yield from frontline screening is modest and the burden not insignificant. On multivariate analysis variables associated with high staff satisfaction with screening were receipt of prior training, talking with the patient about psychosocial issues and improved detection of psychological problems. A favourable perception of screening was also linked with a change in clinical opinion. **RESEARCH IMPLICATIONS:** The success of frontline screening may differ from researcher led screening. Future studies should further clarify the yield and burden of screening conducted by frontline clinicians. Key variables that may influence screening success include clinician involvement in screen design, training and support, simple interpretation of scores and resources to help manage screen positive cases. **CLINICAL IMPLICATIONS:** From this study we found that in order to help one cancer patient, four people must be screened and six patients must be considered for screening. Opinions of cancer clinicians regarding the merits of routine distress screening are mixed even in one centre. **ACKNOWLEDGEMENT OF FUNDING:** None.

S3-1

Cancer's Positive Flip Side: Posttraumatic Growth in Swiss Childhood Cancer Survivors

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BACKGROUND: Research on psychological aspects of childhood cancer has primarily focused

on negative consequences. However, the cancer experience can stimulate positive psychological changes such as Post-traumatic Growth (PTG). Until now, research on this topic is rather scarce. We aimed to expand the body of knowledge by 1) describing PTG in Swiss childhood cancer survivors compared to American survivors, and 2) determining which factors contribute to PTG. **METHOD:** Within the Swiss Childhood Cancer Survivor Study we sent two questionnaires (baseline & follow-up) to childhood cancer survivors registered in the Swiss Childhood Cancer Registry (SCCR), aged ≥ 18 years at study and ≥ 5 years after diagnosis. We included the Post-traumatic-Growth-Inventory (PTGI) assessing five areas of PTG (Relating with others, New possibilities, Personal strength, Spirituality, Appreciation of life) and a PTG score. Change in psychological distress was assessed with the Brief-Symptom-Inventory-18 at baseline and follow-up. Data on American survivors were taken from Zebrack et al., 2012, *Psycho-oncology*. We used t-tests and multivariable linear regression analyses. **RESULTS:** We included 306 survivors (mean age=24.2 years, range 18.2–37.4). Compared to American survivors, Swiss participants reported significantly higher PTG in New Possibilities (12.2 vs. 10.8; $p < 0.001$), and significantly lower PTG in Spirituality (2.3 vs. 5.3; $p < 0.001$), Appreciation of life (9.08 vs. 9.6; $p < 0.013$) and Personal strength (11.1 vs. 11.9; $p < 0.023$). PTG was significantly lower in survivors with longer time after diagnosis and in survivors who reported psychological distress at both measurements or whose distress had worsened. Further, PTG was higher in survivors diagnosed at an older age, and those with longer treatment duration. **CONCLUSIONS:** To our knowledge this is the first study exploring PTG in a large population of childhood cancer survivors in Europe. Despite the societal divergences between the two continents, we found no relevant differences in the experience of PTG between the two groups: Similar to American survivors, Swiss survivors experienced PTG to varying extent depending on the subscale under evaluation. We found that the age at diagnosis and time since diagnosis were the most important factors explaining PTG together with psychological distress. Interestingly, diagnosis and type of treatment were not associated. **RESEARCH IMPLICATIONS:** The construct PTG needs further evaluation, especially its interplay with other domains of psychological health. The lack of norm-populations makes interpretability difficult. Our results showed that age at and time elapsed since diagnosis play an important role in how the traumatic event is processed. The comparison between survivors of childhood, adolescent and adult cancer could help to understand the role of age at disease-onset in a person's ability to re-evaluate the experienced trauma. **CLINICAL IMPLICATIONS:** Making patients and their fam-

ilies aware that cancer does not only imply dealing with negative and burdensome events can remodel the features of the cancer's aftermath. Beside the prevention and the control of physical and psychological late-effects, the future follow-up care of these patients will help survivors translating their experience with the disease into something meaningful from which a new life-story can be created. **ACKNOWLEDGEMENT OF FUNDING:** The present study was funded by the Swiss National Science Foundation (Ambizione Fellowship" grant no. PZ00P3-121682 and PZ00P3-141722) granted to Gisela Michel.

S3-2

The Impact of Chronic Health Conditions on Neurocognitive and Psychological Functioning in Long-Term Survivors of Childhood Cancer

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BACKGROUND: Neurocognitive and psychological problems are associated with cranial radiation therapy (CRT) and intrathecal or intravenous methotrexate. However, long-term survivors of childhood cancer treated with thoracic radiation, anthracycline and other chemotherapy agents are also at risk for chronic health conditions, including cardiac and pulmonary morbidity. The purpose of this presentation is to discuss associations between cardiopulmonary health and neurocognitive and psychological outcomes in adult survivors of childhood cancer. **METHOD:** Association between chronic health conditions and neurocognitive and psychological status has been evaluated in two survivor samples. 62 survivors of childhood Hodgkin lymphoma (current age 42.2 years; 27.1 years from diagnosis) were randomly recruited from the St. Jude Lifetime Cohort Study (SJLIFE) for comprehensive neurocognitive testing, echocardiography and pulmonary function tests. Self-reported health outcomes were examined in adult survivors of childhood cancer ($n = 5,783$; 31.9 years old; 23.1 years from diagnosis) from the Childhood Cancer Survivor Study (CCSS). Correlations between medical tests were determined in the SJLIFE cohort, while the larger CCSS sample was used for path analysis modeling. **RESULTS:** Within the SJLIFE sample, over 20% of survivors had abnormal cardiac and/or pulmonary function tests. Compared to population norms, survivors had lower attention ($p = 0.004$), memory ($p = 0.001$) and executive function ($p = 0.007$), and more fatigue (0.001). Survivors with cardiac problems demonstrated impaired attention ($p = 0.001$), executive function ($p = 0.01$) and fatigue ($p = 0.007$); survivors with pulmonary problems demonstrated impaired attention ($p = 0.001$) and

processing speed ($p = 0.03$). Within the CCSS cohort, 26.1% of survivors reported cardiac and 17.7% pulmonary problems. Cognitive complaints included 22.7% attention and 13.7% memory problems. Significant symptoms of depression were reported by 11.3% and stress by 16.6%. Path analyses models will be presented. **CONCLUSIONS:** Results from these long-term follow-up studies indicate that a substantial proportion of adult survivors of childhood cancer are at risk for neurocognitive and emotional problems. This increased risk is not only associated with CRT and central nervous system (CNS) directed chemotherapy, but can also be associated with other cancer therapy. Specifically, in survivors who receive no CNS directed therapies, therapeutic strategies that increase risk for cardiac and/or pulmonary morbidity can negatively impact neurocognitive function. **RESEARCH IMPLICATIONS:** These findings support the need to expand the current research focus beyond the direct impact of CRT and antimetabolite chemotherapies on neurocognitive and emotional outcomes in long-term survivors. Cancer therapies that impact cardiac and pulmonary status should also be considered as predictors of functional outcomes. Furthermore, the interaction between CNS directed therapies (e.g. high dose intravenous methotrexate) and therapies that impact cardiac function (e.g. anthracyclines) should be examined. **CLINICAL IMPLICATIONS:** These findings have implications for clinical care. Currently, according to the Children's Oncology Group Long-Term Follow-up Guidelines, neurocognitive monitoring is recommended only for survivors exposed to CRT, intrathecal or high dose intravenous antimetabolite chemotherapy, or neurosurgery. Expanding these guidelines to include survivors at risk for cardiac and pulmonary toxicity is recommended. These findings also support the need for considering interventions to improve cardiac and pulmonary health as a means of preventing future neurocognitive problems. **ACKNOWLEDGEMENT OF FUNDING:** Cancer Center Support (CORE) grant CA21765 from the National Cancer Institute. National Cancer Institute grant CA174794 to KR Krull. National Cancer Institute U24 grant CA55727 to LL Robison. ALSAC.

S3-3

The Romanian Example of an Active Adolescent and Young Adult (AYA) Survivorship Community Impacting Clinical Practice With Current Patients and Learning about Advocacy as a Special Interest Group

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BACKGROUND: Providing structured patient support programs based on measurable interventions Monday to Sunday in nine of the main paediatric oncology treatment centres in Romania and Moldova, The Little People Association has the largest patient reach and probably most comprehensive insight into the needs of childhood and teenage cancer patients in these countries. In 2006, the Association founded the TEMERARII Club for cancer survivor teenagers and young adults and gained experience in nurturing an active community. **METHOD:** Based on the existing rapport forged with the association's specialists in the treatment centres, as well as with volunteer survivors providing one-on-one peer support, teenagers have a smooth transition to follow up focus groups and the survivorship community. Besides standard services such as counselling, peer support, career orientation, job shadowing opportunities, socialising events and age appropriate activities, the association facilitated the young people's efforts in *patient advocacy*. The general membership of 300 young people aged 14–29 meet at least twice a year to make decisions on strategies, community actions and fundraising. **RESULTS:** Through working groups, online forum and specialists' dialogue with survivors, their insight and experience helped shape the association's clinical work with current patients and its most successful community outreach program in 2013: reaching millions through 14 TV interviews, 4 radio interviews, half million unique visitors viewing the 28 online articles by 10 bloggers, with the participation of 55 schools, 3 kindergartens, employees of 40 companies, 4 shopping malls and 4536 people sending either a photo or video response while 380393 people following on Facebook every day within a 10 day period between the 4th and 15th of February 2013. **CONCLUSIONS:** Survivors are not only in need of a support group & specific services aimed at helping their successful readjustment to society, school and work after treatment. They also have tremendous potential and desire for sharing their experience and expertise as *Spoke Persons* of survivors, *Ambassadors* of successful cancer treatment, *Key Opinion Leaders*, *Peer Counsellors* to current patients, *Volunteers*, *Fundraisers* and *Policy Makers*. Their voices are more powerful in attracting the general public than that of any physicians or other specialists, effectively reaching out to the teenage and young adults demographic as well, raising awareness and encouraging early diagnosis and survival. **RESEARCH IMPLICATIONS:** While our organization has studied QoL in the Romanian AYA cancer survivors' population (Quality of Life in Cancer Survivors Questionnaire, Brief COPE Inventory, Medical Avoidance Survey, Health Value and Health Locus of Control) that has helped us identify specific interventions they needed, much of our work in helping them develop

advocacy skills was spontaneous and instinctive. While advocacy skills can be learned, research is needed to identify the *right* kind of support young survivors need. **CLINICAL IMPLICATIONS:** Our experience might be especially relevant for other Eastern European countries with poor health-care systems. In our less-than-ideal examples, in countries with no functional childhood cancer registry, no long term follow up policy for survivors and where young people have to fend for themselves, survivors, if appropriately helped and supported, can not only provide vital support to current patients but one day can contribute to policy change and cancer strategy on a national level. **ACKNOWLEDGEMENT OF FUNDING:** None.

S3-4

Peer Relationships and Emotional Adjustment in Pediatric Brain Tumor Survivors: Risk Associated With Intensive Treatment and Medical Late Effects

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BACKGROUND: Treatment advances have improved survival rates for children with brain tumors; however, many pediatric brain tumor survivors (PBTS) develop significant medical and neurocognitive late-effects that may lead to social difficulties, internalizing symptoms, and diminished quality. Our aim is to examine whether the number and type of documented late effects account for variability in social and emotional outcomes for PBTS and mediate the impact of tumor type, location, and treatment intensity. **METHOD:** PBTS, age 8–15 and 1–5 years post-treatment were identified at five oncology centers in the US and Canada. Data were collected for PBTS ($N = 208$, 53% male, $M_{age} = 11.4$) in classrooms and family homes. Classmates reported on peer relationships including social exclusion, victimization, acceptance, and friendship. Parents completed the Child Health Questionnaire and Child Behavior Checklist; PBTS completed the Wechsler Abbreviated Scales of Intelligence, Children's Depression Inventory, Self Perception Profile for Children, and the Loneliness and Social Dissatisfaction questionnaires. Diagnos-

tic/treatment information as well as information about specific medical late effects (e.g. sensory-motor deficits, neurologic sequelae, endocrine dysfunction) were abstracted from medical records. **RESULTS:** The number and types of late effects varied as a function of tumor and treatment characteristics. A higher number of medical late effects were associated with higher levels of exclusion, victimization, and poor peer-acceptance for PBTS. Physical quality of life, self-concept and loneliness, but not internalizing symptoms, varied as a function of total late effects. Expected and unexpected differences in social and emotional outcomes were identified for PBTS who did versus did not experience specific late effects. Late effects accounted, at least in part, for differences in outcomes linked to treatment with chemotherapy and radiation. **CONCLUSIONS:** The current results confirm expectations that PBTS are at risk for a variety of late effects and provides new evidence that these deficits place children at risk for victimization and exclusion by peers as well as increased loneliness and a more negative self-concept. Interestingly, direct associations between late effects and internalizing problems such as depressive symptoms were not identified in this cross-sectional study; however later consequences were not evaluated in this study. Previous research suggests that older adolescents and young adults who have been treated for childhood brain tumors may be at higher risk for emotional difficulties than other survivors. **RESEARCH IMPLICATIONS:** Further research is needed to understand factors that moderate links between physical late effects, peer interactions, social adjustment, and emotional well-being for PBTS. Developmental research suggests that victimization and exclusion do, in general, increase a child's risk for internalizing symptoms. Identification of coping or contextual resources (e.g. support from parents, teachers, or friends) that protect PBTS from the emotional consequences of victimization and exclusion could greatly inform clinical services. Longitudinal work is also needed. **CLINICAL IMPLICATIONS:** Awareness of the social risks associated with intensive treatment and particular late-effects should help families, healthcare providers, and school personnel target assistance to those PBTS that need assistance with peer relationships after treatment is completed. PBTS experiencing victimization and social exclusion may also be experiencing loneliness and negative self-perceptions and should receive supportive services. **ACKNOWLEDGEMENT OF FUNDING:** Funding for this work was provided by the American Cancer Society and the National Cancer Institute.

S4-1

Male Cancer and Sexual FunctionLuca Incrocci*Erasmus MC, Rotterdam, The Netherlands*

BACKGROUND: Despite the decrease in overall cancer incidence and mortality rates in developed countries, cancer remains a major public health problem. Biological factors such as anatomic alterations, physiological changes and secondary effects of medical intervention may preclude normal sexual functioning even when sex desire is intact. The purpose of this paper is to review male pelvic cancer and sexual functioning after treatment, with a particular focus on radiotherapy, and give suggestions for treatment. **METHOD:** A systematic review on PubMed through 2012 was performed using the following key words: male cancer, radiotherapy, radiation, sexual function(ing), erectile dysfunction, sexual dysfunction. **RESULTS:** Only full-text articles published in English were used to perform the present review. The numbers of patients reported, the methodology used and the level of evidence of the papers varied greatly. **CONCLUSIONS:** Sexual dysfunction after treatment of male cancer is often underestimated. **RESEARCH IMPLICATIONS:** Collecting data on an ongoing basis before and after treatment using validated questionnaires is mandatory, and control groups must be used. **CLINICAL IMPLICATIONS:** Patients need to be correctly informed on the pelvic anatomy, and on the possible sequelae of cancer treatment on their sexual life and functioning. Cancer clinics offer advantages if a specific consultation for sexual function in cancer patients is arranged. **ACKNOWLEDGEMENT OF FUNDING:** None.

S4-2

Sexual Functioning, Quality of Sexual Life, and the Sexual Healthcare Needs After Colorectal CancerBrenda Den Oudsten^{1,2}, Marjan Traa¹, Jan Anne Roukema^{1,2}, Jolanda De Vries^{1,2}¹*Tilburg University, Tilburg, The Netherlands,*²*St. Elisabeth Hospital, Tilburg, The Netherlands*

BACKGROUND: Cancer diagnosis and its treatment may cause significant changes in couple's sexual functioning. The aim of this presentation will be to examine sexual functioning, quality of sexual life, and the sexual healthcare needs after colorectal cancer diagnosis. **METHOD:** Patients ($n = 83$) diagnosed with colorectal cancer and their partners ($n = 76$) were recruited from several Dutch hospitals: St. Elisabeth hospital (Tilburg), TweeSteden Hospital (Tilburg/Waalwijk), Catharina Hospital (Eindhoven), Jeroen Bosch Hospital ('s Hertogenbosch), Amphia Hospital (Breda), and Maxima Medical Centre (Eindhoven/ Veldhoven). Prior to surgery (Time-0) and 3 months after surgery

(Time-1) men completed the International Index of Erectile Functioning (IIEF), while women completed the Female Sexual Function Index (FSFI). Partnered participants also completed the Golombok-Rust Inventory of Sexual Satisfaction (GRISS) and the Maudsley Marital Questionnaire (MMQ). The mean scores were compared with mean norm scores derived from the questionnaire manuals. **RESULTS:** The participants had a mean age of 64.6 (SD = 8.9). Irrespective of being a patient or partner, men reported more Impotence, Avoidance, Dissatisfaction, Infrequency of Intercourse, a higher total GRISS score, and more General Life Maladjustment at Time-1 (p 's < 0.05), while women reported more Anorgasmia, Dissatisfaction, Sexual Maladjustment and General Life Maladjustment at Time-1 (p 's < 0.05). All four groups reported a lower sexual functioning and a lower quality of sexual life compared with norm populations at both Time-0 and Time-1. **CONCLUSIONS:** Compared with preoperative scores, sexual functioning and quality of sexual life was deteriorated at 3 months after surgery. However, compared with norm scores, patients' and partners' preoperative scores suggest that sexual functioning is already impaired before cancer treatment. **RESEARCH IMPLICATIONS:** It is important to distinguish sexual dysfunction from quality of sexual life, since sexual dysfunction does not necessarily imply that quality of sexual life is hampered and vice versa. **CLINICAL IMPLICATIONS:** Although sexual functioning is a taboo for many individuals, sexual functioning is an important topic for couples, therefore it should be discussed when diagnosed/treated for cancer. **ACKNOWLEDGEMENT OF FUNDING:** The present study is supported by the Dutch Cancer Society (UVT 2009-4495) to dr. B.L. den Oudsten, prof. dr. J.A. Roukema en prof. dr. J. de Vries.

S4-3

Promoting Women's Sexual Recovery After Cancer TreatmentIsabel White^{1,2}¹*The Royal Marsden NHS Foundation Trust, London, UK,* ²*Florence Nightingale School of Nursing & Midwifery, Kings College London, London, UK*

BACKGROUND: This paper reviews the sexual consequences of treatment for women's cancers, with a particular focus on the common treatment-induced sexual difficulties of loss of desire and sexual pain. The evidence for integrated clinical assessment and bio-psychosocial management of the physical, psychological and relationship impacts of cancer and its treatment on women and their partners is explored. This includes a focus on vaginal health, premature menopause, psycho-educational,

psychosexual and psychological interventions. **METHOD:** A selective literature review using PubMed and Psych Info (2012) was performed using the key words: gynaecological / breast cancer, female sexual dysfunction, sexual function(ing), biomedical, non-pharmacological, psychological /psychosexual interventions. **RESULTS:** Full-text research and systematic review papers published in English language were included. Cochrane reviews (Miles et al, 2007; Flynn et al, 2009; Miles & Johnson, 2010) confirmed the paucity of evidence-based biomedical and psychosexual interventions for the management of common sexual difficulties associated with women's cancer and its treatment. A more recent review of psychological interventions for the sexual sequelae of cancer (Brotto et al, 2010) identified 27 empirical studies, 19 of which offered level 1b evidence in moderate support of the effectiveness and feasibility of such interventions for sexual dysfunction after cancer. **CONCLUSIONS:** Traditional models of oncology follow-up that focus predominantly on disease surveillance may result in the neglect of psychosocial and sexual aspects of recovery and rehabilitation. Achieving appropriate cultural and organisational change in oncology services to incorporate sexual rehabilitation elements of survivorship is undoubtedly challenging. However, developing new models of aftercare that are characterised by tailored support and personalised care pathways based on an individual woman's health status, treatment consequences, relationship and life priorities may lead to improved sexual rehabilitation for all women after cancer. **RESEARCH IMPLICATIONS:** The paucity of high quality intervention research addressing treatment-induced sexual difficulties in women perpetuates a significant gender imbalance in the evidence-base for sexual morbidity within oncology and undermines subsequent service provision. The research agenda for female sexual rehabilitation needs to move beyond narrow pharmacological strategies based on limited (male) dysfunction models to include high quality non-pharmacological, complex intervention studies. **CLINICAL IMPLICATIONS:** The provision of routine clinical assessment and management strategies for common treatment-induced female sexual difficulties should be a service development goal for cancer centres. Limited access to sex therapy and integrated biomedical/psychological interventions in publicly funded cancer services may be addressed through the development of managed pathways that engage sexual health and psychological services both within and beyond oncology. **ACKNOWLEDGEMENT OF FUNDING:** IW's current post is funded by The Royal Marsden Charity. She is also in receipt of a post-doctoral fellowship grant from Remedi and Macmillan Cancer Support.

S4-4

Sexual Issues Among Cervical Cancer Survivors: How can we Help Women Seek Help?

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BACKGROUND: Many women treated for cervical cancer (CC) report sexual complaints and sexual distress. It is important to assess survivors' and their partners' sexual healthcare needs. A study was conducted aiming to 1) investigate the prevalence of psychosexual healthcare needs and help seeking behaviour among CC survivors; 2) identify demographic and psycho-social variables that facilitate or hamper help seeking; and 3) gain insight into survivors' and partners' experiences and preferences with respect to psychosexual healthcare services. **METHOD:** A multicentre cross-sectional questionnaire study was conducted in a cohort of women ($n = 343$) with a history of CC treated between 2000–2010, and their partners ($n = 154$). Questions concerned professional healthcare needs, past help seeking behaviour, future help seeking intentions, and women's and partners' preferences regarding sexual healthcare services. Furthermore, the questionnaire assessed psycho-social and demographic variables. The data were analysed with multivariate linear regression analyses with future help seeking intention as outcome variable. Additionally, qualitative data were gathered from a subsample, consisting of 26 women and 9 partners, who were interviewed subsequently to the questionnaire study. **RESULTS:** Fifty-one percent of the women reported a need for information and/or professional help. Only 35% of these women had initiated a conversation with a professional about sexuality. Women considering their sexual functioning important for their quality of life had higher intentions to seek help. Furthermore, partnered women who were embarrassed to discuss sexual functioning with a professional or thinking professionals do not sufficiently provide time to discuss sexual functioning had lower help seeking intentions. Single women believing that professionals do not offer enough privacy were less likely to seek help. Most participants would appreciate receiving information about sexuality and CC. **CONCLUSIONS:** Many CC survivors have psychosexual healthcare needs. A large majority of the CC survivors and their partners would appreciate receiving more information about sexual functioning after CC. Nevertheless, few women have actively sought

professional help. Barriers for women to seek help are embarrassment, and perceiving that professionals do not sufficiently provide time and privacy to discuss sexual matters. Women and their partners should be better facilitated in accessing psychosexual healthcare services. **RESEARCH IMPLICATIONS:** This study has provided insight in CC survivors' and their partners' attitudes and preferences regarding the provision of psychosexual healthcare services. An important next step would be to investigate viewpoints from healthcare professionals about how the provision of psychosexual healthcare for CC survivors can be improved. Combined, the perspectives from CC survivors, their partners, and professionals could inform the development of future interventions. **CLINICAL IMPLICATIONS:** Healthcare professionals need to be aware that many women (regardless of their relational status or age) have psychosexual healthcare needs. Since CC survivors are often too embarrassed to initiate conversations about sexual functioning themselves, professionals are recommended to start such conversations and reassure women that experiencing sexual dysfunctions and distress is not abnormal. Furthermore, it is advised that professionals offer their patients more time and privacy to discuss sexual concerns. **ACKNOWLEDGEMENT OF FUNDING:** This study was financed by a KWF Kankerbestrijding & Stichting Alpe d'Huzes grant (UL 2010-4760).

S5-1

Coping With Cancer: An Interactive Approach

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BACKGROUND: The knowledge on how patients cope with cancer has increased within the last three decades. A lot of psychological theories have been developed to understand and explain patients' behavior, emotions and cognitions. Until now there is no gold standard how to assess coping. **METHOD:** Against the background of a clinical case a reconstruction of coping as an interactive concept is discussed. Beside personal factors like personality, stress appraisal etc. as well as social factors like social support, social network etc. the cultural background of the patient is influencing the individual way of coping. Moreover, coping must be recognized from a systemic perspective as an interaction between the individual and his personal and professional care givers. **RESULTS:** Although coping research has contributed to a better understanding of the patients coping processes it has failed to develop a comprehensive model explaining the complexity of the coping process. Based on a single case ways how to assess coping and conclusions for interventions are presented. **CONCLUSIONS:** Recent theoretical approaches

such as the theory of social cognitive transition or patient competence are integrated to inspire the clinical discussion. **ACKNOWLEDGEMENT OF FUNDING:** None.

S5-2

Coping and Distress Among Informal Caregivers to Older Cancer Patients: Does Age Matter?

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BACKGROUND: The population in the Western world is aging while cancer survival rates are increasing. More and more older patients with cancer will be taken care of by informal family caregivers. The current study describes relation between psychological distress, social support, coping abilities and age among partners who are caregivers to older cancer patients (60+ years old). Data is compared to a control group of spouses of people of similar age not suffering from life-threatening illness. **METHOD:** 216 partners who are primary caregivers of cancer patients aged 60+ were compared to 76 partners of healthy people aged 60+ who were never diagnosed with any terminal illness. Each group was divided into sub-groups of caregivers to older (70+) and younger (60–70) spouses. Participants completed self-reporting measures on psychological distress (BSI: Brief Symptoms Inventory), coping ability (Brief Cope), and social support (CPASS: Cancer Perceived Agents). **RESULTS:** Caregivers to cancer patients reported high levels of distress, low levels of social support and low levels of coping abilities which are negatively correlated to distress (like: self distraction and active coping) in comparison to participants of the control group. Increased patient age was found to accentuate these processes. Within the research group, coping and patient's age were found to contribute significantly to the prediction of the caregiver's distress level. Caregiver's age did not contribute significantly to the prediction of the caregiver's level of distress beyond patient's age. **CONCLUSIONS:** Age and the progression of cancer as a chronic illness present the physician with a reality in which the focus of care should be on the dyad (the patient and their caregiver), with high priority given to the informal caregiver or partner of older patients. **RESEARCH IMPLICATIONS:** Longitudinal research of old age cancer patients and their informal caregiver is needed in order to understand more fully reaction of patients and caregivers to cancer at old age. More research of adaptive and non adaptive coping is needed in order to develop a comprehensive model of coping of both caregiver

and patient. **CLINICAL IMPLICATIONS:** Age and the progression of cancer as a chronic illness present the physician with a reality in which the focus of care should be on the dyad described, with high priorities towards the informal caregiver or the spouse. The issues of relation between different coping processes among informal caregivers at different ages are discussed in relation to clinical case report where each of the discussed women fulfilled a role of caregiver to the other. **ACKNOWLEDGEMENT OF FUNDING:** The present study was supported by a grant from the Israeli Cancer Association #8006103/9.

S5-3

Dealing and Responding Appropriately to Patients With Potential Dysfunctional Beliefs in a Multicultural Context: A Challenge for Psycho-Oncology

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BACKGROUND: Lea Baidar case presentation, about a 58 years old woman with a stage II colon cancer with liver metastases and, about the reactions of her family and significant others, will be an opportunity to discuss - beside theoretical hypothesis - appropriate communication and psychological interventions in a multicultural context. **METHOD:** After recalling theoretical frameworks needed to understand the dynamics underlying the clinical problems presented (i.e. uncertainty, beliefs, distress, defensive idealization, splitting, collective coping, caregiving), suggestions about useful approaches to deal with potential dysfunctional beliefs will be presented: on one hand culturally adjusted communication with patient, family and significant others, and on the other hand culturally adjusted psychological interventions. **RESULTS:** This presentation will allow an in depth discussion about the transfer to clinical settings of theories, concepts and results of empirical studies on communication and psychological interventions in a multicultural context. **CONCLUSIONS:** Case presentation during a workshop at an international meeting is an opportunity to discuss difficulties to implement in a multicultural clinical setting, recommendations derived from pertinent research and relevant literature. **ACKNOWLEDGEMENT OF FUNDING:** None.

S5-4

Communication in Couples Facing Cancer: Self-Disclosure and Responsiveness

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BACKGROUND: Communication in couples facing cancer is thought to be crucial for their emotional wellbeing over time. We will present data on emotional self-disclosure and partner responsiveness when talking about cancer in relation to psychological symptoms. Questions addressed include: "Is disclosure helpful in alleviating depressive symptoms"; "Does responsive behavior of the partner reduce these symptoms"; "Is talking more helpful for some than others?" **METHOD:** Sixty-four patients with colorectal cancer and their partners were asked to engage in a videotaped cancer-related conversation (approximately 5 months post-diagnosis). Each partner's self-disclosures of thoughts and emotions were coded. Also coded was the responsive behavior of the healthy partner (i.e. understanding, validating and caring). Questionnaires including need for emotional expression and depressive symptoms were administered 3 and 9 months post-diagnosis. Regression and multi-level analyses were performed to analyze the data. **RESULTS:** Levels of depressive symptoms in both partners declined over time. However, self-disclosure was not found to be associated with lower levels of symptoms at follow-up. Interestingly, decreases in depressive symptoms over time were found to be least prominent in couples (i.e. in both partners) in which the partner disclosed a lot whereas the patient disclosed little. Partner responsiveness predicted lower levels of depressive symptoms in patients, but only if they had a relatively high need for emotional expression. Especially partners' understanding and validation were found to be important in explaining patients' depressive symptoms. **CONCLUSIONS:** Self-disclosure to one's intimate partner does not appear to be beneficial in reducing distress. Partners' self-disclosure toward patients who disclose little even appears to be harmful, both for patients and their partners. However, over time, patients with a relatively high need for emotional expression may be adversely affected by a lack of partner responsiveness, and more so than patients with a relatively low need for emotional expression. These findings highlight the importance of the relational context in improving adaptation to cancer taking in to account individual differences. **RESEARCH IMPLICATIONS:** In line with experimental research in healthy people, no support was found for the idea that self-disclosure is helping to reduce distress in couples facing cancer. Nevertheless, disclosure may have other functions such as strength-

ening the intimate relationship and inducing intimacy. Future research is needed to examine this further. **CLINICAL IMPLICATIONS:** If there is a mismatch in the need for self-disclosure within couples, partners with a strong need to talk about their concerns may be recommended to confide in someone else in their social network or to consult a health care professional. In counseling couples facing cancer, therapists should also take into account individual differences in need to express emotions. **ACKNOWLEDGEMENT OF FUNDING:** This research has been supported by a grant from the Dutch Cancer Society, no RUG 2002-2581.

S6-1

Adapting Evidence-Based Therapy to the Computer Screen in Adolescent and Young Adult Oncology: A Randomised Controlled Trial Evaluating the 'Recapture Life' Program

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BACKGROUND: For adolescents and young adults (AYAs) with cancer, the time following cancer treatment completion can be a time of psychological vulnerability as they attempt to return to 'normal'. Assisting AYAs to develop helpful coping skills at this time of transition may prevent later distress. Our team developed an online intervention named 'ReCaPTure LiFe' (Resilience and Coping skills for young People To Live well Following Cancer) for AYAs aged 15–25 years in the first year post-treatment. **METHOD:** Recapture Life is a manualised program that promotes resilience using evidence-based cognitive behavioural therapy (CBT) techniques tailored to the AYA experience. Recapture Life involves six, weekly, small-group sessions, delivered online by a psychologist using innovative video-conferencing technology. This talk will report on early data from the national, multisite randomised controlled trial (RCT) comparing Recapture Life to both a non-directive online peer-support control, and a three-month waitlist. To date, 12 AYAs have completed the program (response rate: 51%). Further groups are underway. All participants have completed every session, and AYAs across three states in Australia have successfully connected from multiple settings. **RESULTS:** Qualitative feedback from AYA participants was very positive, supporting the acceptability of Recapture Life's online format and skills-

based content. Early quality of life data from the Impact of Cancer Scale indicated considerable existential concerns regarding their cancer diagnosis, and survival (5-point scale, $M = 3.8$, $SD = 1.5$, and $M = 3.5$, $SD = 1.2$, respectively). Additionally, Centrality of Events Scale data indicated that the cancer experience was highly central to AYAs' life stories, and a source of significant concern about the future (5-point scale, $M = 4.3$, $SD = 0.8$). Common reasons for not participating included being 'too busy' or 'not wanting to talk about the cancer experience' at that time. **CONCLUSIONS:** A cancer experience continues to impact AYAs' quality of life and life perspective in the first year post-treatment. Recapture Life is an evidence-based program with the potential to assist AYAs to learn adaptive coping skills to manage their concerns around cancer. Early qualitative and quantitative data indicate that Recapture Life is acceptable to some AYAs who have recently finished cancer treatment, and is feasible to deliver to AYAs living hundreds of kilometers apart, across different time zones, across several states in Australia. This program has the potential to bridge both the physical and psychological isolation that AYAs report experiencing post-treatment. **RESEARCH IMPLICATIONS:** This trial's results will inform future models of post-treatment psychosocial care for AYAs. Through its gold-standard dismantling design, this RCT will address the question as to the relative benefits of teaching adaptive CBT coping skills versus group-based peer-support. The relative cost-consequence impact of the two online programs will also be assessed. In-depth interviews will be conducted with both participating and non-participating AYAs to explore factors that may impact acceptability and uptake of such online programs. **CLINICAL IMPLICATIONS:** As the AYA years are the peak time of onset for a range of mental disorders, the manner in which AYAs adjust to life stressors during this time may have significant implications for their long-term quality of life. Recapture Life is a selective preventative program that intervenes at the recognised crisis of cancer treatment completion. Recapture Life has the potential to extend the reach of evidence-based psychosocial support to AYAs through innovative online methods. **ACKNOWLEDGEMENT OF FUNDING:** Ms. Sansom-Daly is supported by a Leukaemia Foundation of Australia PhD scholarship. The Recapture Life trial is co-funded by a project grant from Cancer Australia/Beyond Blue.

S6-2

'Cope, Adapt, Survive': Trialling an Online Psychological Intervention for Parents After Their Child's Cancer Treatment

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BACKGROUND: A child's cancer diagnosis severely challenges parents' coping skills and can reduce quality of life (QoL) for all family members. Despite documented need, few equitable and cost-effective psychological interventions are available for parents of young survivors. Our team developed an online group intervention- 'Cascade' (Cope, Adapt, Survive: life after CAncer), which aims to improve QoL and reduce distress and fear of cancer recurrence (FCR) in parents of children aged <15 years. **METHOD:** In this trial, Cascade was delivered by a psychologist in three weekly, 2 hour videoconferencing modules, with 3–5 parents/carers per group. Anchored in skills-based cognitive-behavioural therapy (CBT), each module is tailored to parents' recognised concerns in the post-treatment period. Parents were randomised to Cascade or to a 6-month waitlist, and completed three questionnaires (at baseline, 2 weeks and 6 months post-intervention). To date, 19 parents have completed the program (23 opted in; response rate: 51%). Further groups are underway. Ninety-percent of participants have completed every Cascade module, and parents have successfully connected from multiple settings. **RESULTS:** Early data appear to confirm Cascade's potential preventative role, with waitlisted parents' QoL worsening after cancer treatment completion [QoL scores at time 1: 25.0 (SD 3.7), at time 2: 24.4 (4.1)], while Cascade parents either improved, or avoided decline, over the same time period [time 1: 22.8 (4.1), at time 2: 23.3 (2.7)]. Cascade participants also reported that: the 'online format was easy to use' (100% 'agreed'), 'module topics were relevant to me' (89%), 'I learnt new skills' (89%), 'I enjoyed talking to other parents' (100%) and 'the homework helped put my skills into practice' (89%). **CONCLUSIONS:** Cascade is acceptable to parents of children recovering from cancer and is feasible to deliver. Cascade has the potential to yield positive outcomes for parents, particularly with regard to QoL in the first months after cancer treatment completion. This project directly addresses the inequity in psychological support received by parents after their child's cancer treatment: an acute concern for families residing in

rural and remote communities. By combining proven CBT techniques with innovative technology, Cascade is an urgently needed next step to improve mental health outcomes in a vulnerable population. **RESEARCH IMPLICATIONS:** The results presented here have enabled the development of a multicentre, Phase II randomised controlled trial which will be implemented Australia-wide in 2014/15. Participants will include 120 parents/carers, randomised to three arms: Cascade, non-directive online peer support, or a waitlist control. The inclusion of a peer-support group as a control complies with gold standards and will ensure rigorous assessment of the CBT features unique to Cascade. The trial will also incorporate rigorous cost consequence analyses. **CLINICAL IMPLICATIONS:** Cascade is a selective preventative program. Parents who do not adjust well to a traumatic event (e.g. cancer) parent their children less effectively. The 'coming off treatment' phase is a time of psychological vulnerability for parents and a window of opportunity to prevent ongoing mental health problems and family challenges. We have shown that parents are receptive to implementing CBT skills into their lives, and are willing to receive psychological support delivered online. **ACKNOWLEDGEMENT OF FUNDING:** Dr Wakefield is supported by is supported by an Early Career Development Fellowship Grant from the Cancer Institute of NSW (11/ECF/3-43). The Behavioural Sciences Unit is supported by the Kids with Cancer Foundation.

S6-3

An eHealth Program for Parents of Pediatric Hematopoietic Stem Cell Transplant (HSCT) Recipients Enhances Parents' Emotional Functioning With Continued Use: Results of the HSCT-Comprehensive Health Enhancement Support System (CHESS™) Study

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BACKGROUND: Parent caregivers are essential in the care of pediatric HSCT recipients. However, this role is demanding and associated with emotional distress. We created HSCT-CHESSTM, a web-based health information and support program for parents, and tested it in a 6-month randomized controlled trial (RCT) against usual care at six US transplant centers. The HSCT-CHESSTM program included integrated information about HSCT, online and community-based resources, and psychosocial support (e.g. online discussion group, "Ask the Expert"). **METHOD:** Participating parents and children completed health-related quality of life assessments (Child Health Ratings Inventories, CHRIs) prior to initiation of conditioning regimen and at day 45, and at 3, 6, and 12 months post HSCT; parents also completed social support, family coping, parent activation, and information-seeking measures. Randomization, stratified by transplant center and child age, was conducted centrally after the completion of baseline measures. Primary outcome was parent emotional functioning (EF) from the parent CHRIs at 6 months, analyzed by intention-to-treat (ITT). Per protocol (PP) analyses were defined by actual usage (never ($n = 19$), to 3 months ($n = 39$), to 6 months ($n = 40$)). **RESULTS:** From 2008–2010 90% of the 554 HSCT recipients were successfully screened before the start of the preparative regimen and 201 parent-child dyads were enrolled and randomized: 102 to the intervention arm and 99 to the control arm. 82% were mothers and 70% were non-Hispanic Caucasian. Although a formal training guide was developed for study staff, training fidelity varied by site, which was associated with subsequent use. The intervention effect was not significant in the main ITT analysis ($\beta = 0.8$, $p = 0.71$). However, 6-month users had a 6.3-point higher EF score (effect size, 0.32) than never users ($p = 0.01$) in the PP analysis. **CONCLUSIONS:** This study is one of the first of its kind to utilize a web-based intervention strategy with parent caregivers. The study allowed for unguided exploration of the website without booster sessions or prompting. Our findings highlight the importance of sustained use of the intervention, as evidenced by the failure to demonstrate an intervention effect among those with little or no usage. Ongoing analyses are underway to characterize the types of services (i.e. information, support, tools) accessed over time, given the positive effect for active users. **RESEARCH IMPLICATIONS:** This research contributes to understanding the potential efficacy and methods needed to optimize eHealth interventions for parents. Periodic check-ins with users could enhance website utilization, and thereby efficacy. Site variability in training fidelity highlights the importance of continued monitoring and possible retraining of both study staff and participants. To account for inherent variability in usual care by study sites, future comparisons of guided

versus unguided use of the website may be needed. **CLINICAL IMPLICATIONS:** HSCT clinicians must be aware of the depth and duration of parent emotional distress, given the pivotal role parents play in care. Sustained use of HSCT-CHESSTM appears to be promising in mitigating distress. In future applications, web-based modalities may be used to monitor actual activities/adherence, which could result in improved clinical outcomes. Better understanding is needed as to why some parents did not utilize this type of support and develop alternative strategies to reach them. **ACKNOWLEDGEMENT OF FUNDING:** Funding for this study was provided by the National Cancer Institute (5R01 CA119196). Database support was provided by the Tufts Clinical and Translational Science Institute, which is supported by the National Center for Research Resources (UL1 RR025752) and the National Center for Advancing Translational Sciences, National Institutes of Health (UL1 TR000073). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

S6-4

Implementation of Electronic Patient Reported Outcomes in Pediatric Clinical Practice: The KLIK Experience

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BACKGROUND: The use of Patient Reported Outcomes (PROs) in pediatric practice is effective in increasing discussion about emotional and psychosocial functioning. Therefore, we are implementing KLIK: a web-based program using electronic PROs (ePROs) to systemically monitor and discuss Health Related Quality of Life (HRQOL) in clinical practice. The implementation is carried out following the eight methodological recommendations composed by the International Society for Quality of Life (ISOQOL). **METHOD:** (1) Purpose of KLIK is to monitor HRQOL and screen children with chronic illnesses (including cancer) over time. (2) Children (self report 8–18 years) and/or parents (parent-report 0–7 years) complete questionnaires. (3) Generic, disease-specific HRQOL questionnaires and psychosocial questionnaires are used. (4) Questionnaires are administered online. (5) Prior to consultations, pediatricians can retrieve ePROs (both literal and graphic presentation) from www.hetklikt.nu and discuss with patients. (6) Tools to aid the interpretation are available online. (7) All members of the

multidisciplinary team follow training in using the website and adequately responding to the patient's PROfile. (8) We continue to improve KLIK. RESULTS: Since the start in 2011, 13 patient-groups (e.g. oncology, nephrology, cleft-lip), 113 professionals (pediatricians/pediatric oncologists, psychologists, social workers) from five centers and over 1100 patients are using KLIK. A KLIK-team (with pediatric psychologists) is available to support in sending out reminders, supporting the multidisciplinary teams and supporting patients completing the questionnaires at the outpatient clinic with iPads. Every multidisciplinary team decides which questionnaires are used, how often (e.g. every consultation, every 3 months or every year) and how screening is communicated. Implementation in pediatric oncology has started with patients after diagnosis (starting at 1 month and continuing every 3 months). CONCLUSIONS: The implementation of KLIK appears to be feasible. Pediatricians and other members of the multidisciplinary team recognize the importance and usefulness of the system. Many report positive encounters about communication and topics they never knew were relevant for their patients or parents. Many pediatricians are interested and we are therefore facilitating KLIK for different patient-groups and other hospitals as well. In the future, new questionnaires (e.g. PROMIS) or integration in the electronic patient chart would be complimentary. RESEARCH IMPLICATIONS: The KLIK website offers a unique opportunity to longitudinally collect data from children and adolescents with different chronic illnesses and their parents on HRQOL, psychosocial and physical functioning. Prior to completing the first online KLIK questionnaire, parents and children (≥ 12 years) are asked for their permission to use their data for scientific research purposes. The database can easily be imported into SPSS to facilitate statistical analysis. CLINICAL IMPLICATIONS: The KLIK website makes it possible to monitor HRQOL and psychosocial functioning of children with chronic diseases, for example cancer. This is of utmost importance, because children and parents face many challenges in adjusting to the illness, which should be taken into account. Early recognition of problems can help to provide tailored interventions. The KLIK website is a valid instrument which can improve communication between pediatric oncologists and pediatric cancer patients and survivors. ACKNOWLEDGEMENT OF FUNDING: The KLIK portal has been funded by the Dutch Cancer Society among others (see www.hetklikt.nu).

S7-1

Mindfulness-Based Cognitive Therapy Reduces Chronic Cancer Related Fatigue

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BACKGROUND: About one third of cancer survivors suffer from severe chronic fatigue, which has a considerable impact on patient's quality of life. Mindfulness-based cognitive therapy (MBCT) can help patients becoming aware of their potentially maladaptive automatic responses (feelings, thoughts and behaviours) in reaction to fatigue and help patients to develop better coping strategies. Aim of this study was to evaluate the efficacy of mindfulness-based cognitive group therapy in reducing severe chronic fatigue in cancer survivors. METHOD: Participants ($n = 98$) were randomly allocated to an intervention and a waiting list condition. Intention-to-treat analyses were based on 59 participants in the intervention condition and 24 in the waiting-list condition. Fatigue severity (Checklist Individual Strength), functional impairment (Sickness Impact Profile) and well-being (Health and Disease-Inventory) were assessed before and after the nine-week intervention. The intervention group had a follow-up 6 months following the intervention. RESULTS: At the post-treatment measurement the proportion of clinically improved participants was 30%, versus 4% in the waiting list condition ($\chi^2(1) = 6.71; p = 0.007$). The decrease in fatigue severity in the intervention group was significantly larger than in the waiting list group (difference 8.2; 95% CI = 3.8 to 12.6), as was the increase in well-being (difference 5.7; 95% CI = 2.2 to 9.2). Effect of the intervention on functional impairment was not seen directly after the training. The treatment effect was maintained at 6 months follow-up. CONCLUSIONS: Mindfulness-based cognitive group therapy is an acceptable and potentially effective treatment for severe fatigue after cancer. Findings of this study were implemented by training professionals in MBCT for fatigue after cancer and by development of an online MBCT. RESEARCH IMPLICATIONS: No significant difference was found in the reduction of functional impairment directly after the training. Although the further improvement of functional impairment at follow-up is reassuring, no comparison could be made with a control group. Future studies need to include a controlled follow-up to learn more about the effect of the intervention on functioning in the long run. CLINICAL IMPLICATIONS: This study was carried out in a clinical setting (an institute specialized in psycho-oncology) and the current study sample is considered representative for the future population that will most probably seek help for their fatigue. Our sample was heterogeneous and small, though and control of medical

confounding variables was very limited. Therefore, results have to be replicated in a larger trial before we can draw firm conclusions can be drawn. **ACKNOWLEDGEMENT OF FUNDING:** The study was supported by the Zorg Innovatie Fonds.

S7-2

Feasibility and Acceptability of Mindfulness-Based Stress Reduction (MBSR) in Patients With Lung Cancer and Their Partners: A Mixed-Method Pilot Study

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BACKGROUND: In the last 10 years MBSR has proven to be effective in reducing anxiety and depressive symptoms in cancer patients. However, the generalization of these results is limited because most participants of these studies were female patients with breast cancer. By means of this mixed-method pilot study, we examined whether MBSR might be a feasible and acceptable intervention for patients with lung cancer and their partners. **METHOD:** Nineteen patients with lung cancer and 16 partners participated in the MBSR training. Assessments took place at baseline, post intervention and at 3-month follow-up. Measurements included questionnaires on anxiety and depressive symptoms (Hospital Anxiety and Depression Scale), quality of life (Core Quality of Life Questionnaire - Lung Cancer), caregiver burden (Self-Perceived Pressure from Informal Care and Care-Derived Self-Esteem subscale of Caregiver Reaction Assessment). After the training six patients and five partners were interviewed about how they experienced the training. **RESULTS:** Fifteen patients and 11 partners completed the training. Participants who dropped out did not differ from completers. Among completers, patients undergoing cancer treatment did not miss more sessions than patients who were not currently being treated. Interviews showed participants felt positive about the intervention and enjoyed participating with their partner and in a peer group. Among patients and partners, changes in anxiety and depressive symptoms after MBSR were consistently in the direction of improvement, but did not achieve statistical significance. Among partners, caregiver burden decreased significantly after following MBSR at post and follow-up measurement. **CONCLUSIONS:** The MBSR training seems to be a feasible and acceptable intervention for patients with lung cancer and their partners. Despite various cancer treatments patients managed to participate in the training. Moreover, participants named participating with their partner and in a peer group as

important facilitators of participation in the intervention. Furthermore, the training seems to be effective in reducing caregiver burden in partners. Among patients and partners no changes were found in anxiety and depressive symptoms. **RESEARCH IMPLICATIONS:** Though the MBSR training seems to be feasible and acceptable for patients with lung cancer and their partners, it remains unclear whether MBSR is also effective in reducing their psychological distress. Therefore a randomized controlled trial is needed to examine the effectiveness of the intervention. **CLINICAL IMPLICATIONS:** The current study showed that MBSR is a feasible and acceptable intervention for patients with lung cancer and their partners. When future research shows that MBSR is effective in reducing psychological distress, this will be one of the few available psychosocial interventions for lung cancer patients and their partners. **ACKNOWLEDGEMENT OF FUNDING:** This research is funded by Foundation Alpe d'HuZes and the Dutch Cancer Society.

S7-3

Randomized-Controlled Multi-Site Trial of Mindfulness-Based Cancer Recovery (MBCR) Versus Supportive Expressive Group Therapy (SET) Among Breast Cancer Survivors (MINDSET): Long-Term Follow-Up Results

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BACKGROUND: Mindfulness-based stress reduction (MBSR) and SET are two of the most well-validated psychosocial oncology interventions. However, no previous studies have directly compared these two interventions, and little is known about long-term efficacy. This study compared the effects of these two interventions on psychological and biological outcomes immediately following the intervention, and 1 year thereafter in distressed breast cancer survivors. **METHOD:** A total of 254 distressed Stage I-III breast cancer survivors in Vancouver and Calgary, Canada, were randomized into either MBCR (MBSR for cancer patients, called Mindfulness-Based Cancer Recovery) or SET. Patients were asked to complete a set of questionnaires addressing mood, stress symptoms, quality of life, social support, and post-traumatic growth, and to donate saliva samples for assessing diurnal cortisol slopes before and after the intervention, 6 months and 12 months following the intervention. **RESULTS:** Immediately following the intervention, women in MBCR reported greater reduction in mood disturbance and stress symp-

toms, and improved quality of life, social support, and post-traumatic growth relative to those in SET. The MBCR group maintained these benefits, showing no significant changes in these outcomes over the 12 month period. The MBCR group also reported further enhanced post-traumatic growth relative to SET over the 12 months following the intervention. **CONCLUSIONS:** This study was the first and the largest in psycho-oncology to demonstrate sustained benefits of MBCR in distressed breast cancer survivors. MBCR was superior to SET for improving mood, stress symptoms, quality of life, social support and post-traumatic growth, and women in MBCR experienced long-lasting health benefits over 1 year. Our results also showed a further steady increase in post-traumatic growth over 1 year in the MBSR group, demonstrating that those women gained efficacious tools to live and cope with cancer through MBCR participation. **RESEARCH IMPLICATIONS:** While MBCR improved and sustained a range of psychological outcomes, little is known about why this occurred. Given the multiple components involved in the program (yoga, meditation, classroom support, home mindfulness practice), it is important to try to isolate the role of each component, as well as potential mediators promoting these positive outcomes. Both MBCR and SET continue to be very common psycho-oncological interventions. Identifying who respond better to each program will be useful. **CLINICAL IMPLICATIONS:** This study confirmed that MBCR helps distressed patients cope with cancer over the long-term (1 year). Together with growing evidence on health benefits of MBSR in psycho-oncology, the findings of this study suggest that MBCR should be provided as a part of comprehensive cancer care. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by a grant from the Canadian Breast Cancer Research Alliance. Dr. Linda Carlson holds the Enbridge Research Chair in Psychosocial Oncology, co-funded by the Canadian Cancer Society Alberta/NWT Division and the Alberta Cancer Foundation. Dr. Rie Tamagawa is funded by Alberta Innovates Health Solutions Post-Doctoral Fellowship Award, and Canadian Psychosocial Research Training Post-Doctoral Award.

S7-4

The Effect of Mindfulness Based Stress Reduction (MBSR) on Somatic Symptoms Among Women 3–18 Months Post Diagnosis of Breast Cancer: Results From a Randomized Controlled Trial (MICA, NCT00990977)

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BACKGROUND: Meta-analysis have supported the 8 week Mindfulness based stress-reduction program (MBSR) among cancer patients and MBSR has been found to provide statistically significant effects on levels of anxiety and depression among women operated for breast cancer (BC) after 12 months follow-up. Levels of physical symptoms reported also many years after diagnosis and initial treatment for BC illustrate the need for interventions to reduce burden symptoms. Here we test the effect of MBSR on burden of breast cancer related somatic symptoms. **METHOD:** A population-based sample of a total of 336 Danish women (18–65 years.) operated for BC stage I-III were randomized to usual care (standard clinical care, no specific psychosocial intervention)+ MBSR (eight weekly 2-h group sessions including guided meditation, yoga and psycho-educational advice on stress, group dialogue and a 5-h silent retreat) or usual care control. Both study groups received standard clinical care, surgery, and adjuvant treatment as indicated by the relevant protocol or clinical guideline. Before randomization and immediately, 6 and 12 months after the intervention standardized psychometric scales were administered to evaluate levels of distress (SCL-90r), symptoms (BEES-plus) and mindfulness (FFMQ). **RESULTS:** After 12 months follow-up intention-to-treat analysis identified statistically significant effect with regard to distress while no significant effect was identified on burden of somatic symptoms by mixed effect models for repeated measures of continuous outcomes accounting for the effect of missing data. By general linear regression significant effect of MBSR on burden of somatic symptoms was identified post intervention and after 6 months follow-up. No significant effect on state mindfulness was identified post intervention, while significant effects were identified after 6 months and 12 months. No significant modification of effects were identified. **CONCLUSIONS:** We evaluated the longer-term effect of MBSR on burden of breast cancer related symp-

toms by use of a randomized controlled design. The trial did not identify effect of MBSR on burden of physical symptoms as measured by the BEES-plus after 12 months, while a significant effect on distress was identified at this time point. **RESEARCH IMPLICATIONS:** Our results indicate the need for further randomized controlled trials in which the effect of group support processes is controlled by comparing MBSR with an active control condition. Also adherence to and the effect of mindfulness practice during follow-up should be evaluated in order to establish whether mindfulness is the active ingredient of MBSR among women operated on for breast cancer. Studies are needed to establish the effect of MBSR on self-reported interference of symptoms of daily living. **CLINICAL IMPLICATIONS:** Our finding of a statistically significant effect of self-reported levels of physical symptoms after 6 months' follow-up gives new support for use of MBSR to alleviate the burden of highly prevalent breast cancer-related somatic symptoms. **ACKNOWLEDGEMENT OF FUNDING:** This work was funded by the Danish Cancer Society; the Psychosocial Research Committee (Grant number R13-A640-09-S3) and the CAM Research Committee (Grant number UP7001), University of Copenhagen; Multidisciplinary CAM-research (Grant number 603-44-204/SD), Danish Cancer Research Foundation (Grant number 50-08-2008) and the Danish Cancer Society Research Centre.

S8-1

Prevalence, Course, and Clinical Predictors of Cancer-Related Fatigue (CRF) in the Post-Treatment Period

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BACKGROUND: Growing evidence suggests fatigue persists in a subset of people with cancer following completion of active treatment. Questions remain, however, about the extent to which CRF is a common and severe problem in the post-treatment period and about its relationship to prior treatment exposure. This presentation summarizes our recently completed program of longitudinal research examining the prevalence, course, and clinical predictors of CRF in a cohort of women treated for early stage breast cancer. **METHOD:** Participants were women ($n = 304$) with stage 0-II cancer treated with chemotherapy, radiotherapy, or both and an age-matched control group of women with no history of cancer ($n = 337$). Patients were assessed at end of treatment and 2, 4, 6, and

42 months later and controls were assessed on two occasions 36 months apart. The Fatigue Symptom Inventory was administered on all occasions to yield continuous measures of fatigue severity, duration, and interference. The Diagnostic Interview for CRF was administered at end of treatment and 6 and 42 months later to patients to measure prevalence of CRF based on a case definition. **RESULTS:** CRF prevalence in patients was 22% (end of treatment), 9% (6 months), and 13% (42 months); 7% experienced CRF onset after treatment completion. Receipt of chemotherapy predicted CRF at end of treatment and incident CRF after treatment completion ($p < 0.05$). On continuous measures, patients reported more days fatigued from end of treatment to 6 months later than controls ($p < 0.05$); the difference was largely attributable to heightened fatigue in women treated with chemotherapy and radiotherapy. Contrary to expectations, fatigue worsened between 6 and 42 months post-treatment in chemotherapy-treated patients ($p < 0.05$), while remaining relatively low and stable in radiotherapy-treated patients and controls ($p > 0.05$). **CONCLUSIONS:** Based on a case definition approach, we found that approximately 20% of breast cancer patients were experiencing clinically significant fatigue at the completion of chemotherapy and/or radiotherapy and that fatigue remained a problem for 13% 42 months later. Receipt of chemotherapy increased risk of CRF at treatment completion and subsequent development of CRF. These findings are complemented by results based on continuous measures which showed that, contrary to expectations it would resolve, mean levels of fatigue in chemotherapy-treated patients increased from 6 to 42 months post-treatment. **RESEARCH IMPLICATIONS:** Findings demonstrate the value of using a case definition approach to estimate CRF prevalence and of following cancer patients for extended periods of time to determine the course of fatigue. Additionally, findings should stimulate research into mechanisms contributing to the new onset of CRF and the worsening fatigue over time primarily in chemotherapy-treated patients. Biological factors (e.g. cytokine production) as well as behavioral factors (e.g. changes in physical activity) merit investigation. **CLINICAL IMPLICATIONS:** These findings should alert clinicians to the importance of monitoring fatigue for an extended period after treatment completion. The availability of interventions effective in ameliorating post-treatment fatigue (e.g. cognitive-behavioral therapy) provides further support for careful monitoring. Beyond this approach, clinicians should consider routine use of these interventions at the end of treatment as part of a comprehensive rehabilitative approach that may be effective in preventing the persistence or worsening of fatigue in the post-treatment period. **ACKNOWLEDGE-**

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S8-2

Behavioral and Biological Mechanisms Contributing to Cancer-Related Fatigue

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BACKGROUND: Significant recent progress has been made in understanding behavioral and biological mechanisms contributing to cancer-related fatigue (CRF). This presentation will summarize our current program of research examining mechanisms of CRF, describe results from three recent studies, and explore implications for clinical practice and future research. **METHOD:** The first study examined CRF as part of a cascade of behavioral and psychological symptoms in 78 gynecologic cancer patients receiving platinum-based chemotherapy. The second study examined germline genetic variants as predictors of change in CRF in 53 prostate cancer patients starting androgen deprivation therapy (ADT). The third study described changes in circulating cytokines following initiation of ADT in 61 prostate cancer patients compared to 68 men without cancer, as well as correlations between changes in cytokines and changes in CRF in the ADT group. **RESULTS:** Regarding behavioral mechanisms, objectively-measured sleep disruptions secondary to chemotherapy for gynecologic cancer predicted lagged increases in CRF, which in turn predicted lagged increases in depressive symptomatology ($p < 0.05$). Regarding biological mechanisms, single nucleotide polymorphisms in cytokine genes (i.e. *IL6*, *TNFA*) predicted increases in CRF in men treated with ADT ($p < 0.05$). Circulating IL-6 significantly increased in men treated with ADT but not in no-cancer controls ($p < .01$). Increases in circulating cytokines (i.e. IL-1B, IL-6, IL-12, GM-CSF) were significantly associated with increases in CRF following initiation of ADT ($p < 0.05$). **CONCLUSIONS:** Results from these studies suggest that CRF is multifactorial in nature and may result from a genetic predisposition as well as treatment-associated increases in sleep disruptions and circulating cytokines. **RESEARCH IMPLICATIONS:** These studies are among the first to model lagged relationships among putative behavioral mechanisms and CRF as well as explore genetic and immunologic mechanisms of CRF in prostate cancer patients treated with ADT. Advances in measurement and analysis of behavior, as well as new insights into molecular genetics and inflammatory processes, offer the potential for exciting future discoveries regarding the mechanisms of CRF. **CLINICAL IMPLICATIONS:** Study findings can be used to educate patients and their

families regarding how CRF may occur and which patients are most likely to be affected. Findings also suggest potential new avenues for intervention, such as treatment of sleep disruptions as a way to reduce CRF in patients receiving chemotherapy. **ACKNOWLEDGEMENT OF FUNDING:** National Cancer Institute (U.S.) R03-CA126775 (PI: Jim), R01-132803 (PI: Jacobsen), K07-CA138499 (PI: Jim).

S8-3

Psychosocial Interventions for Fatigue During and After Cancer Treatment

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BACKGROUND: Fatigue is a problem for almost every cancer patient during the active treatment phase of their disease. Unfortunately severe fatigue persists in at least 40% of the cancer survivors, with profound effects on quality of life. Given the adverse effect of fatigue on the life of cancer patients, development of interventions is critical. This presentation will provide an overview of psychosocial interventions for fatigue during and after curative cancer treatment, including two recent trials. **METHOD:** The model of precipitating and perpetuating factors is used as a rationale. The cancer and/or cancer treatment trigger the fatigue (precipitating), other factors are responsible for the persistence of fatigue (perpetuating factors). Two randomized controlled trials testing the effectiveness of cognitive behavioral therapy (CBT) for fatigue will be discussed. During cancer treatment 220 patients were allocated to three conditions; CBT, a brief nursing intervention or usual care. Additionally, a CBT intervention was developed specifically aimed at postcancer fatigue. In this study 112 severely fatigued survivors (≥ 1 year after cancer treatment) were randomly allocated to CBT or a waiting list. **RESULTS:** Fatigue before cancer treatment predicts persistent fatigue in survivors. One third of survivors reported severe fatigue 3 months after cancer treatment. One year later the prevalence of severe fatigue was the same. CBT during curative cancer treatment demonstrated a small, short-term effect. CBT for survivors demonstrated a large and clinically relevant effect, that was maintained at a 2-year follow-up. The known perpetuating factors for post-cancer fatigue (≥ 1 year) also predicted persistent fatigue in the year after cancer treatment when assessed 3 months after cancer treatment. **CONCLUSIONS:** Interventions are more effective when they are specifically aimed at fatigue. CBT for severe fatigue in cancer survivors could start about 3 months after cancer treatment instead of at least one year after cancer treatment,

because a large part of cancer survivors who suffer from severe fatigue do not recover spontaneously in the first year after curative cancer treatment. In addition, the fatigue-perpetuating factors in cancer survivors can already be identified from 3 months after successful cancer treatment. **RESEARCH IMPLICATIONS:** The next step is extending evidence-based treatment options for fatigued cancer survivors. To meet this need, we combined our findings with the rapidly-developing field of E-health. The CHANGE study will investigate the efficacy of a self-guided, web-based CBT intervention for fatigued cancer survivors with minimal therapist support in a randomised controlled trial. The intervention will be offered to survivors 3 months after curative cancer treatment. **CLINICAL IMPLICATIONS:** It is important to identify patients at risk for persistent fatigue shortly after cancer treatment is finished, so these patients can be referred for early intervention. A web-based intervention would have several advantages compared to regular face-to-face therapies. First, fatigued survivors can be reached more easily. The intervention can also be conducted at times according to the patients' own preference and it requires less support from clinicians. This has the potential to increase treatment capacity. **ACKNOWLEDGEMENT OF FUNDING:** Dutch Cancer Society, Dutch Breast Cancer Foundation, Pink Ribbon.

S8-4

Fatigue in Patients With Advanced and Incurable Cancer

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BACKGROUND: In patients with advanced, incurable cancer fatigue is the most common symptom, with a profound effect on daily quality of life. However, there are little empirical data on prevalence and course of fatigue and its severity, or the influence of tumor- or treatment characteristics and psychosocial factors on fatigue in these patients. This presentation will describe a recent study of palliative care patients to illustrate what is currently known about fatigue in this population. **METHOD:** Patients with advanced incurable cancer on active cancer treatment were asked to complete the Checklist Individual Strength (CIS) every 4 weeks over the course of 6 months (T0–T7). A score of ≥ 35 on the CIS-subscale fatigue is indicative of severe fatigue. Besides tumor and treatment characteristics psychosocial factors were also assessed at baseline. They were: acceptance (Illness Cognition Questionnaire), anxiety and depression (Hospital Anxiety Depression Scale), catastrophizing (Fatigue

Catastrophizing Scale), sleep problems (Symptom Checklist-sleep) and insufficient social support (van Sonderen Social Support List-discrepancies). For these questionnaires, cut-off scores were used to indicate clinical problems. **RESULTS:** At baseline, 47% of participants ($n = 137$) were severely fatigued; this percentage remained stable over time. A total of 120 participants completed at least 3 assessments; 89 participants completed T7. Four trajectories could be distinguished over 6 months: patients 1) who remained severely fatigued (30%); 2) who experienced no fatigue (41%); 3) who experienced an increase in fatigue (15%); 4) who experienced a decrease (14%). None of the cancer treatment-related factors predicted severe fatigue. Fatigue severity at baseline and \geq two psychosocial factors above a clinical cut-off score was predictive of chronic, severe fatigue. **CONCLUSIONS:** Nearly half of all patients were severely fatigued at baseline and during the study period. No tumor or treatment related factors were predictive of fatigue. Participants who had to withdraw earlier during the study period had significantly higher scores on the CIS-fatigue. Having severe fatigue at baseline and having two or more psychosocial factors above a clinical cut-off score were predictive of a course of severe fatigue. This finding suggests that in addition to severe fatigue at baseline, the number of the investigated psychosocial problems is more determinative of severe fatigue than treatment-related variables. **RESEARCH IMPLICATIONS:** This is one of the first longitudinal fatigue studies in cancer patients during the palliative trajectory, which indicate the importance of psychosocial factors. A limitation of our study was that patients were assessed at different time points during their palliative treatment with a sample too small for further detailed subgroup analyses. Our study is a start for future research, with larger cohorts or aimed at developing and testing interventions for fatigue in advanced cancer. **CLINICAL IMPLICATIONS:** Experiencing fatigue has profound effect on quality of life. The main aim of treatment during the palliative phase is maintaining or increasing this quality of life. Our finding that nearly half of participants were severely fatigued is clinically relevant for healthcare professionals and suggests that fatigue severity may be underestimated. Fatigue changed over time within some patients but not in all. This underlines the importance of screening regularly and necessity for developing effective interventions. **ACKNOWLEDGEMENT OF FUNDING:** Paul Speth Foundation.

S9-1

Effectiveness of a Hospital-Based Work Support Intervention for Cancer Patients - A Multi-Centre Randomised Controlled Trial

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BACKGROUND: Due to improved survival rates of cancer, an increasing number of cancer patients face new challenges upon survivorship. For cancer patients of working age, return-to-work (RTW) is a key aspect of survivorship as it is an important part of recovery. Unfortunately, cancer patients have a higher risk of unemployment. Therefore, we developed a hospital-based work support intervention for cancer patients on RTW and we studied effectiveness of the intervention in a multi-centre randomised controlled trial. **METHOD:** Cancer patients treated with curative intent and paid work were randomly assigned to intervention group ($n = 65$) or control group ($n = 68$). Intervention involves patient education and support at the hospital and improvement of communication between treating physician and occupational physician. We asked patient's occupational physician to organise a meeting with patient and supervisor to make a gradual RTW plan. Outcomes at 12 months follow-up include rate and time until RTW (full or partial), quality of life (QOL) (SF-36), work ability (WAI), work functioning (WLQ), and costs. Time until RTW was analysed with a Kaplan Meijer survival analysis and Cox regression analysis. **RESULTS:** RTW rate was 79% and 79% in the intervention group versus the control group ($p = 0.97$) and 86% versus 83% respectively ($p = 0.61$) when excluding patients who died and with a life expectancy of months. Median time from sick leave to partial RTW was 194 days (range 14–435) versus 192 days (range 82–465) ($p = 0.90$). Hazard ratio of partial RTW was 1.03 (95% CI=0.64–1.6). QOL, work ability, and work functioning improved over time but did not differ statistically between groups. The cost of delivering the intervention was €119. Lost productivity costs did not differ between groups (€ 41.792 vs. €40.147). **CONCLUSIONS:** We found non-statistically significant differences between groups. Therefore, adaptation of the intervention and further research is needed to study which aspects of the intervention are useful and which elements need improvement. **RESEARCH IMPLICATIONS:** As we found similar work outcomes between the intervention group and the control group, a recommendation for further research is to study if an improved intervention leads to shorter time to RTW. Since, the occupational physician and employer involve-

ment is pivotal for a successful return to work but appeared problematic in our intervention, it seems important to solve what impedes their involvement and to adapt the intervention accordingly. **CLINICAL IMPLICATIONS:** A recommendation for cancer survivorship care is to address the adverse work outcomes of cancer patients early in treatment phase, as well as at follow-up, as the intervention is appreciated by patients and perceived to be useful and feasible by nurses. **ACKNOWLEDGEMENT OF FUNDING:** This study is granted by the Stichting Insituut GAK (SIG).

S9-2

The Development of a Vocational Rehabilitation Intervention (The REJOIN Intervention) to Support People With Cancer to Remain in Work

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BACKGROUND: Many cancer survivors want to return to work, but they can struggle to do so. While there is a relatively strong evidence base for vocational rehabilitation (VR) in other health conditions, our understanding of how to apply it with people with cancer is limited. To address this, the UK National Cancer Survivorship Initiative set up seven pilot sites to test service delivery configurations, and to develop content and competencies for a vocational rehabilitation intervention. **METHOD:** Realistic Evaluation was used to develop explanatory accounts of 'what works' in cancer VR. Consistent with Realistic Evaluation methodology, a wide range of data sources was used: (i) seven interviews and four focus groups with service providers ($n = 22$); (ii) observation of vocational rehabilitation interventions; (ii) records and reports from the seven pilot sites; (iii) two one-day consensus development workshops using the Nominal Group Technique to establish intervention content ($n = 25$); (iv) interviews with service users ($n = 25$). Qualitative data analysis software (MAXQDA) was used to organise data, which were analysed using Framework. Ethical approval was granted by NHS Central London REC 3. **RESULTS:** The core structure of VR defined by the British Society of Rehabilitation Medicine and the Vocational Rehabilitation Association is as applicable to people with cancer as it is in other health conditions - including thorough assessment of work skills and capacity together with job requirements, goal-setting, negotiating adjustments with employers, psychological interventions, and attention to legal rights and responsibilities. Account needs to be taken of additional, cancer-specific needs - including managing cancer symp-

toms in the workplace (in particular 'hidden' problems such as fatigue and cognitive deficits), educating employers and colleagues about cancer and dealing with the stigma of cancer. **CONCLUSIONS:** In order to be successfully delivered, VR needs to be embedded into cancer patients' pathways from diagnosis, through treatment and on into life beyond cancer - or end of life care, where that is appropriate. It is often only in retrospect, once problems have manifested, that the value of early work-related intervention can be understood. The provision of VR in cancer requires knowledge of employment practice, rights and responsibilities, cancer pathology, the emotional consequences of cancer, and rehabilitation. The wide-ranging competencies required are unlikely to be encompassed by a single discipline, therefore appropriate training and multi-disciplinary input is recommended. **RESEARCH IMPLICATIONS:** This research has enabled the development of an evidence-based cancer VR intervention, the REJOIN intervention (REhabilitation for Job and Occupational INdependence) with an associated on-line training programme. This intervention can now be tested for clinical and cost effectiveness, and a feasibility study of a randomised controlled trial of the intervention is underway (the REJOIN study). **CLINICAL IMPLICATIONS:** This work has been - and is being - done in the context of real, every-day clinical practice. The evidence for the components of cancer vocational rehabilitation interventions and the competencies required to deliver it are grounded both in the experiences and perspectives of clinicians and of service-users. The intervention being developed and tested is one which has been shown to be feasible and acceptable in practice, and therefore has direct relevance to clinicians. **ACKNOWLEDGEMENT OF FUNDING:** The study to develop the intervention was funded by the National Cancer Survivorship Initiative - a partnership between the Department of Health, NHS Improvement and Macmillan Cancer Support. The follow-on REJOIN study is funded by the National Institute for Health Research.

S9-3

Evaluating the Efficacy of an Occupational Development Program for Young Adult CNS Survivors

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BACKGROUND: The purpose of this study is to evaluate the efficacy of an occupational development and work adjustment program for young adult brain tumor survivors to increase and improve their participation in educational, voca-

tional, or occupational settings, their social involvement and community integration, and overall psychological functioning. This presentation will provide initial data obtained from the first wave of data collection from this clinical trial study. **METHOD:** A Staggered Enrollment Trial (SET) experimental design was used in this study. Young adult men and women ages 18 to 30 ($n = 35$) who were diagnosed with CNS cancer made up the sample. The intervention program was based on a supportive employment model enhanced with a work social skills program (Bond, 2004; Tsang et al., 2009). A mixed model MANOVA was used to examine differences between treatment conditions and within time sessions across the group of dependent variables. Post-hoc analysis utilized univariate analyses adjusted with a Bonferroni correction for the number of tests conducted. **RESULTS:** Results indicated significant differences between the groups with the treatment group reporting higher levels across the career and employment variables while also reporting significantly higher levels of community integration and psychological well-being. **CONCLUSIONS:** The largest contribution of this initial exploratory clinical intervention is that that providing a supportive occupational based intervention program increases young adult CNS survivors' outcomes across the three dimensions of employment, community integration and psychological well-being. **RESEARCH IMPLICATIONS:** This information provides researchers with initial support regarding the efficacy of a supportive occupational development program in young adult CNS survivors for enhancing employment, community integration, and psychological well-being. Results should provide an initial structure for future investigations regarding the efficacy of employment interventions and their effect across multiple dimensions related to individual functioning. **CLINICAL IMPLICATIONS:** Results of this study provide initial evidence for the importance of incorporating vocational interventions as part of young adult psycho-social services. Theoretically based vocational interventions such as the one described in this study may be particularly efficacious. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the National Institute on Disability and Rehabilitation Research (NIDRR) Field Initiated Research Project (Grant #H133G110289).

S9-4

Tailoring Vocational Services to Survivor's Employment StatusFong Chan¹, Chung-Yi Chiu², David Strauser²¹University of Wisconsin-Madison, Madison, Wisconsin, USA, ²University of Illinois at Urbana-Champaign, Champaign, Illinois, USA

BACKGROUND: Previous analyses of vocational rehabilitation services for unemployed cancer survivors indicated that counseling and guidance, job search assistance, and placement services are significantly associated with increased odds for employment. However, many cancer survivors with jobs may require vocational interventions different from unemployed cancer survivors. It is unclear whether the public rehabilitation system provides vocational services that are based on the work status. This study examined differences in the types of services based on employment status. **METHOD:** Administrative data on 1460 cancer survivors were obtained through the U.S. Rehabilitation Services Administration Case Service Report (RSA-911) dataset for fiscal year 2007. Data on demographic characteristics and vocational service patterns were extracted and analyzed. Multiple discriminant analysis was used to identify differential services received by cancer survivors based on employment status at time of application for vocational rehabilitation services. **RESULTS:** Multiple discriminant analysis indicated one significant canonical discriminant function, with Wilks's $\lambda = 0.92$, $\chi^2(19, N = 1456) = 114.87$, $p < 0.001$. The correlations between the discriminating variables and the significant canonical discriminant function were highest for diagnoses and treatment (-0.526), placement (0.487), transportation (0.419), job search (0.403), vocational training (0.384), job readiness (0.344), university training (0.307), and rehabilitation technology (-0.287). The group centroids along the significant discriminant function (the distance of each group from the center of the canonical function) indicated that the employed applicant group (-0.542) and the unemployed applicant group (0.153) can be differentiated based on vocational rehabilitation services. **CONCLUSIONS:** Employed cancer survivors who are at risk of losing their job and unemployed cancer survivors who are looking for a job receive different vocational services tailored to needs, suggesting that state vocational rehabilitation services for cancer survivors is responsive to individual client needs. **RESEARCH IMPLICATIONS:** Continued research is needed to examine the impact of vocational services on both employed and unemployed cancer survivors. Examination of the intensity and duration of specific services by group is also warranted. Identification of specific types of vocational services should have implications for potential policy and service delivery related to obtaining and

maintaining employment for adult cancer survivors. **CLINICAL IMPLICATIONS:** This study underscores the potential for cancer survivors with severity disabilities to return to competitive work. Findings suggest that individualized client-centered employment plans can tailor the vocational rehabilitation services to the employment status and individual situation of each client. Vocational services provided by state vocational rehabilitation agencies are basically free and represent a viable resource to assist cancer survivors seek employment. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the Rehabilitation Research and Training Center on Disability Statistics and Demographics (StatsRRTC) at Hunter College, City University of New York, under the National Institute on Disability and Rehabilitation Research (NIDRR) grant number (H133B080012) and the Rehabilitation Research and Training Center on Effective Vocational Rehabilitation Service Delivery Practices (NIDRR grant number PR# H133B100034).

S10-1

RESTORE: An Online Intervention to Enhance Self-Efficacy to Self Manage Cancer Related Fatigue Following Treatment

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BACKGROUND: The majority of cancer survivors will experience some adverse effects as a result of their cancer and its treatment. Lack of information and support can make managing these problems challenging for survivors. Here we describe an exploratory trial of the RESTORE online intervention to support self-management of cancer related fatigue. **METHOD:** An ongoing two-armed randomised controlled trial is comparing the RESTORE intervention with a widely used Macmillan Cancer Backup 'Coping with Fatigue' leaflet. The intervention includes five weekly sessions with components and activities informed by self-efficacy theory. The primary objective is to test the value (provide 'proof of concept') of an online intervention to increase self-efficacy to self manage problems related to cancer related fatigue. Secondary aims include impact on the perception and experience of fatigue and quality of life. **RESULTS:** The study population consists of cancer survivors within 5 years of completion of treatment with curative intent (original target sample size $N = 125$). An initial pilot phase determined feasibility and acceptability of proposed recruitment methods. Outcome measures were col-

lected at baseline, 6 weeks (completion of intervention) and 3 months. Process evaluation (including telephone interviews) has been conducted. This explored participant's experiences of using RESTORE, and clinician's experience of recruitment and attitudes towards the online intervention. Preliminary findings from the process evaluation will be presented. Trial data will be available in 2014. **CONCLUSIONS:** Data from this trial will be used to refine the intervention and conduct a full-scale trial. We hope to roll out the intervention in clinical practice and expand it to address other cancer related problems important to survivors following primary cancer treatment. **RESEARCH IMPLICATIONS:** The methods used in the development and testing of this intervention including several development phases and the close working with people affected by cancer and other stakeholders will be of interest to other researchers. **CLINICAL IMPLICATIONS:** This intervention is of great relevance to clinicians who are often unsure how best to support cancer survivors. This intervention has the potential to increase cancer survivors' confidence to live with their fatigue following treatment. The exploratory trial has been very popular and there has been a great deal of interest in being involved. **ACKNOWLEDGEMENT OF FUNDING:** RESTORE is funded by Macmillan Cancer Support and is part of the programme of research conducted by the Macmillan Survivorship Research Group. We also acknowledge the support from our Design Team, Trial Steering Committee, and User Reference Group.

S10-2

Cost-Evaluation of Online Guided Self-Help Targeting Psychological Distress in Cancer Survivors

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BACKGROUND: Psychological distress is common in cancer survivors. The aim of this study is to evaluate costs and efficacy of online guided self-help targeting psychological distress in head and neck cancer (HNC) survivors. **METHOD:** In a randomized clinical trial (RCT) HNC survivors with distress were randomized in an intervention group

(guided self-help (online or booklet format)) or control group (care as usual). Outcome measures were the HADS, the EORTC QLQ-C30 and QLQ-HN35 (quality of life (QOL)), and EORTC QLQ-PATSAT (satisfaction with care) and were evaluated before and direct and at 3 months after intervention. Effect sizes were calculated and linear mixed models and t-tests were used to assess efficacy. A cost utility analysis was performed using data on QOL (EQ-5D) and health care utilization and work loss (TIC-P and PRODISQ). **RESULTS:** There were 45 patients randomized into the intervention group (24% preferred to use the online format) and 36 in the control group. Intervention was beneficial with effect sizes ranging from 0.80 (HADS-total), 0.73 (HADS-A), and 0.75 (HADS-D) direct post-treatment to 0.72, 0.64, and 0.67 at 3 months follow-up. At follow-up, mean HADS differences were no longer statistical significant. Several QOL domains improved significantly, especially at follow-up. The incremental costs were €438 (SE = 372) and the incremental effect utility was 0.06 (SE = 0.045). The incremental cost-effectiveness ratio (ICER) analysis indicated that the intervention is effective but to additional costs (87% of the ICERs). **CONCLUSIONS:** This pilot RCT reveals that among HNC cancer patients with an increased level of psychological distress, guided self-help speeds up recovery of distress with beneficial effects on quality of life in the longer term, but to additional costs. **RESEARCH IMPLICATIONS:** This RCT reveals that on average guided self-help is beneficial for HNC patients with psychological distress. A qualitative research project is ongoing to provide more insight possible moderators or mediators of the effectiveness of guided self-help. **CLINICAL IMPLICATIONS:** Guided self-help can be valuable in psychosocial care for HNC patients with psychological distress. A minority prefers the online format. **ACKNOWLEDGEMENT OF FUNDING:** This project is funded by The Netherlands Organisation for Health Research and Development and the Dutch Cancer Society.

S10-3

Using the Internet to Provide an Insomnia Intervention for Cancer Survivors

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BACKGROUND: As much as 63% of cancer survivors experience sleep difficulties and more than 30% meet diagnostic criteria for insomnia - a rate 2-3 times higher than the general population. Behavioral interventions can effectively treat insomnia in cancer survivors; however, there is difficulty in accessing this specialty care. To address this, we conducted an RCT examining the ability of an

easily accessible Internet-delivered Cognitive Behavioral Therapy for insomnia (CBT-I) program to improve sleep in cancer survivors. **METHOD:** Cancer survivors with insomnia were randomly assigned to either an Internet-delivered intervention ($n = 14$) or a waitlist control group ($n = 14$). The online intervention, Sleep Healthy Using the Internet (SHUTi), has been shown to improve sleep in adults with primary insomnia, and it incorporates the key components of CBT-I (sleep restriction, stimulus control, cognitive restructuring, sleep hygiene, and relapse prevention). Preand post-treatment data were collected via online daily sleep diaries and questionnaires. **RESULTS:** A 2 Group (Internet vs. control) x 2 Time (pre- and post-treatment) repeated-measures ANOVA compared sleep variable changes across time. The SHUTi group experienced significant improvements at post-assessment compared to those in the control group in insomnia severity ($p < 0.01$), sleep efficiency (SE; $p < 0.01$), and sleep onset latency [SOL (minutes to fall asleep); $p < 0.05$]. Overall adjusted treatment effect sizes (ES) were also calculated, given the small sample size, and resulted in small to large treatment effects for SHUTi on all sleep variables, including insomnia severity ($d = 1.85$); SE ($d = 0.72$); SOL ($d = 0.67$); wake after sleep onset (minutes awake during night ($d = 0.22$)). **CONCLUSIONS:** Internet intervention for insomnia delivered as an interactive, individually-tailored online program may be a viable treatment option for cancer survivors with insomnia. **ACKNOWLEDGEMENT OF FUNDING:** This project was funded by UVA Cancer Centre.

S10-4

An Online Relationship Focused Intervention for Young Couples Affected by Breast Cancer: Findings of a Feasibility Study

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BACKGROUND: *Couplelinks.ca* is a custom-designed, 6-session online program that is professionally facilitated and includes informational, experiential and interactive components. The intervention aims to educate couples about the challenges of breast cancer at a young age and strategies to manage these, normalize experiences

and strengthen the relationship bond and dyadic coping. In this presentation we present our findings from the feasibility study, modifications made, and the baseline data from for our current randomized control trial (RCT). **METHOD:** The program consisted of six experiential learning modules, informed by dyadic coping theory. Sixteen couples were enrolled in the feasibility study. Participants provided qualitative and quantitative feedback for each module as well as the overall intervention, using a pre-post design. Primary outcome variables were relationship satisfaction, as measured by the Dyadic Adjustment Scale (DAS) and relationship intimacy as assessed with the Personal Assessment of Intimacy in Relationships scale (PAIR). **RESULTS:** Couples identified a range of benefits to the overall intervention, including providing a useful discussion and communication tool, which helped couples address important issues, topics and feelings that had not generally discussed. This appeared to foster emotional expression and decrease isolation. Analysis of the data from those couples who dropped out ($n = 4$) suggests that couples with higher levels of relational distress or with differential levels of motivation are less likely to complete the program. **CONCLUSIONS:** In the feasibility study, we found that the majority benefited from the program but findings suggested a number of directions for improvement. Modifications to the program have been incorporated into our current RCT of the *Couplelinks*. Our analysis suggests that *Couplelinks* is both a feasible and acceptable form of psychoeducational intervention for young couples affected by breast cancer. However, there are challenges with regard to participant retention and engagement. **CLINICAL IMPLICATIONS:** There are a great many challenges for young couples attempting to access supportive care, including intense time pressures. Online programs such as *Couplelinks* appear to offer convenience and accessibility for many couples who might otherwise not have access to care. **ACKNOWLEDGEMENT OF FUNDING:** Canadian Breast Cancer Foundation; Canadian Breast Cancer Research Alliance.

S10-5

Distress Reduction With an Unguided Self-Management Website for Women After Curative Breast Cancer Treatment: A Multicentre Randomised Controlled Trial

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BACKGROUND: After completion of curative treatment, all breast cancer patients go through the transition from patient to survivor. Universal post-treatment survivorship topics concern physical, emotional and social recovery. Information need on these topics is high, but standard easy-accessible care is lacking. We developed the BREAsT cancer e-health [BREATH] intervention, an unguided generic and fully-automated self-management website aiming to 1) decreasing psychological distress, and 2) increasing empowerment, defined as patients' intra- and interpersonal strengths. **METHOD:** BREATH is based on cognitive behavioural therapy (BMC Cancer 2012,12:394) and offered to both distressed and non-distressed breast cancer survivors (BCS). An open-label multicentre randomized controlled trial evaluated the effectiveness of BREATH compared to care as usual (CAU). BCS between 2 and 4 months post treatment from six hospitals in the Netherlands were randomized on a 1:1 ratio, using a stratified block-design. Changes in self-report questionnaires were measured from baseline (T1) to 4 (T2), 6 (T3) and 10 months (T4). ANCOVA was conducted on primary outcomes of general psychological distress (Symptom Checklist-90) and empowerment (Cancer Empowerment Questionnaire). **RESULTS:** 70 BCS assigned to BREATH and 80 assigned to CAU were analysed using intention to treat analysis with last observation carried forward imputation (ITT-LOCF) on primary outcomes measures on T1–T2. BREATH was significantly ($p < 0.05$) more effective in reducing post-intervention distress compared to CAU, but this was a small effect ($d = 0.25$). No differences in empowerment were found ($p > 0.05$, $d = 0.012$). 44.3% used BREATH as intended based on frequency of logins. Completers analysis on T1–T4 showed no difference in decrease of distress between BREATH and CAU at 6 months follow-up. Results of ITT-LOCF, completers analyses, clinical significance and usage will be presented. **CONCLUSIONS:** When offered to both distressed and non-distressed women after completion of primary curative breast cancer treatment, an unguided generic and fully-automated self-management website can reduce psychological distress. Long-term effect of the intervention was not established in the current study. Further research is needed to determine the potential of BREATH as a preventive intervention for post-treatment distress. Future implications include BREATH being a first step in a stepped or matched care approach towards breast cancer survivorship. **RESEARCH IMPLICATIONS:** Based on the results of the current trial, it remains unclear whether personal strengths' of patients can be targeted using a CBT-based intervention. Further analyses are needed to look into the effect of BREATH on empowerment and empowerment-related constructs. Also, future research needs to

establish the sensitivity to change of the CEQ and discuss empowerment being a state or trait. **CLINICAL IMPLICATIONS:** Using the Internet, BREATH provides a novel and easy-accessible approach to reduce at an early stage the impact of psychological problems that may arise after the completion of medical treatment. In the long term this study may contribute to early prevention of psychological problems in BCS. BREATH provides a minimal intervention that can fill the gap between the needs and availability of psychosocial support after breast cancer treatment. **ACKNOWLEDGEMENT OF FUNDING:** The BREATH study is funded by Pink Ribbon, the Netherlands.

S11-1

Thinking About the Needs of Early Career Professionals in Psycho-Oncology and Future Directions for Support

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BACKGROUND: As psycho-oncology increasingly gains recognition as a scientific discipline, interest in working in the field has grown. Working in a relatively young field affords early career professionals (ECPs) significant opportunities for innovation and impact. It also means, however, that many ECPs are forging new paths as they develop their respective niches. Clear career trajectories are rare for ECPs, who are often faced with formidable funding and other challenges to commence work in this arena. **METHOD:** Given this, the IPOS Board is invested in identifying strategies to support researchers and clinicians starting out in the profession. This presentation, hosted by five IPOS ECPs, will describe the formation of an international psycho-oncology ECP group and will discuss future directions to support and facilitate ECPs' career development. Existing resources to support ECPs will be reviewed, and suggestions for future resource development will be elicited from the audience. **RESULTS:** Research and clinical trainees, junior research officers and faculty members whose work focuses on psycho-oncology are in need of additional support for their career development. Key needs include, but are not limited to, obtaining

additional training and skill development in their chosen speciality, accessing funding to support their work, and identifying opportunities to develop positive mentoring and peer relationships. Presenters will outline the numerous existing resources and suggest future directions for increasing support for ECPs. **CONCLUSIONS:** This symposium will provide much needed counsel about developing a successful research and/or clinical career in psycho-oncology from the perspectives of ECPs as well as recognised international experts in the field. **RESEARCH IMPLICATIONS:** By promoting the needs of ECPs in psycho-oncology, the profession has an opportunity to maintain the momentum of developing and disseminating high-quality research and clinical services in psycho-oncology. Junior researchers and clinicians in particular have the potential to contribute innovative ideas as the field continues to grow. Their enthusiasm, resourcefulness, and ability to integrate technology and other advances will be critical to advancement of psycho-oncology as the broader cancer field continues to develop. **CLINICAL IMPLICATIONS:** From advances in behavioural cancer prevention initiatives to the development of supportive care interventions, research plays a central role in developing empirically-supported clinical care. The development of well-supported and skilful psycho-oncology researchers and clinicians will thus help address the vast psychosocial needs of cancer patients, survivors, and family members throughout the world. **ACKNOWLEDGEMENT OF FUNDING:** Dr. Wakefield is supported by an Early Career Development Fellowship Grant from the Cancer Institute of NSW (11/ECF/3-43). Dr. Douma and Dr. Henselmans are both supported by a career-development Fellowship grant of the Dutch Cancer Society (UVA 2011-4918; UVA 2009-4439). Dr. Lichtenhal is supported by NCI K07 CA172216, and American Cancer Society Contract #11656.

S11-2

Making Psycho-Oncology Research a Career - How to Survive

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BACKGROUND: Establishing a career is always challenging, and there are specific challenges associated with Psycho-Oncology. These include system issues (such as establishing a multidisciplinary psychosocial service which is accepted and respected by the rest of the team), individual work issues (such as developing a track record, and coping with a sometimes sad context) and personal issues (such as ensuring a work-life balance). This presentation will discuss strategies and tools. **METHOD:** Chal-

lenges, rewards, opportunities and barriers in the Psycho-Oncology career path will be discussed, based on qualitative studies and personal experience. A series of scenarios will be presented to generate panel and audience discussion. Strategies will be elicited and presented. **RESULTS:** Discussion will centre around how to maximise track record and become visible in the research environment; manage time; communicate with colleagues; cope with sadness, death and suffering in patients/research participants; self appreciation and care; and making a work-life balance that works for you. **CONCLUSIONS:** Psycho-Oncology is a difficult but ultimately very rewarding career. Research is a highly competitive setting, and clinical work can be very pressured. Developing clear strategies can be helpful in navigating the work environment to ensure personal and work satisfaction. **RESEARCH IMPLICATIONS:** Job satisfaction, stress and burnout in Oncology health professionals (clinical and research) are emerging research areas which could benefit from more rigorous and theoretically grounded methods. **CLINICAL IMPLICATIONS:** Sharing barriers and challenges, as well as rewards and facilitators, can be a useful beginning to planning strategies for navigating the early career years. **ACKNOWLEDGEMENT OF FUNDING:** None.

S11-3

Junior Investigators Face a Choice Between a High and Low Road to Success

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BACKGROUND: Psychology and psychiatry journals publish positive findings five times as frequently as in the harder sciences. Many “discoveries” in our field prove to be exaggerated or outright false. Yet, research papers that are spun to uphold the existing confirmatory bias in the literature have better prospects of being published. Junior investigators face a choice between spinning their findings versus being willing to admit the weakness of methods and results that characterize all our work. **METHOD:** I performed a selective metanarrative review of the psycho-oncology literature in light of standards for reporting intervention studies and for meta-analyses and systematic reviews of intervention studies. Specifically, I performed a knowledge synthesis using standards for reporting intervention studies such as risk of bias measures used in Cochrane Collaboration reviews as well as a standardized and validated checklist for the assessment of multiple systematic reviews (AMSTAR). These validated standards were used to evaluate published reports of intervention studies, as well as meta-analyses and systematic reviews integrating the

results of these intervention studies. **RESULTS:** The typical intervention study in psycho-oncology has high risk of bias in terms of selective reporting of outcomes, failure to pre-specify the target sample size before conducting and concluding the trial, and failure to include in analyses all patients who were randomized. The typical intervention study has insufficient sample size to ensure the ability to detect treatment effects, even if they are there, and yet published studies obtained positive results at a statistically improbable rate. The typical meta-analysis or systematic review provides a positive evaluation of classes of interventions which ignores these limitations in the research that under consideration. **CONCLUSIONS:** Uncritical inspection of the psycho-oncology literature provides considerable reassurance, with a consistency of findings demonstrating that our interventions are effective. We thus can be confident that we are providing our patients with interventions that effectively resolve their distress and improve the quality of life. Yet even cursory application of validated standards suggest this confidence in our interventions may be unfounded and the result of a strong confirmatory bias. **RESEARCH IMPLICATIONS:** The state of the field poses an important dilemma for junior researchers: do they remain silent about this bias and write up their research so that the bias is preserved or are they willing to challenge the field with transparently reported results? The latter leaves them more comfortable with themselves but risks that they will incur the wrath of reviewers and face rejection of their manuscripts unless they bring them into conformity with prevailing biases. **CLINICAL IMPLICATIONS:** Junior researchers have the opportunity to bring to the field a recognition that there is much to be done if we are to effectively serve our patients and address their needs. Senior members of the field in their roles as mentors, role models, and reviewers and editors, need to give junior researchers the security of knowing that it is safe to attempt to publish results that are unsettling to our comforting view of our work. **ACKNOWLEDGEMENT OF FUNDING:** None.

S11-4

Establishing a Career in the Academic Field of Psycho-Oncology: Useful Information and Strategies

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BACKGROUND: Many young scholars seek support to establish a career in the academic field. The IPOS ECRC provides a forum for discussion and exchange of experience for young researchers in psycho-oncology. **METHOD:** Within the IPOS

ECRC group, this presentation will review and discuss useful strategies in establishing a career in academic field of psycho-oncology from the perspective of a senior academic. **RESULTS:** To successfully develop an academic career, several aspects are important. These, among others, include skills development (increasing one's knowledge both formally and informally), gaining experience in the academic business including research grant and paper writing, finding a mentor, building a network, finding one's own voice and building self-awareness as well as balancing work and life. **CONCLUSIONS:** This symposium will provide valuable information about developing a successful research and/or clinical career in psycho-oncology. **RESEARCH IMPLICATIONS:** The discussion and transfer of useful strategies in establishing a career will support young academics in the field of psycho-oncology to enhance their knowledge and skills and thus promote their research concepts and ideas. **CLINICAL IMPLICATIONS:** Excellent research and clinical approaches are often closely intertwined. This symposium will address this connection and discuss how both research and clinical knowledge can be used to enhance the field of psycho-oncology. **ACKNOWLEDGEMENT OF FUNDING:** None.

S12-1

Peer Mentoring to Promote Exercise Among Cancer Survivors: A Community Partnership

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BACKGROUND: Numerous exercise intervention trials have shown that exercise adoption can reduce some treatment-related sequelae of breast cancer. There is a need to implement such interventions outside of research settings. As a step towards disseminating an evidence-based telephone-delivered exercise intervention, we partnered with the American Cancer Society's Reach to Recovery program (RTR) whose volunteers (breast cancer survivors) provide information and emotional support to breast cancer survivors. These volunteers were trained to deliver the exercise program. **METHOD:** This randomized controlled trial compared the exercise intervention delivered by RTR volunteers (Reach Plus) with contact control (Reach Standard). RTR volunteers ($n = 18$; mean age = 54.9 years, mean years since diagnosis = 7.0) delivered the 3-month exercise program to help participants adopt at least 30 minutes of moderate-intensity exercise on ≥ 5 days/week. Breast cancer survivors ($n = 76$; mean age = 55.6 years, mean years since diagnosis = 1.1, Stage 0 = 6.7%, Stage

1 = 38.7%, Stage 2 = 44.0%, Stage 3 = 10.7%) were randomized to Reach Plus or Reach Standard. At baseline, 3 (post-intervention) and 6 months, participants wore an accelerometer and completed the 7 Day Physical Activity Recall interview and psychosocial measures. **RESULTS:** Using a longitudinal mixed effects regression model, we assessed treatment effects on exercise outcomes while controlling for age and chemotherapy. There were significant effects for exercise in Reach Plus at 3 months (adjusted mean difference = 102.95 minutes of moderate-intensity exercise/week, $t = 6.6$, $p < 0.0001$) and at 6 months (adjusted mean difference = 34.7 minutes of exercise/week, $t = 2.23$, $p = 0.03$) compared to Reach Standard. Effects on self-reported exercise were confirmed with similar analyses on accelerometer data on exercise at 3 months (adjusted treatment difference of 48.5 minutes/week, $t = 4.08$, $p < .0001$) and at 6 months (adjusted difference of 38.7 minutes/week, $t = 3.22$, $p < 0.01$). **CONCLUSIONS:** These data are innovative because peer mentoring for exercise promotion has not been widely examined and has not been tested among cancer survivors. Our results showed that community volunteers/peer mentors can be trained to deliver an exercise program safely and they were able to significantly increase breast cancer survivors' exercise participation. Hence, peer mentoring for exercise promotion can be an effective way to increase intervention delivery capacity. Such interventions are likely to be less expensive and may appeal to a wider group of survivors who may otherwise not seek help. **RESEARCH IMPLICATIONS:** Extending the reach of health behavior interventions after a cancer diagnosis will impact the growing number of cancer survivors. Peer support is an innovative way to promote exercise among cancer survivors. Our results showed that community volunteers/peers can be trained and supervised to deliver an exercise intervention for cancer survivors and such peer mentoring can significantly increase exercise among breast cancer survivors. Peer mentoring can help scale up interventions and increase intervention delivery capacity. **CLINICAL IMPLICATIONS:** Cancer survivors who adopt exercise are likely to reduce their risk for cardiovascular disease and other chronic diseases. With training and supervision, peer volunteers were able to provide exercise counseling for fellow cancer survivors. Breast cancer survivors who received such counseling significantly increased their exercise. **ACKNOWLEDGEMENT OF FUNDING:** Supported by the National Cancer Institute (R01 CA13285)

S12-2

Effects of Healthy Lifestyle Behavior Changes on Psychological Adjustment Among Family Cancer Caregivers Five Years After the Relative's Initial Diagnosis

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BACKGROUND: Family caregivers of cancer patients often report elevated psychological distress, not only around the time of diagnosis/ treatment but also years afterward. Although little is known, literature suggests three groups of variables as plausible predictors of distress. Thus, we examined the effects of caregivers' (a) demographics, (b) early caregiving stress, and (c) changes in healthy lifestyle behaviors on changes in psychological adjustment from two (T1) to five (T2) years after a relative's diagnosis. **METHOD:** Family caregivers participating in a nationwide study provided valid data for the study variables at T1 and T2 ($n = 387$). Self-reported demographics (age, gender, education, and income), perceived caregiving stress (Pearlin Stress Overload subscale), care recipient's cancer severity, days per week of consuming five or more servings of fruit and vegetable (FVC), minutes per week of performing moderate or vigorous exercise (PA), and psychological adjustment (POMS anxiety, depression, and vigor) were measured at T1. FVC, PA, and the POMS were assessed again at T2. **RESULTS:** Participating caregivers reported mild levels of anxiety and depression and moderate levels of vigor at both assessments. At T1, 36.3% and 16.8%; and at T2, 43.5% and 21% met recommended levels of FVC and PA, respectively. Hierarchical regression revealed that greater anxiety at T2 was predicted by anxiety at T1 and decreased PA ($ps < 0.01$); greater depression at T2 was predicted by depression at T1, more severe cancer of the relative, and decreased PA ($ps < 0.05$); and greater vigor at T2 was predicted by vigor at T1, higher PA at T1, and increased PA ($ps < 0.03$). **CONCLUSIONS:** The majority of family members of cancer survivors does not engage in healthy diet and exercise at the level recommended for healthy adults. Our findings suggest that greater anxiety and depression 5 years after the relative's initial cancer diagnosis are attributable to lack of moderate or vigorous physical activity, after controlling for their initial level of anxiety, depression, and other demographics and earlier caregiving stress. On the other hand, increased vigor during the mid-term survivorship phase is related to increased engagement in moderate or vigorous levels of physical activity. **RESEARCH IMPLICA-**

TIONS: Identifying factors that are significantly related to family caregivers' increases in physical activity in transit to the long-term caregivership phase warrants developing efficient physical activity interventions for caregivers. Such interventions may, in turn, reduce anxiety and depression and thereby improve the psychological health of family members of cancer patients and survivors. CLINICAL IMPLICATIONS: Family members may be receptive to programs that promote healthy lifestyle behaviors throughout the relative's illness trajectory thereby improving their mood and reducing their own risk for cancer and other chronic diseases. ACKNOWLEDGEMENT OF FUNDING: This study was supported by American Cancer Society, National Home Office Intramural Research.

S12-3

Health Behavior in Cancer Survivorship: Prospective Investigations in the Danish Diet, Cancer and Health Cohort

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BACKGROUND: In order to improve cancer survival and quality of life after cancer, knowledge is needed on the role of health behavior in cancer survivorship. This presentation summarizes results from three prospective studies: two which compares changes in health behavior after a cancer diagnosis with changes in cancer-free men and women, respectively and one study which examines the role of pre-diagnosis alcohol consumption in breast cancer prognosis. METHOD: The studies are based on data from the Danish Diet, Cancer and Health (DCH) cohort aged 50–65 years at inclusion. The studies on health behavior changes included 426 men with cancer, and 20 488 men who were cancer-free between baseline (1993–1997) and follow-up (2000–2002) and 449 women with breast cancer and 22 971 who were breast cancer-free. Multiple linear regression models were used to determine differences in changes in BMI, alcohol and tobacco consumption. The third study examined the role of alcohol consumption in breast cancer recurrence and breast cancer specific mortality in 1052 women using Cox Proportion Hazards model. RESULTS: Men with cancer do decrease their BMI and tobacco consumption compared to cancer-free men. Women with breast cancer do not make changes in their health behavior that are significantly different from breast cancer-free women. Women who had high alcohol consumption had a higher risk of breast cancer recurrence. A higher risk was also observed for breast cancer specific

mortality, although this was not statistically significant. CONCLUSIONS: Men with cancer do make health behavior changes on BMI and tobacco consumption towards the recommendations, but women with breast cancer do not make more health behavior changes after a cancer diagnosis compared to cancer free populations. Pre-diagnosis alcohol consumption does play a role for cancer prognosis. There is a great potential for targeting modifiable factors including health behavior in order to improve life after cancer. RESEARCH IMPLICATIONS: The strengths of the studies include the prospective design with the health behavior reported prior to the cancer diagnosis. Also, the wide variation in alcohol intake improved power and allowed dose-response examinations. Further prospective studies are needed to evaluate the impact of health behavior including tobacco and alcohol consumption, diet, physical activity, and BMI on cancer prognosis. CLINICAL IMPLICATIONS: Knowledge about changes in health behavior after the cancer diagnosis will be essential for planning health behavior interventions targeted towards cancer patients in order to improve prognosis and quality of life. ACKNOWLEDGEMENT OF FUNDING: The study on changes in health behavior among women with breast cancer is supported by “Sygekassernes Helsefond” and the Nordic Cancer Union.

S13-1

Improving Response in PRO Measures: Results of the Population-Based Online PROFILES Registry

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BACKGROUND: Improving response is an everlasting issue for research. We conducted two experiments to improve response in our PROFILES studies. PROFILES is a registry for the study of the physical and psychosocial impact of cancer and its treatment from a population-based cohort of cancer survivors. The first experiment compared the invitation manner for online and paper questionnaires among colorectal cancer (CRC) patients. The second experiment included a gift card as an incentive for lymphoma patients. METHOD: For the first experiment 3064 CRC patients had the option of filling out an online questionnaire or requesting a paper-and-pencil questionnaire by means of a reply card (usual approach). Two-hundred randomly selected CRC patients immediately received a paper-and-pencil questionnaire (experimental approach). They could also choose to fill out the online questionnaire. For the second experi-

ment we sent a questionnaire including a gift card of 10 euros to 60 respondents who had lymphoma and were invited for the third time to fill out a questionnaire. We chose the third time because we see that many respondents quit at that time point. **RESULTS:** In the first experiment there was no significant difference in response (75%). However, there was a difference in the online/paper completion. In the cohort which did not receive the paper questionnaire 41% responded online versus 13% in the cohort which did receive a paper questionnaire. Characteristics of respondents between the two groups did not differ. Online response per age group varied from 62% in the youngest group (<60 years) to almost 20% in the oldest group (>80 years) in the usual approach group. Results of the second experiment will be available in November 2013. **CONCLUSIONS:** In our study it did not matter for the overall response in which way respondents were invited. However, online response was significantly lower in the cohort that received a paper questionnaire with their invitation. Therefore we would recommend to first invite respondents without a paper questionnaire, so that online response is as high as possible. Almost 20% of the respondents of 80 years and older responded online, which means that age does not have to be a limitation for online questionnaires. **RESEARCH IMPLICATIONS:** The results of our experiments can provide researchers with guidance on how to approach their target samples in order to gain as high (online) response as possible. **CLINICAL IMPLICATIONS:** **ACKNOWLEDGEMENT OF FUNDING:** The present research was supported by the Comprehensive Cancer Centre South CCCS, Eindhoven, the Netherlands; the Centre of Research on Psychology in Somatic Diseases (CoRPS), Tilburg University, the Netherlands; and an Investment Subsidy (#480-08-009) of the Netherlands Organisation for Scientific Research (The Hague, The Netherlands).

S13-2

Low SES and Mental Health Outcomes in Colorectal Cancer Survivors: Using the PROFILES System to Conduct Cancer Survivorship Research

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BACKGROUND: Mental health (MH) outcomes in cancer survivors are influenced by the resources a survivor possesses or can access which might enable them to cope successfully with the stressors posed

by their cancer experience. Socioeconomic status (SES) is associated with potential coping resources including health care access, education, information and social capital. This study sought to examine the relationship between SES and both negative (i.e. distress) and positive (i.e. growth) MH outcomes in cancer survivors. **METHOD:** Data were accessed through the "Patient Reported Outcomes Following Initial Treatment and Long term Evaluation of Survivorship" (PROFILES) website. Colorectal cancer survivors ($n = 1300$; mean 4.0 years post-diagnosis) were recruited from a regional, population-based cancer registry in the Netherlands. Survivors completed a questionnaire consisting of measures of negative (SF-36, HADS) and positive (Impact of Cancer (IOC) Scale) MH outcomes. Low, Medium, and High SES survivors were identified using an area-level indicator of SES based on postal code of residence at diagnosis. One-way ANCOVA and logistic regression were used to compare the three SES groups on positive and negative MH outcomes. **RESULTS:** ANCOVA (covariates: age, partner status, cancer type, smoking status, sex, physical comorbidity) and logistic regression analyses indicated low SES was a risk factor for greater negative MH outcomes. Relative to high SES survivors, Low SES survivors reported poorer status on 9 of 9 indices of negative MH and were twice as likely to report clinically important levels of anxiety and depression. On the other hand, relative to High SES survivors, Low SES survivors reported better status on 2 of 5 indices of positive MH (i.e. IOC Positive Self-Evaluation and Meaning of Cancer subscales). **CONCLUSIONS:** Study findings are the first to suggest low SES is associated with an increased likelihood of both greater negative as well as positive MH outcomes in cancer survivors. Study findings thus support the view, based on trauma theory, that reactions to traumatic or stressful events may simultaneously involve both distress and growth outcomes. The research also highlights the utility of the PROFILES system approach to linking population-based cancer registry information with patient-reported outcomes as a platform for fostering successful international research collaborations intended to increase scientific understanding of the cancer survivorship experience. **RESEARCH IMPLICATIONS:** The innovative PROFILES system represents an outstanding platform for conducting research examining significant issues in cancer survivorship. The PROFILES system is user-friendly and easily accessible to cancer researchers worldwide. **CLINICAL IMPLICATIONS:** SES should be considered when assessing risk for negative MH outcomes in cancer survivors. Low SES is associated with greater risk for poor MH outcomes and is thus a disadvantage. However, low SES may also be associated with a greater propensity for deriving positive outcomes from the cancer experience. Clinical management

of low SES survivors should focus on minimizing distress while also harnessing the potential for growth evidenced by low SES survivors. **ACKNOWLEDGEMENT OF FUNDING:** None.

S13-3

Clinical Applications of the ePOCS System:

Preliminary Findings, Challenges and Implications

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BACKGROUND: With improving cancer survivorship, clinically reliable, patient-centred, cost-effective risk-stratified care models are being developed. These models are likely to include systematic collection of Patient Reported Outcomes (PROs) for both individual patient monitoring and to inform future models of care. Electronic systems provide a means for PROs collection at scale and over time. We report preliminary evaluation of three clinical practice pilot service development projects using an electronic PROs system designed originally for use in research. **METHOD:** The electronic Patient-reported Outcomes from Cancer Survivors (ePOCS) system was developed to collect PROs online and linked with clinical data within the cancer registry. ePOCS comprises a web-based questionnaire administration and management system (QTool), a secure tracker database for monitoring of and correspondence with patients and scheduled secure electronic data transfers between systems. Additional programming has enabled individual electronic patient records to be linked securely with QTool identifiers thus allowing real-time patient assessment from home or hospital. The PRO data are stored for group analyses within the hospital system and may be transferred to the cancer registry for population analyses. **RESULTS:** The technologies are being piloted in three clinical areas.

1. Nurse led Holistic Needs Assessment using the Distress Thermometer: 150 patients invited to complete HNA, 82 patient completions, 68 non-completions.
2. Co-morbidity assessment with linked co-morbidity questionnaires (patient: self-report; clinician: ACE-27) with co-morbidities, domain scores and overall co-morbidity scores generated: 73 patient completions, 62 clinician completions, 46 partial/non-completions.
3. Risk-stratified follow-up in germ cell practice: pilot to start in summer 2013. Issues influencing implementation include: ease of use, timing, staffing, perception of usefulness and administrative and logistical challenges. Staff attitude

was a key influence in determining implementation.

CONCLUSIONS: The ePOCS system, adapted for use in clinical practice, provides the technical infrastructure to routinely collect and link PROs, collected online, to the electronic patient record. More than half of patients scheduled for assessment completed one. Most reasons for non-completion are understood within the framework of the Unified Theory of Acceptance and Use of Information Technologies (Venkatesh et al 2003). Suggestions to aid implementation include: dedicated space and easy computing access, engagement with staff (administrative, clinical and management) from early on in planning and during implementation, a dedicated lead, good training and support and realistic prioritisation of the assessment. **RESEARCH IMPLICATIONS:** Two areas for consideration:

1. Investigation into the reasons why patients and staff engage/don't engage with electronic assessment systems with a view to developing interventions to enhance adoption.
2. PROs collected as part of routine care, developed for individual patient care, may not have adequate psychometric properties for use in large scale group analyses. Issues of significance include the ethics of data sharing, PRO questionnaire selection, sample bias and timing of assessments.

CLINICAL IMPLICATIONS: Patients who are older and less affluent and, therefore possibly in need of most support, may be further disadvantaged by lack of easy access to web-based health information technologies. Alternative strategies will be needed for this minority group. Staff will need adequate time, ongoing training and recognition for undertaking e-assessments. Those undertaking the assessment should be included from the start in plans for implementation. Group data should be disseminated to clinical teams for critical evaluation. **ACKNOWLEDGEMENT OF FUNDING:** We wish to thank Macmillan Cancer Support for funding the development and evaluation of the ePOCS system and the research staff who have been involved over the years. The National Cancer Intelligence Network provided additional funding to enable implementation of the co-morbidity assessment. Cancer Research UK gave funding to link QTool to the electronic patient record within the hospital firewall.

S13-4

Sharing Data for Academic Use: Experiences From the PROFILES Registry Group

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BACKGROUND: PROFILES (Patient Reported Outcomes Following Initial treatment and Long term Evaluation of Survivorship) is a registry for the study of the impact of cancer and its treatment from a population-based cohort of cancer survivors. It aims to provide an (inter-) national resource for research into the physical and psychosocial well-being of cancer survivors. Therefore, data from PROFILES will be freely available for non-commercial scientific research, subject only to privacy and confidentiality restrictions (www.profiles-registry.nl). **METHOD:** PROFILES contains both a web-based and paper-and-pencil questionnaire component and is linked directly to detailed clinical data from the population-based Eindhoven Cancer Registry. The availability of a control cohort of 2000 persons from the general population provides the opportunity to estimate the unique impact of cancer, beyond that of normal aging and comorbidities. Every researcher at a university or research institute in the Netherlands or abroad can submit a proposal for usage of PROFILES data. Proposals are reviewed by the PROFILES executive board. Once a research proposal has been accepted, data are provided, free of charge. **RESULTS:** Since 2010, PROFILES data are available for international academic use. Currently, over 15.000 (colorectal, melanoma, lymphoma, thyroid, endometrial, prostate-) cancer survivors and 2000 persons from a normative population have completed a questionnaire at any point in time. A few cohorts already have two waves available for open use. Since 2010, 49 researchers have been using PROFILES data, resulting in 23 accepted/published peer-reviewed publications. At the IPOS conference we will share our experiences with long-term data warehousing and dissemination (following quality guidelines formulated in www.datasealofapproval.org) and discuss privacy aspects, international research competition, reliability of data and funding of future data collection. **CONCLUSIONS:** Since the availability of PROFILES data in 2010 the use has steadily increased with an acceleration of use in the past months. We expect the usage to double in the coming year. Word of mouth 'advertising' of PROFILES users appears to be very important for this increase. PROFILES data have already been used to answer research questions that were not among the primary or secondary research aims of our group when data collection was initiated, suggest-

ing an optimization of use of research data. **RESEARCH IMPLICATIONS:** The evaluation of new treatments and care protocols for cancer patients is traditionally focused on biological outcomes, specifically disease-free and overall or relative survival. However, today health-related quality of life is also recognized to be important, especially since many new therapies have only a marginal impact on survival rates, and many survivors face continuing physical and psychosocial problems after completion of primary treatment. PROFILES provides these data for international use and facilitates cancer survivorship research. **CLINICAL IMPLICATIONS:** The primary goal of studies that use the PROFILES registry are to identify patients at high risk for poor physical and mental health outcomes, to analyse mediating mechanisms to better understand the biological and behavioral factors associated with cancer treatment outcomes, and to evaluate physical and psychosocial care needs of cancer survivors. Results of PROFILES studies will therefore contribute to better care and aftercare for both patients and survivors. **ACKNOWLEDGEMENT OF FUNDING:** The present research was supported by the Comprehensive Cancer Centre South CCCS, Eindhoven, the Netherlands; the Centre of Research on Psychology in Somatic Diseases (CoRPS), Tilburg University, the Netherlands; and an Investment Subsidy (#480-08-009) of the Netherlands Organisation for Scientific Research (The Hague, The Netherlands).

S14-1

Spiritual Needs of Patients and the Role of Doctors in Meeting Them

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BACKGROUND: Interest in spirituality is increased in patients facing life-threatening illness. Research has demonstrated links between spiritual well-being and health. Although it is well established that many patients appreciate medical staff enquiring into their spirituality, the role of doctors in providing spiritual care is not clear. The aim of this study was to identify the spiritual needs of Australian cancer patients and their preferences regarding the engagement of doctors with their spiritual needs. **METHOD:** This was a multi-site qualitative study using semi-structured interviews to elicit the views of advanced cancer patients ($n = 15$). The patients encompassed three groups, namely > 1 year, <1 year or <1 week prognosis, and purposive sampling was used so the cohort was comprised of mixed cancer types and a broad range of demographic variables. No identified eligible patients refused consent. Interviews were recorded

digitally and transcribed verbatim. Initial interview data was double-coded then subjected to grounded theory analysis to determine relevant themes. The research team met regularly during the study to discuss ongoing analysis. **RESULTS:** Spirituality was important to all patients and identified as the way to find existential peace in difficult circumstances. Access to sources of spiritual strength was important in moving from hoping for cure to accepting that death was inevitable. This process could be facilitated by both patients and medical staff. Although 13/15 patients thought it was important that doctors be aware of their spirituality, they felt time spent dealing with spiritual issues would be a trade-off with time needed for discussion of physical problems. Patients were not confident that all doctors had the required skill to deal with such issues. **CONCLUSIONS:** Australian patients define spirituality in terms which are not primarily religious. Family relationships and personal inner resources are also important sources of strength to the terminally ill cancer patient. It was important to patients that doctors were aware of the source of their spiritual strength and that these beliefs were viewed with respect. Patients benefited from having access to sources of strength during hospitalisation. Patients expressed ambivalence regarding willingness to sacrifice time needed for physical problems to deal with spiritual issues during medical consultations, especially since many doctors were not comfortable discussing spiritual matters. **RESEARCH IMPLICATIONS:** The literature suggests that despite high levels of patient appreciation of doctor enquiry regarding spiritual needs, it remains uncommon. Further research should explore facilitators and barriers to medical engagement with patients' spiritual needs. If doctors are to be more involved with spiritual care of patients, the communication skills required for eliciting a spiritual history need to be identified for training purposes, and the care pathways for spiritual problems clarified. **CLINICAL IMPLICATIONS:** These findings suggest that medical staff can begin to consider patient spirituality in the context of normal history taking by enquiring about sources of strength in adversity, and facilitate spiritual care by respecting these values and promoting access to identified sources of strength during hospitalisations. Patient desires for holistic care should inform clinical practice in advanced cancer. **ACKNOWLEDGEMENT OF FUNDING:** This study was in part funded by an Australian Postgraduate Award.

S14-2

Suffering in Cancer – Conceptualization, Assessment and Interventions. A Systematic Literature Review

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BACKGROUND: Existential or spiritual suffering is one of the most debilitating conditions found in cancer patients and yet is a neglected area of care because of the lack of conceptual understanding and definition, and few documented interventions. Failure to recognize suffering may result in treatment of the patient with cancer in such a way as to increase suffering. This project was undertaken to inform development of guidelines for psychosocial care of cancer patients. **METHOD:** A literature search focusing on the conceptualization, assessment and management of suffering across all cancers was undertaken. Articles with a focus on adult patients diagnosed with cancer across the cancer trajectory (diagnosis through to survivorship/palliation) published between 1992 and 2012 in MEDLINE, Embase, PsycINFO and the Cochrane Library databases were included. To ensure a broad range of conceptualizations of suffering in cancer were identified, the search strategy was developed iteratively, using results of preliminary searches to develop a list of concepts identified as synonymous with suffering, or potentially measurable 'symptoms' of suffering in the literature. **RESULTS:** 125 studies were identified which discussed definitions or conceptualizations of suffering. Synthesis of the results led to development of a comprehensive definition. Regarding its assessment, it was found that the multi-dimensional and subjective nature of suffering, its variance depending on culture and context, and the difficulty of explicitly articulating suffering needs to be taken into account. 58 measurement instruments/tools were found, and their validity and reliability were checked. 42 good quality studies were identified as exploring the effectiveness of interventions designed to alleviate suffering of people diagnosed with cancer targeting seven patient domains, and outcomes reviewed. **CONCLUSIONS:** The systematic review revealed that, while there is no universally recognized definition of suffering, suffering is multi-dimensional and personal, involving the whole person. There is disagreement as to the benefit of identifying the different domains where suffering is focused: social, physical, psychological or spiritual/existential. While this process may assist in identifying triggers and symptoms of suffering, it may impede an holistic approach to care. Suffering results from person-

alization of illness and the meaning attributed to symptoms by the individual patient must be understood before symptoms can be fully addressed. **RESEARCH IMPLICATIONS:** This review identified problems for both patients and clinicians in recognizing suffering. More research is needed to develop measures which facilitate diagnosis of suffering. While specific interventions are being developed to alleviate suffering, more needs to be done to support and train healthcare staff in their care and understanding of the suffering patient. **CLINICAL IMPLICATIONS:** Suffering in cancer patients is a significant problem which needs to be diagnosed before treatment can proceed. The literature was reviewed in order to improve patient care by educating healthcare providers regarding how to understand the concept of suffering, how to identify it in patients, and what interventions may be of benefit. **ACKNOWLEDGEMENT OF FUNDING:** This project received funding from the Australian Government through Cancer Australia.

S14-3

How do Australian Palliative Care Nurses Address Existential and Spiritual Concerns? Facilitators, Barriers and Strategies

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BACKGROUND: This study aims to investigate the facilitators, barriers and strategies that Australian Palliative Care nurses identify in providing existential & spiritual care for patients with life limiting illnesses. **METHOD:** We interviewed 20 Palliative Care nurses from a cross section of area of work, place of work, years of experience, spiritual beliefs and importance of those beliefs within their lives. Questions focused on their current practices of existential and spiritual care, identification of facilitators of, barriers to and strategies for provision of that care. Their responses were transcribed and subjected to thematic analysis. **RESULTS:** The nurses' interviews yielded several themes including development of the nurse-patient relationship (14/20 nurses), good communication skills and examples of questions they use to 'create openings' to facilitate care. Barriers were identified as; lack of time (11/20 nurses), skills, privacy & fear of what you may uncover, unresolved symptoms and differences in culture or belief. Novel to our study, the nurses offered strategies that included; undertaking further education in this area, being self-aware and ensuring the setting is conducive to in-depth conversations and interactions and documentation and/or interdisciplinary sharing for continuity of care. **CONCLUSIONS:** Palliative Care nurses are well placed to provide existential and

spiritual care to patients with the primary facilitator being the nurse-patient relationship, the primary barrier being lack of time and the primary strategy being undertaking further education in this area. These findings could be used for nurse – support programs, undergraduate or graduate studies or communications workshop for nurses **ACKNOWLEDGEMENT OF FUNDING:** None.

S14-4

Testing a New Intervention for Cancer Patients to Address Spiritual Concerns

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BACKGROUND: Spiritual care plays an important role in physical and psychosocial well-being of cancer patients – especially for patients with incurable cancer. Nevertheless, appropriate, effective, and brief interventions to address spiritual concerns are still lacking. Therefore we have developed a brief interview model with an e-application to address spiritual concerns. The objective was to pilot-test the intervention. **METHOD:** Based on previous research an interview model with a supportive e-application was developed. Nine spiritual counsellors from seven hospitals participated in the pilot study. All counsellors had two training sessions where they learn how to perform the intervention. Each counsellor interviewed two participants; one student and one cancer patient. Outcomes were lifelines drawn by the participants, experiences of events, defined life goals and experience of (in) consistency. These outcomes were collected on the iPad and stored at a central database. Interventions were evaluated from participants' and counselors' perspective. All 18 interviews were recorded, transcribed and analyzed using Atlas.ti. **RESULTS:** The pilot-study is ongoing. At the conference we will present the results of the pilot-study and its implications for the construction of the randomized clinical trial (RCT). The intervention consists of two consultations of one hour. The result of Consultation I is a reconstruction of the participant's life story and his/her interpretation. The result of the analysis, carried out by the spiritual counsellor, is a framework for observation and interpretation. In Consultation II the participant reflect on this framework and discuss with the spiritual counsellor what kind of tension or coherence between life events and life goals can be identified. **CONCLUSIONS:** The pilot-study will generate data that will improve the subsequently planned RCT. This will be the first RCT to evaluate the role of an assisted structured reflection on life events and ultimate life

goals to improve patients' quality of life and spiritual wellbeing. Insight into one's ultimate life goals is expected to help patients to integrate a life event such as cancer into their lives. A prospective study in patients is needed to empirically examine whether insight into one's ultimate life goals improves quality of life and spiritual wellbeing. **RESEARCH IMPLICATIONS:** To date, evidence-based interventions to improve spiritual care are lacking and therefore much needed in order to improve the field of psycho-oncology. Technical innovations are increasingly being adopted in health care. The current intervention, pilot study and future RCT will stimulate further research and the outcomes are essential for further improving

the research-field. **CLINICAL IMPLICATIONS:** Since the intervention is brief and based on skills spiritual counselors are familiar with, it can be easily implemented in routine patient care and incorporated in spiritual care guidelines. Moreover, with this intervention spiritual counselors can become more structurally involved in the health care of cancer patients. We believe that evidence-based interventions on spiritual care may aid in further professionalization of spiritual counseling and structural incorporation into daily patient care. **ACKNOWLEDGEMENT OF FUNDING:** This study is funded by KWF, the Dutch Cancer Society/ Alpe du'HuZes and Janssen Pharmaceutical Companies.

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Poster Abstracts

P1-1

Psychological States and Coping Strategies after Bereavement Among Spouses of Cancer Patients: A Quantitative Study in Japan

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BACKGROUND: Comprehension and assessment of psychological states and coping strategies during spousal bereavement are necessary for hospital staff to provide psychological care in clinical practice. The purposes of this study were (1) to characterize psychological states and coping strategies after bereavement among spouses of cancer patients in Japan and (2) to explore the factors associated with psychological states in oncology settings. **METHOD:** In March 2009, questionnaires to assess spouses' psychological states, coping strategies, and mental health states (GHQ-28) were sent after patients died at the National Cancer Center of Japan. To address the first purpose, exploratory factor analysis, gender comparison, and calculation of correlation with age, time since bereavement, and mental health states were conducted. Hierarchical regression analysis was conducted to address the second purpose. **RESULTS:** A total of 821 spouses experiencing bereavement for 7 months to 7 years participated in the study. Psychological states revealed three factor structures: "Anxiety/Depression/Anger", "Yearning", and "Acceptance/Future-Oriented Feelings". Coping strategies also revealed 3 factor structures: "Distraction", "Continuing Bonds", and "Social Sharing/Reconstruction". Coping strategies represented 18% to 34% of each factor associated with psychological states, whereas the characteristics of bereaved spouses and deceased patients represented 6% and <6%, respectively. More "Distraction and Social Sharing/Reconstruction" and less "Continuing Bonds" were signifi-

cantly associated coping strategies for achieving "Acceptance/Future-Oriented Feelings" ($p < 0.01$). **CONCLUSIONS:** Both psychological states and coping strategies after bereavement revealed 3 factor structures. Coping strategies was the primary, bereaved spouses' characteristics was the secondary, and deceased patients' characteristics was the tertiary factor associated with psychological states. Enhancing "Distraction" and "Social Sharing/Reconstruction", and reducing "Continuing Bonds" might be promising strategies for achieving positive psychological states of the bereaved. **RESEARCH IMPLICATIONS:** Based on the Western theoretical framework of "stress and coping theory", coping strategies were the primary associated factor of psychological states, beyond the characteristics of bereaved spouses/deceased patients. The strategy for encouraging coping strategies would contribute to positive psychological states in the bereaved. **CLINICAL IMPLICATIONS:** All 3 factors of coping strategies ("Distraction", "Continuing Bonds", "Social Sharing/Reconstruction") included adaptive and maladaptive items. Each item characteristics would be useful to comprehend and assess whether coping strategies utilized by the bereaved are adaptive or not in clinical practice. **ACKNOWLEDGEMENT OF FUNDING:** This research was supported in part by Grants-in-Aid for Cancer Research and the Third-Term Comprehensive 10-Year Strategy for Cancer Control from the Ministry of Health, Labour and Welfare, Japan.

P1-2

Patterns of Coping Strategies after Bereavement Among Spouses of Cancer Patients

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BACKGROUND: The purposes of this study were (1) to identify healthy and unhealthy patterns of coping strategies after bereavement among spouses of cancer patients and (2) to explore the characteris-

tics of patients and spouses associated with these patterns of coping strategies, so that we could suggest the strategies for improving the unhealthy coping patterns after spousal bereavement and the indicators for early detection of high-risk spouses. **METHOD:** In March 2009, questionnaires to assess spouses' coping strategies ("Distraction", "Continuing Bonds", and "Social Sharing/Reconstruction"), psychological states ("Anxiety/Depression/Anger", "Yearning", and "Acceptance/Future-Oriented Feelings"), and mental health states (GHQ-28) were sent after patients died at the National Cancer Center of Japan. Non-hierarchical cluster analysis was used to identify patterns of coping strategies. Analysis of variance or chi-Square test were used to identify healthy and unhealthy patterns by comparing their psychological states, mental health, and potential psychiatric disorders identified by the cut-off score of the GHQ-28. Discriminant analysis was conducted to explore the characteristics associated with these patterns of coping strategies. **RESULTS:** A total of 821 spouses returned the questionnaires. Three patterns of coping strategies were "Distraction Focused ($n = 215$)", "Continuing Bonds Focused ($n = 219$)", and "General Coping ($n = 215$)". Mental health was unhealthier in "Continuing Bonds Focused". Prevalence of potential psychiatric disorders was higher in "Continuing Bonds Focused" and lower in "Distraction Focused" than expected value. The patients' characteristics associated with "Continuing Bonds Focused" were "history of psychiatric consultation", "duration of last hospital admission was less than one week", "time since cancer diagnosis to death was less than one year", and "under 65 years". **CONCLUSIONS:** Two strategies for improving the unhealthy coping patterns of "Continuing Bonds Focused" were (1) enhancing "Distraction" and reducing "Continuing Bonds" for achieving "Distraction Focused (healthy)" and (2) enhancing both "Distraction" and "Social Sharing/Reconstruction" for achieving "General Coping (almost healthy)". **RESEARCH IMPLICATIONS:** Two strategies for improving the unhealthy coping patterns of "Continuing Bonds Focused" among bereaved spouses were identified. These strategies would be useful to develop an original Japanese program of psychological support for the bereaved who have lost their spouses to cancer. **CLINICAL IMPLICATIONS:** Four patients' characteristics whose spouse would utilize the unhealthy coping patterns after bereavement were identified. These indicators would be useful for early detection of high-risk spouses during end-of life (EOL) care. **ACKNOWLEDGEMENT OF FUNDING:** This research was supported in part by Grants-in-Aid for Cancer Research and the Third-Term Comprehensive 10-

Year Strategy for Cancer Control from the Ministry of Health, Labour and Welfare, Japan.

P1-3

OmSorg - Dealing With Bereavement Lessons Learnt from the Implementation of Action Plans in all Danish Schools and Kindergartens

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BACKGROUND: Every year more than 2500 Danish children under the age of 18 experience the loss of a parent by death. Another 42,000 children experience that their mum or dad is acute hospitalized with a severe illness. **METHOD:** For more than 18 years the project OmSorg (Dealing with Bereavement) has been a nationwide practical founded school and kindergarten based intervention towards children (age: 0–18) in loss and grief. The aim is to secure responsible adult help to grieving children - no matter the course of the grief. The main effort has been to inspire and support teachers and kindergarten staff in attending these difficult matters. This is done by offering educational materials, giving lectures, consultation and courses, establishing training groups for bereaved children, working with the media and by political lobbyism. **RESULTS:** One of the basic conditions in working with children in loss and grief is that the teachers share a common approach on what their basic responsibilities are. One of the main tasks has been to encourage the teachers in establishing Action Plans for their meeting with grieving children. An annual randomised survey among all Danish Public Schools (since 1997) and Kindergartens (since 2003) shows the development on the following issue:

"Do you have a written down Action Plan on how to comply with children in loss and grief?"

Schools	Kindergartens
1997: 4%	2003: 23%
2012: 96%	2012: 86%

CONCLUSIONS: In our opinion, the basic condition when working with bereaved children is that the responsible adult person involved in the child's unbearable situation makes space for the child to be heard, seen and understood. The "Action Plans" is an effective tool towards achieving this goal. The key to this work is to denounce the part of our upbringing that taught us that silence is golden. Grief is not an illness, but on the contrary a very tough condition of life. If we realise that SPEECH is golden, we can help the child continue life in spite of the wounds in

the soul. **RESEARCH IMPLICATIONS:** If we want to really spread the good practice of helping grieving children, the caretakers are very much dependend of the researchers to proove the effectiveness of their effort with reliable data. **CLINICAL IMPLICATIONS:** It is possible - over a period of 10 years - to change a whole country's attitude toward issues concerning responsible adult help to grieving children and adolescents in Schools - and Preschool settings. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-4

OmSorg - Dealing With Bereavement Integrating Training Groups for Bereaved Children in Public School Settings in Denmark

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BACKGROUND: In every Danish Public School there are 6–7 children suffering from the loss of a parent, 1 or 2 who have lost a sister or a brother and some 12–20 kids carries the anxiety and insecurity knowing that their mum or dad is seriously ill or dying. **METHOD:** From more than 20 years of experience in the field, we know that a very efficient way to help grieving children in coping with the sad feelings of loss and despair, is to establish Training Groups lead by responsible adults. As a consequence of our work, today there are some 220 training groups in Denmark. Unfortunately his is still far too few to meet all grieving children's needs. **RESULTS:** To remedy this sad fact OmSorg has laubched the project: "Training Groups in Schools". It is a 4 years intervention in cooperation with a vast number of public schools in 3 selected municipalities. The present status of the project is that up to 50 new groups have started within the school system. They are led by 150 volunteer teachers, therapists and schoolnurses. We follow, describe, evaluate and report the process closely over the next 3 years. The presentation will take you through the first qualitative evaluation on the bennefits of beeing part of a group reported by the children involved. **CONCLUSIONS:** The obviously goal is that the government must take its share of responsibility for the training groups' operations. Thus, we expect that at least 50% of all Danish schools have established Training Groups for grieving children within the next 10 years. The need is very much present, as most existing groups report long waiting lists. In short - We work for that in the future there will be no need to put children's grief on the waiting list. **RESEARCH IMPLICATIONS:** In all - to us known - evaluations of programmes aimed towards bereaved children we have never come across an evaluation

where the children involved has been given the opportunity to speak for themselves. This is (perhaps for the first time) done in our evaluation. **CLINICAL IMPLICATIONS:** Training groups implemented in Public School settings is in many ways a very direct, cheap and helpfull effort towards bereaved children. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-5

OmSorg - Dealing With Bereavement Working With Training Groups for Bereaved Children

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BACKGROUND: Every year more than 2500 Danish children under the age of 18 experience the loss of a parent by death. Another 42,000 children experience that their mum or dad is acute hospitalized with a severe illness. One of the basic conditions in working with children in loss and grief is that the responsible adult person involved in the child's unbearable situation makes space for the child to be heard, seen and understood. **METHOD:** A very efficient way of helping grieving children in coping with the sad feelings of loss and despair is to establish Training Groups lead by responsible adults. In the group the children can meet peers who are in a situation very similar to their own. They listen to one another, discuss similarities, differences and problems. For once they can be in a context where everyone can look at one another and freely say: "I know exactly how you feel". **RESULTS:** Since the early start in 2000 OmSorg has managed to start or support others to establish more than 220 training groups nationwide. This is still far too few to meet the needs of all grieving children, but it is a successful beginning. **CONCLUSIONS:** 220 groups is - as mentioned - far to few. One of the biggest obstacles is that the work in the groups is based on volunteering. It takes time to find the right place for the group setting, funding, advertsing etc, etc. Often up 2 years of practical work before the group is established. And then - sadly enough - many volunteers are burned out when at last beeing at the center of their work. Here we do a great effort for making the number of groups to increase. **CLINICAL IMPLICATIONS:** The presentation will present some details from the work, point out some of the benefits and outcomes for the child to be part of the group, and finally give a short presentation on our future plans. In addition we will show a few samples from a TV-documentary describing the work done in one of the training groups. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-6

**“What Bothers Me? The Memory”:
An Interpretative Phenomenological Analysis**

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BACKGROUND: Whereas a grief-related disorder tapping prolonged disabling reactions might be included in the DSM 5, the mechanisms underlying it remain poorly described. Some studies highlighted the risk for bereaved spouses after a cancer to develop this disorder, especially when reporting an insecure attachment. However no qualitative study explores associations between attachment styles and adjustment to grief in this population. This study aims at enhancing knowledge about the delineation of this debilitating condition. **METHOD:** The interview of a male widower (57 years) of a cancer patient, presenting a disorganized attachment and meeting at 6 months post-death the criteria for PGD (Inventory of Complicated Grief, Prigerson et al., 1995) was subjected to an Interpretative Phenomenological Analysis (IPA, Smith, Flowers & Larkin, 2009). This standardized analysis targets the meaning making processes with regards to attachment styles. **RESULTS:** Three inter-related master themes are presented: (1) Forgetting, and continuing bonds; (2) Guilt; (3) Disorganization of the daily life. Within these, the analysis describes ruminative coping as an avoidance mechanism, and its function in adaptation to loss, while associations between meaning making and attachment are underlined. Furthermore this study provides an insight regarding “normal” versus complicated reactions after the loss of a loved one, including relocation of continuing bonds and reorganization of self-defining memories. **CONCLUSIONS:** Our data indicate that disorganized attachment is a major predictor of poor adjustment in bereavement. Whereas rumination was sometimes viewed as a confrontation process, associated with recovery from the loss, accordingly to the grief work hypothesis, our study underlined its ambiguous function, as an avoidance mechanism. Disorganized attachment, that is high anxiety and high avoidance in attachment, would undermine the integration of loss, by focusing grief process on avoidance, rather than on a beneficial oscillation between confrontation and avoidance. **RESEARCH IMPLICATIONS:** Our data highlighted the associations between intra-individual factors such as attachment styles present upstream from the death and adjustment to spousal loss. The qualitative design of the study enables the researchers to capture complex links between attachment, meaning making processes and grief reactions.

More studies are needed to explore cognitive, emotional and social mechanisms underlying these reactions, in an integrative perspective. **CLINICAL IMPLICATIONS:** As the very nature of Prolonged Grief Disorder remains unclear, our study provides indications of impaired grief processes such as difficulties in finding meaning (or finding meaning pervaded by intense guilt), chaotic attachment to the deceased, and frozen autobiographical memory. These impaired processes could become therapeutic targets of individual grief support programs based on the Dual Process Model of Coping with Bereavement (Stroebe & Schut, 1999), which integrates the attachment theory. **ACKNOWLEDGEMENT OF FUNDING:** Support for this research came from the French National Cancer Institute SHS 2011 (INCa).

P1-7

**Prolonged Grief Disorder (PGD) in The Cancer
Context: Results of A longitudinal Study Pre- and
Post-Death Among Spouses of Cancer Patients**

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BACKGROUND: Bereaved people are considered by health professionals and by common sense as vulnerable persons. Recent research suggests that caregivers of cancer patients can meet the criteria for PGD, which might be included in the DSM-5. However little is known regarding the display of maladaptive reactions in spouses of patients before the death, and how it spreads after death. This study aims at capturing the very nature of these reactions and their predictors. **METHOD:** In a consecutive cohort of spouses of palliative cancer patients ($N = 60$), we studied at T1 (from 1 to 6 months before death) specific predictors of emotional adjustment at T2 (6–9 months after death). Evolution of depression between T1 and T2 (BDI) and intensity of grief reactions and Prolonged Grief Disorder (ICG) are linked to: Attachment (Experiences in Close Relationship Scale); Burden (Montgomery & Borgatta Caregiver Burden Scale); Coping and orientation of grief (Inventory of Daily Widowed Life); coping styles (COPE). Regression analyses were conducted to predict adjustment at follow-up controlling for baseline scores. **RESULTS:** In the sample of 60 participants ($M = 62.9$ years, 60% male), the vast majority of the spouses (66%) reported during the palliative phase a depressive symptomatology and feelings of burden associated with the caregiving experience. After the death of the patient a minority (13.9%) meet the criteria for a Prolonged Grief Disorder. Above all, PGD is predicted by their levels of

depression assessed before the death and by their anxious attachment. The factors linked with the disease or with the death itself do not significantly predict the condition of the bereaved spouses. **CONCLUSIONS:** Our data indicate that upstream from the death, then in the first months of bereavement, the spouses of cancer patients report an important psychological distress. Particularly, a significant minority of spouses experience dysfunctional grief, which is associated with later health impairments. Depression during the palliative phase and anxious attachment constitute warning signs for grief-related disorder. **RESEARCH IMPLICATIONS:** Our data highlighted the associations between intra-individual factors such as attachment styles present before the death and adjustment to spousal loss. More longitudinal studies are needed to capture the variability in grief reactions among caregivers of cancer patients. It is of critical importance to study the display of the maladaptive response to loss in long-term, as experts have suggested a time criterion of 12 months for the PGD diagnosis. **CLINICAL IMPLICATIONS:** When the very nature of Prolonged Grief Disorder remains ambiguous, our study provides indications of factors associated with this condition such as an insecure anxious attachment and depression during the pre-death period. These indications may allow us to identify the persons who could benefit from an early support from mental-health professionals. **ACKNOWLEDGEMENT OF FUNDING:** Support for this research came from the French National Cancer Institute SHS 2011 (INCa).

P1-8

Psychiatric Disorders and Background Characteristics of The Bereaved Seeking Medical Counseling at a Cancer Center

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BACKGROUND: The death of a person is a stressful event in life. This stress is related to the physical and psychological well-being of the bereaved. With the aim of alleviating psychological distress in the bereaved, our hospital started an outpatient service for bereaved families. The purpose of this study was to examine psychiatric disorders and background characteristics among the bereaved who lost a loved one with cancer and who sought medical counseling at a cancer center. **METHOD:** In this retrospective

study, all patients who consulted the outpatient service for bereaved families in our hospital between April 2007 and March 2013 were reviewed. This study was approved by the Institutional Review Board of Saitama International Medical Center, Saitama Medical University. **RESULTS:** During the study period, 124 patients consulted the outpatient service for bereaved families. Their ages ranged from 17 to 84 years (mean: 53 ± 15). The most common psychiatric disorder among the bereaved was bereavement reaction ($n = 49$, 40%), followed by major depression ($n = 34$, 27%). Eight patients ($n = 8$, 6%) experienced dissociative disorders in addition to their psychiatric diagnosis. Females ($n = 103$, 83%) and the bereaved who lost their spouse ($n = 72$, 58%) were the most common users of the service. **CONCLUSIONS:** This retrospective study demonstrated the characteristics of the bereaved seeking medical counseling at a cancer center. Most of the patients who consult outpatient services for bereaved families suffer from psychiatric symptoms related to the death of close family members, and need some help. Therefore, we should avoid viewing symptoms of psychiatric disorders as only reactions to bereavement. Psychiatric interventions including psychotherapy and medications are required for these families. **RESEARCH IMPLICATIONS:** None. **CLINICAL IMPLICATIONS:** We should avoid viewing symptoms of psychiatric disorders as only reactions to bereavement. Psychiatric interventions including psychotherapy and medications are required for these families. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the Third-Term Comprehensive 10-Year Strategy for Cancer Control and Research of the Japanese Ministry of Health, Labor and Welfare and Grant-in-Aid for Scientific Research.

P1-9

Early Parental Death and Risk of Hospitalization for Affective Disorder in Adulthood

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BACKGROUND: Early parental death is one of the most stressful childhood life events and may influence subsequent psychological health. We investigated the association between early parental loss and risk of hospitalization for an affective

disorder in adulthood. **METHOD:** Our nationwide register-based cohort study comprises 1,225,660 people born in Denmark in 1970–1990, of whom 138,893 experienced the death of a parent before the age of 30 years. Followup for hospitalization for an affective disorder in the period 1990–2009 yielded 15,261,058 person-years and 19,867 hospitalizations for affective disorder (bereaved $n = 2644$; nonbereaved $n = 17,223$). A Cox proportional hazards model was used to assess hazard ratios (HRs) for hospitalization with an affective disorder according to early parental death. **RESULTS:** People who experienced early parental death had an increased risk of hospitalization for a unipolar disorder (men: HR = 1.33; 95% confidence interval [CI] = 1.23–1.44; women: 1.23; 1.17–1.30). Stronger associations were observed for parental death caused by suicide than for other causes. For bipolar affective disorder, an increased risk of hospitalization was observed only after suicide. **CONCLUSIONS:** People who had lost a parent had an increased risk of hospitalization for unipolar affective disorder. Although this was particularly true for bereavement due to parental suicide, it was also found for parental death from other causes. In contrast, an increased risk of hospitalization for bipolar affective disorder was observed only after parental suicide. **RESEARCH IMPLICATIONS:** There is a need for further research into the association between early parental death and depression, e.g. risk of mild depression, use of antidepressants, and identification of other vulnerable groups. **CLINICAL IMPLICATIONS:** Health personnel, dealing with people, who have lost a parent during childhood or young adulthood, should be aware that this group has an increased risk of severe depression that requires hospitalization. This is especially true for those who lost a parent to suicide. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-10

Communication Skills Training Program for Internship Year Nursing Students to Reduce Oncology Patient Emotional Distress in Egypt

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BACKGROUND: Communication skills are the cornerstone of the patient provider relationship in cancer care. Lack of these skills can diminish disclosure, increase patient anxiety. Nurses play an important role in providing emotional care and support to patients and their families. Unfortunately, few nurses receive sufficient training to ensure they are proficient in key communication tasks. This study was carried out to determine the impact of communication skills training program on reduce oncology patient emotional distress.

METHOD: A quasi experimental design with pre-post assessment was utilized in this study with sample size of 86 participants from internship year nursing students. The study was conducted in Training Unite and Oncology Units at Suez Canal University Hospitals. Internship year nursing students went through the problem-based learning process and role-playing exercises with regular feedback on basic communication skills, breaking bad news, effectively providing information and how to deal with patient's emotions during the training program. The nurse students were evaluated both before and after the training using "Empathic Tendency", "Empathic Skill" and "Communication Skills Evaluation Scales". **RESULTS:** The training improved internship year nursing students' empathic tendency, empathic and communication skills. "Respect to patients, giving constructive feedback, using effective body language, using continuing and leading reactions" showed gradual improvement during observations while self-disclosure and "ineffective communication techniques" were lower. **CONCLUSIONS:** Communication skills training programs have effectively improved the empathic tendencies, empathic skills, and communication skills of the internship nurses student. Therefore, expanded training programs on communication skills programs during in-service programs could improve nurses' communication skills **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-11

Prognostic Awareness and Communication of Prognostic Information in Malignant Glioma: A Systematic Review

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BACKGROUND: Prognostic awareness (PA) is a topic of research and clinical interest in healthcare communication, palliative care, and psycho-oncology. Accurate PA has been linked to positive psychosocial outcomes for patients and caregivers, but little is known about PA among patients with malignant glioma (MG), a devastating disease with uniformly poor prognosis. This systematic review synthesized the literature on PA in MG, with an emphasis on patients' understanding of prognosis and preferences regarding communication of prognostic information. **METHOD:** A systematic literature review was conducted of $N = 5$ databases (Cochrane, Embase, PsycINFO, Pubmed, and WOS) with search terms related to brain neoplasms, prognosis, awareness, and patient-physician communication. Of the $N = 7219$ studies retrieved, $N = 14$ studies met inclusion criteria and were included in the systematic review.

RESULTS: Of the articles that met inclusion criteria, 9 were empirical studies and 3 were review articles or practice guidelines based on authors' clinical experience. Across studies, methods for measuring PA and communication preferences were heterogeneous, as were rates of PA, which ranged from 25% to 100%. Studies of communication preferences suggest dissatisfaction with communication regarding prognostic information among MG patients and their caregivers. **CONCLUSIONS:** Despite the importance of PA in advanced cancer and the uniformly poor prognosis in MG, there is a dearth of evidence regarding PA among patients with MG. Our review highlighted a wide range of PA among MG patients and inconsistent preferences for detailed prognostic information. While many patients prefer detailed prognostic information, evidence also suggests that preference for limited information may serve as a mechanism to preserve hope. Additional studies are needed to understand the most effective means of measuring PA and communicating prognostic information to patients with MG and their caregivers. **RESEARCH IMPLICATIONS:** There is an urgent need for rigorous, prospective, and standardized assessment measures of PA among patients with MG and their caregivers that account for the unique clinical features of this disease, including certain poor prognosis from the time of diagnosis and progressive neurological decline. **CLINICAL IMPLICATIONS:** PA and preferences for communication of prognostic information, as well as the factors that may influence them, are currently poorly understood in MG. Rigorous study of the needs of MG patients regarding prognostic information will provide an opportunity to improve patient-physician communication and quality of care. **ACKNOWLEDGEMENT OF FUNDING:** This research was supported in part by grant NCI T32CA009461-28 from the National Cancer Institute to AJA.

P1-12

Communication Skills of Nurses Caring for Oncology Patients: A Multicentric Study

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BACKGROUND: Nurses caring for oncology patients need to use their communication skills effectively to help patients and those close to them cope with the adverse impact of their illness. Professional knowledge and skills are required in order to communicate with patients and families. The purpose of this study is to identify the areas of nurses' self-perceived proficiency and inadequacy with regards to the application of communication skills when inter-

acting with cancer patients and their families. **METHOD:** The study sample consisted of 108 oncology nurses at 4 medical centers (Istanbul, Ankara, Erzurum, Gebze) and who volunteered to participate, who wanted to receive training on psychological care, and who fully completed the questionnaires. Data were collected during face-to-face interviews where the "Communication Skills Confidence Questionnaire" was used. Developed by Fallowfield al. in 2001, this instrument comprises 14 statements relevant to communicating with cancer patients. It is designed for nurses to rate their self-perceived proficiency in these skills between 1 (I do very badly) and 10 (I do very well). The Cronbach's Alpha co-efficient was calculated as 0.94. **RESULTS:** The participants' mean age was 29.1 ± 5.6 and average number of years in oncology was 3.1 ± 3.5 . The mean "self-confidence" score for skills in communicating with cancer patients was 6.46 ± 1.65 (2.29–9.79). The 5 communication issues nurses felt most inadequate in were: discussing sexuality (5.08 ± 2.51) and the concept of death and dying (5.29 ± 2.38) with patients, informing patient families about impending death (5.87 ± 2.29), discussing prognosis with patients and supporting families of recently deceased patients (6.13 ± 2.50). Nurses perceived themselves as competent in communicating with patients of their own age-groups (7.46 ± 1.90), patients who are medical professionals (7.37 ± 1.90) and those with high levels of education (7.08 ± 1.69). **CONCLUSIONS:** The results of this study indicate that nurses view themselves as particularly inadequate in communicating with patients about sexuality and death. They also experience difficulty in supporting families of soon-to-die or recently deceased patients. Discussing prognosis with patients was another important area of perceived inadequacy. Several studies address the challenges nurses face when confronting mortality. While organizational procedures and collaboration between curative and palliative teams can facilitate discussion of death and sexuality, cultural influences undeniably affect the ability to communicate about these subjects. Nurses clearly need to develop their communication skills with regards to topics they have difficulty discussing. **RESEARCH IMPLICATIONS:** In order to support nurses in oncology units, it is necessary to identify factors which affect nurses' communication skills with regards to sexuality and death. Furthermore, we recommend that researchers in this area conduct corroborative studies to compare the results of Turkish studies with results from differing cultural backgrounds. This study may serve as a guide in the development of training programs that address the needs of nurses. **CLINICAL IMPLICATIONS:** It is apparent that some of the needs of oncology patients are not currently able to be met. We found that clinical nurses experience difficulties in developing skills necessary for communicating with cancer

patients, especially in discussing sexuality, death and prognosis with patients and in providing support to patient families. We recommend the development of post-graduate training programs for nurses to enhance the skills necessary to address the issues highlighted by this study. **ACKNOWLEDGEMENT OF FUNDING:** This study was sponsored by the Oncology Nursing Association of Turkey.

P1-13

Evaluating The Design and Effectiveness of Question Prompt Lists in Oncology: A Systematic Literature Review

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BACKGROUND: For the past 2 decades Question Prompt Lists (QPLs) have been used extensively in the oncology setting to enhance patient participation and, consequently, to improve patients' psychological outcomes such as anxiety. Across studies different designs of QPLs have been used. The objective of this systematic review is to give an overview of how QPLs have been designed and to examine whether the effectiveness of a QPL is determined by its design. **METHOD:** A literature search was conducted in PsycINFO, Medline and CINAHL. Additional studies were sought via the snowball method, where the reference lists of included articles were hand searched for eligible articles. Empirical studies that included a QPL in an oncology setting were included. Further, the methodological quality of studies was assessed using a list with 11 criteria measuring internal validity designed by the Cochrane Collaboration Back Review Group. Studies that met 6 or more of the criteria were considered as high quality studies and studies that met less than six of the criteria were considered as low quality studies. **RESULTS:** Of the 51 articles that were found, 21 articles met the inclusion criteria. It was found that a QPL was effective in enhancing question asking. The effectiveness of a QPL in improving psychological outcomes was limited. Further, the design of a QPL varied between studies. In sum, the majority of QPLs were given to patients before consultation in hardcopy. QPLs mostly consisted of general questions that can be applied to multiple types of cancer. In most studies a QPL was part of a larger intervention. Limited evidence was found that the design of a QPL can influence its effectiveness. **CONCLUSIONS:** A QPL was effective in improving patient participation during consultation. In the majority of

studies the number of questions asked by the patient during consultation increased. The effectiveness of a QPL on psychological outcomes such as anxiety was limited. In studies that were effective in reducing patients' levels of anxiety patients compiled their own QPL, thus the QPLs were individually tailored. These individually tailored QPLs might have been more effective because patients included affective questions on them. Emphasizing affective communication instead of instrumental communication could be a way of improving the effectiveness of a QPL on psychological outcomes. **RESEARCH IMPLICATIONS:** To date, QPLs have been designed with instrumental questions (e.g. questions regarding treatment) and the results on psychological outcomes are limited. A possible reason is that patients have both instrumental (the need to understand what is going on) and affective (the need to express worries and to be understood) information needs. A QPL does not address this affective information need. Creating a QPL with affective questions or with concerns could potentially improve patients' psychological outcomes. **CLINICAL IMPLICATIONS:** Improvement in psychological outcomes such as anxiety has been associated with better health outcomes for the patient. The clinician can provide the patient with needed information to improve psychological outcomes if the clinician is aware of the worries of the patient. Empowering patients with a QPL framed with affective questions can create the opportunity for clinicians to tailor their consultation to the worries of patients and provide them with information that can improve psychological outcomes. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-14

The Therapeutic Stage Setting. Towards a Greater Acceptance of Care and for Better Wellbeing of Cancer Patients

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BACKGROUND: An experiment has been done in 2008 in the Laboratory of Imagery and Cognitive Neurosciences (CNRS) of Strasbourg France. We discovered the important role of the stage direction for the emergence of the theatrical reality via the principle of adhesion (e.g. the existence of the actor is substituted by the character he performs.) The application of this study in clinical psychology field was then a way of research in cancer patients compliance. **METHOD:** An experimental framework for the management of medical interview was established based on a series of attitudes, voices and scenography. The observation protocol was built on relationship and exchanges between patients and physicians after numerous meetings about their expectations, fears and attempts (software: Alcest

interview analysis). In addition, a discussion of their experiences (via interviews proposed few days after the experiment) versus the neutral observation of these experiments was a strong indicator for building up the best events of this therapeutic stage setting. **RESULTS:** The rate of patients acceptance to their cancer treatment when the choice is made in the context of a staged treatment is superior than the percentage of acceptance without the use of therapeutic stage setting. According to the results obtained in the framework of neuro-aesthetic, a greater patients rate adhere to medical protocol in the context of the therapeutic stage. **CONCLUSIONS:** The special brain activities and cognitive states of the viewers observed during the experiment allows us to consider the therapeutic stage setting as a possible psychological tool in oncology. This experiment of therapeutic stage setting allows us to expect

- Greater acceptance rate of illness of patients participating in a therapeutic stage setting.
- Greater acceptance of interpersonal and intra-subjective effects (relationship with family and friends, self-esteem).
- Greater acceptance of treatment (compliance, care obligation).

RESEARCH IMPLICATIONS: The principle of adhesion is related to the emergence of a fictional reality replacing sometimes the own reality of the subject who adheres. The adhesion phenomenon observed in clinical psychology (e.g. the Compliance), is not the principle of adhesion but is related to it. The utilization of the principle of adhesion in the therapeutic stage setting could improve the relation doctors / patient's comfort especially for decision-making related to the choice of the medical protocol. **CLINICAL IMPLICATIONS:** Our experimental design could enhance physicians skills to explain treatment modalities to their patients. But to have clinical implications it is necessary to answer to primordial ethical questions. How to enable physicians to have a strategic approach that is specially related to improve the exchange patient/doctor in a way to accept the treatment protocol? What are the ethical implications of this protocol that works on social and unconscious influences? **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-15

Cancer Disclosure: Account from a Pediatric Oncology Ward in Egypt

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BACKGROUND: Barriers to disease disclosure are many and vary across cultures and societies. Considering that truth telling about one's diagnosis is the first step towards good patient-physician communication and for treatment decision-making in cancer patients it is unfortunate that common practice in the Arab world stands in the way of such communication. As concerns disease disclosure in connection with childhood cancers in Egypt, it appears that no studies have been made prior to our study. **METHOD:** We examined in some detail the nature of disease disclosure at the time of the first chemotherapy treatment; among children who has been diagnosed with cancer and were about to start treatment. This was done by administering 2 questionnaires to 304 parents of children diagnosed with cancer at the Children's Cancer Hospital in Cairo (CCHE), Egypt, one before the first chemotherapy treatment and the other before the third. **RESULTS:** We found that nearly three quarters (72%) of the parents had their child's cancer diagnosis communicated by the physician. Only thirty-nine percent of the children were present with the parents during the disease disclosure conversation. **CONCLUSIONS:** There is a need for greater recognition of patient autonomy among physicians and the need for developing better practice for the disclosure of cancer diagnosis to the children and young adolescents and their parents. **RESEARCH IMPLICATIONS:** We hope that this study can form a base and provide important information that can be used to initiate interventions and future studies exploring similar topics. **CLINICAL IMPLICATIONS:** Our aim is to gain a greater recognition and better practice of disease disclosure for the children/young adolescent and their families. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-16

Short-Term Courses of Communication Skill Training in General Hospitals

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BACKGROUND: Since 2010, Taiwan Psycho-Oncology Society (TPOS) began to promote the

communication skill training (CST) of bad news telling for cancer care with the SHARE model, which was empowered by the Bureau of Health Promotion in Taiwan. For encouraging more and more medical staff to understand the importance of CST, the short-term courses of communication skill training were promoted in general hospitals nationwide. The survey hoped to understand the efficiency of the short-term CST courses. **METHOD:** Empowered by Bureau of Health Promotion in Taiwan, from January to December in 2012, TPOS provide 2 short-term courses of CST including the CST-mini SHARE (4 hours) and CST-1D-SHARE (6 hours). All courses were held in general hospital nationwide. The ratio of facilitators to participants was 2:4 as the same as the CST-TTT (communication skill training- training the trainer). Participants' opinions of truth telling were assessed using the Japanese truth-telling scale for evaluation. **RESULTS:** There were 35 hospitals and 454 medical staff attending the courses, including 367 in CST-mini SHARE and 87 in CST-1D-SHARE. Except the factor of setting, the other three factors were improved after the training courses, including method of disclosing bad news, providing emotional support, and providing additional information (all $p < 0.001$). Many participants considered to attend the CST-TTT in future. **CONCLUSIONS:** Short-term courses of communication skill training were also efficient to help medical staff for understanding the importance of communication and improving their basic skills. Short-term courses can't alter the CST-TTT but can encourage more and more medical staff to learn communication skill training. **RESEARCH IMPLICATIONS:** Many experts suspect the efficiency and outcome of the time-limited training courses about the communication skill training. We hope to evaluate and analyze data for the further national policy. **CLINICAL IMPLICATIONS:** In overload clinical work, it is possible to encourage medical staff to learn communication skill. **ACKNOWLEDGEMENT OF FUNDING:** The Bureau of Health Promotion in Taiwan.

P1-17

Association Between Doctor-Patient Relationship and Maladaptive Coping to Cancer in European Countries

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BACKGROUND: The role of doctor-patient relationship in oncology has been the object of a number of studies. Recent data regarding the use of specific instrument to examine some variables implicit in communication have shown the importance of empathy, attention and emotional support by oncologists towards their patients. As a part of a larger European study, the aim of the present report was to identify the association of doctor-patient relationship and maladaptive coping among cancer patients. **METHOD:** 284 cancer patients aged 18–65 years, with no cognitive deficits, Karnofsky Score >60 and a life expectancy >6 months, participated in a multicenter European study involving Italy, Austria, Spain. Each patient was administered a booklet for the evaluation of several variables, including, for the purpose of the present report, the 24-item Patient Satisfaction with Doctor Questionnaire (PSQ-MD) (Loblaw et al., 2004), to measure characteristics of doctor-patient relationship, 2 clinical subscales of the Mini-MAC (Watson et al., 1984), namely Anxious Preoccupation and Hopelessness, to measure maladaptive coping; and the 0-10 NCCN Distress Thermometer (NCCN, 2012), to measure patients' emotional distress. **RESULTS:** In agreement with the original data, 2 factors were extrapolated from the PSQ-MD: Physician Disengagement (extent to which patients appraise their physicians as interested only in the medical aspects of their problems), and Physician Support (extent to which patients perceive their physicians as concerned, supportive, empathic and aligned with the patient's best interests). Hopelessness and anxious preoccupation were associated with scores of Physician Disengagement ($r = 0.31$, $p < 0.01$; and $r = -0.28$, $p < 0.01$, respectively). In contrast, Physician Support was related to lower scores on hopelessness ($r = 0.25$, $p < 0.01$) and, marginally, distress ($r = 0.15$, $p < 0.01$). **CONCLUSIONS:** The study indicated that cancer patients' perception of their relationship with their own doctor is associated with coping styles and symptom distress. In particular, a tendency to be concerned about their illness (Anxious Preoccupation) or to be hopeless about it (Hopelessness), as well as emotional stress symptoms were related to a perception of their physicians as detached, objective and interested more in the medical aspects rather than concerned, supportive, and empathic. **RESEARCH**

IMPLICATIONS: Given the vast research on communication skills in oncology, the use of specific tools, such as the PSD-MD can be of help in examining both the impact of the bipolar factor physician engagement/disengagement on patients' coping and the possible changes in physicians' attitudes after communication skills workshops or training. **CLINICAL IMPLICATIONS:** Results suggest the importance of establishing specific supportive and educational programs aimed at improving doctor-patient communication, in order to implement the quality of that relationship and to positively influence patients' coping with cancer. **ACKNOWLEDGEMENT OF FUNDING:** Istituto Oncologico Romagnolo (IOR), Forlì, Italy; FAR Project, University of Ferrara, Italy.

P1-18

Communication of Health Practitioners With Parents of Children With Malignant Diseases

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BACKGROUND: It has been found that good communication and developing collaborative relationships with parents facilitates their adjustment and reduces stress. Besides its importance for psychological well being of parents and children, good adaptation to illness can also affect the course of the child's illness and improve patient outcomes. The aim of this research was to examine the experiences and needs of parents of children with malignant diseases, focusing on their communication with health practitioners. **METHOD:** Participants were 32 parents of children diagnosed with malignant diseases that are currently in remission for period between 6 months and 3 years. Parents were contacted in premises of Association for helping children and families facing malignant disease "Firefly" where they filled out questionnaires which examined their experiences in communication with health practitioners. The age of children was between 2.5 and 13 years. **RESULTS:** The first interview usually lasts longer than ten minutes, in 32% of cases parents answered it lasted 5 minutes or less. Only one third of the parents understood all given information, in 41% of the cases physician did not check their understanding of the given information. Physicians' behavior in first consultation is mostly viewed as professional, kind and understanding, while nurses are described as professional, kind and compassionate. In communication with physicians parents need an optimistic approach with hope, support, more devoted time and more detailed information. Around two thirds of the parents are overall satisfied with physician-

parent communication. **CONCLUSIONS:** Our results showed that most of the parents view their experiences in communication with health practitioners in a positive light, but also gives some guidelines for further improvement of health practitioners' communication skills in order to provide better support to parents and address their needs in communication. **RESEARCH IMPLICATIONS:** Further research should be made to address more specific needs in communication of both parents and children with malignant diseases. It would be even more valuable to examine the communication between health practitioners and patients while still in treatment, in order to obtain more reliable data. **CLINICAL IMPLICATIONS:** There is a need for further education of health professionals in order to improve their communication skills. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-19

Enhancing Patient Participation in Oncology Consultations: A Best Evidence Synthesis of Patient-Targeted Interventions

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BACKGROUND: Due to the complexity of cancer consultations, the contribution of patients is often limited. This systematic review examined the characteristics and effectiveness of patient-targeted communication interventions to enhance cancer patients' participation in consultations. Three research questions were formulated. (RQ1) What are the characteristics of patient-targeted interventions for enhancing patient participation in cancer consultations? What effect do these interventions have (RQ2) on immediate, intermediate and long term patient outcomes and (RQ3) on care process and provider outcomes? **METHOD:** Relevant studies were selected by a search of databases until mid-2010 (Pubmed, PsycINFO and CINAHL), citations in relevant reviews as well as backward/forward citations. Studies were included if (1) the aim was to enhance patient participation within the upcoming consultation and (2) the intervention targeted adults diagnosed with cancer. For the evaluation of effectiveness (RQ2 and 3), only controlled trials were included. Characteristics and outcomes were extracted by 2 researchers. A "Best Evidence Synthesis" was conducted to quantitatively qualify effectiveness according to a set of principles, taking into account the quality of studies. **RESULTS:** A total of 52 publications were included, describing 46 studies and 30 unique interventions. One third was delivered through either written or multimedia material; two thirds face to face. Most originated from English speaking countries. Half targeted

heterogeneous cancer populations; one third targeted women with breast cancer. Half focused on initial, treatment planning consultations. Overall, there was evidence for an effect on observed patient participation. There was no evidence for an effect on patient or doctor satisfaction and insufficient evidence for an effect on psychological or physical well-being and consultation duration. The findings were largely independent of study quality. **CONCLUSIONS:** The number of patient-targeted interventions to enhance patient participation was shown to increase over the past decennia, reflecting the shift towards patient-centered medicine. The majority was delivered face to face, suggesting a willingness to invest in patient communication support. This systematic review demonstrated evidence for an effect of patient-targeted communication interventions on observed patient participation. Particularly on the more difficult areas of communication patients seem to benefit from support. Evidence for an effect on intermediate and long-term patient outcomes as well as provider and health care process outcomes was insufficient or absent. Potential explanations for this lack of effect will be discussed. **RESEARCH IMPLICATIONS:** Implications for future research are discussed, including attention for the gaps that were found in the literature, the challenge to find the right outcome measures, the quality of reporting in communication intervention studies and the importance of clarity about the theoretical underpinnings of communication intervention strategies. **CLINICAL IMPLICATIONS:** Patient-targeted communication interventions seem effective in enhancing patient participation in oncology consultations. Hence, they should remain on the research agenda and implementation of evidence-based interventions in clinical practice is warranted. Stimulating patient participation may improve the effectiveness of communication and facilitate optimal patient centered-care. **ACKNOWLEDGEMENT OF FUNDING:** The first author is financially supported by a personal grant of the Dutch Cancer Society (UVA 2009–4439).

P1-20

Using Data to Guide Effective Cancer Advocacy Group Leadership Training and Support Programs: The Case of The Global Advocacy Leadership Academy (GALA)

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BACKGROUND: Health advocacy groups can make significant contributions to supporting the needs of those confronting cancer by shaping health promotion programs that are responsive to the needs of consumers. Yet effective health advocacy groups demand strategic leadership, including the development of skills for communicating effectively

with different stakeholders, media representatives, researchers, health care providers, health system administrators, and public policy makers. The GALA program is designed to support the training needs of health advocacy group leaders. **METHOD:** The development of effective training programs, such as GALA depend on careful needs analysis research to guide evidence-based program design, implementation, and refinement. A series of in-depth, semi-structured, qualitative personal interviews with a purposive sample of active health advocacy leaders and influential health promotion professionals were conducted across selected global health communities to learn more about the concerns of health advocacy leaders and the unique issues they face. The data collected are being used to expand our understanding about the unique training needs of health advocacy leaders and the best strategies we can develop for meeting these training needs. **RESULTS:** Twenty-eight in-depth personal interviews were conducted with key cancer community representatives from 4 different continents, and 5 different countries (USA, Taiwan, Estonia, Japan, and New Zealand). Respondents were asked to react to the GALA Mission Statement, to describe the issues faced by advocacy group leaders, and to identify advocacy group leader training and support needs. Overall, there was strong support for the GALA mission, and specific recommendations were made for supporting health advocacy group leaders. The responses from the survey are being used to guide evidence-based development of GALA training programs to support effective health advocacy group leadership. **CONCLUSIONS:** The survey clearly validated the need for training programs, like GALA, to support the development of effective advocacy group leadership. The list of issues generated suggests that comprehensive health advocacy training programs should cover many topics. Health advocacy leaders must develop a deep understanding of the health care delivery system, the legal and regulatory health care environment, the corporate participants in the health care system, the health research enterprise, and the influences of media on health advocacy goals. It is also critically important for leaders to develop important communication, leadership, team-building, fundraising, and financial management competencies and skills. **RESEARCH IMPLICATIONS:** Needs analysis surveys are instrumental for guiding development of health advocacy leadership support programs. The GALA program will continue gathering data from health advocacy leaders to help refine and expand training and support programs, especially as the health care system evolves and the demands of effective health advocacy leaders and organization change. In this way, the GALA program can grow, expand, and, continually be responsive to the needs of health care advocacy group leaders. **CLINICAL IMPLICATIONS:** This

study suggests strong demand for building collaborations across advocacy groups and with key partners from the health care system. To be effective, the GALA program must not only provide relevant training for health advocacy leaders, it must also facilitate partnership building, collaborative problem solving, and effective media relations. It must also provide ongoing consultation, advisory services, problem solving support, and disseminate key information about new findings and best practices for health advocacy. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-21

Communication of Genetic Test Results for a Breast and Ovarian Cancer Susceptibility: Report of a 2-Year Follow-Up Study and Comparison of Three Scoring Systems

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BACKGROUND: Communicating about genetic test results serves several purposes and could involve different types of relatives and friends. To better support this communication clinicians need to have more information about its unfolding process. In their efforts to conduct innovative projects on communication, researchers need to be aware of the different scoring system options. This study is a longitudinal assessment of communication about genetic test results for carriers and non-carriers women of a familial BRCA1/2 mutation. **METHOD:** For 522 women, the communication to first-degree relatives, spouse, and friends was assessed 15 days, 1 year, and 2 years after receiving the test result. One point was counted when the relative was told, 0 when the relative was deceased or when there were no relatives of this kind, and -1 when the relative was not told. The 3 scoring systems were: (i) a compilation of communication with each type of relatives and friends, (ii) an index ranging between -7 to +7, and (iii) a dichotomous score based on whether or not women had told all types of relatives. **RESULTS:** Fifteen days after the women had received their genetic test results, the proportions of communication ranged between 98% for spouses and 54% for children. Carriers had shared their test results with fewer types of relatives and friends than non-carriers 15 days after receiving their genetic test results (1.89 vs. 2.55,

respectively, $p < 0.01$) but this difference was no longer present in the 1 year and 2 years follow-up. Overall, 29% of the participants told relatives of all types 15 days after receiving their test results; this proportion amounted to 37% 1 year later and 39% two years later. **CONCLUSIONS:** In both groups, genetic test results were communicated with fewer types of relationships shortly after receiving their test result as opposed to 1 and 2 years afterwards. Carriers seemed to communicate about their test results less extensively than the non-carriers did, but such difference is no longer present in the longer term after receiving their genetic test results. Although proportions of communication with each type of relatives were considerable, a wide majority of women reported at least one type of relative with whom they did not communicate about their genetic test results. **RESEARCH IMPLICATIONS:** The measurement of communication is complex. Communication measurement scale and scoring systems should be carefully chosen. In light of these results, the utility, limits and empirical background of these different scoring systems of communication will be discussed. It might be a good practice to use and report more than one scoring system as it will be of greater benefit to both the clinic and research practice. **CLINICAL IMPLICATIONS:** The mutation status affects communication in the short term, but not in the longer term. Carrier women can be reassured about the fact that they might need time before they are ready to communicate about their test results. Given that spouses were almost always quickly informed and given that they are likely a privileged source of psychosocial support, inquiring about the nature, process and satisfaction with this communication could be important. **ACKNOWLEDGEMENT OF FUNDING:** Sources of support: Julie Lapointe is a CIHR Fellow in Psychosocial Oncology Research and Training (PORT), was funded through a CIHR Training Grant (No. TGF- 63285), a Michael Smith Foreign Study Supplements - Canada Graduate Scholarships A Tri-Agency (SSHRC, NSERC and CIHR) Program and the Fonds d'enseignement et de recherche de la Faculté de pharmacie de l'Université Laval. The study project was funded by the Institut National du Cancer (INCA - grant R11108AA).

P1-22

Characteristics of Cancer Outpatients and Their Hesitation Types While Communicating With their Doctors During Medical Consultations

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BACKGROUND: Although effective communication between cancer patients and their doctors increases compliance and better health outcomes (Rodin et al., 2009), cancer patients often hesitate to speak with their doctors because of a conflict between deciding what to discuss and a feeling of giving up on their doctors (Ogawa, 2013). This study was conducted to clarify the characteristics of such patients and their hesitation types, by examining the relationship between their hesitation types and sociodemographic characteristics. **METHOD:** The participants were 38 individuals (15 male and 23 female, mean age 61.42 ± 11.42 years) undergoing either outpatient immunotherapy or hyperthermia treatment. Participants were asked to recall the conversation during their most recent consultation with their primary doctor. They then completed questionnaires measuring anxiety and depression (HADS; Zigmond et al., 1993), quality of life (EORTC-QLQ-C30; Aaronson et al., 1993) and the degree of hesitation when speaking with their primary doctor (Ogawa, 2013). A cluster analysis was performed on the hesitation factors. Fisher's exact tests were used to examine the relationship between patients' sociodemographic characteristics and hesitation types. **RESULTS:** The cluster analysis found that cancer patients' hesitation types can be categorized into Good, Conflicted, and Hesitant. Fisher's exact tests and residual analyses revealed that "Good" patients showed significantly low anxiety ($p = 0.036$) and depression ($p = 0.036$) and high emotional functioning ($p = 0.006$). "Conflicted" patients were younger than 65 ($p = 0.027$) and showed significantly high performance status (PS) ($p = 0.010$) and role functioning ($p = 0.014$). "Hesitant" patients showed significantly low PS ($p = 0.029$), global score ($p = 0.002$), role functioning ($p = 0.002$), and emotional functioning ($p = 0.010$), and high fatigue ($p = 0.018$) and insomnia ($p = 0.012$). **CONCLUSIONS:** Patients with better

psychological status are less likely to experience hesitation when speaking with their doctors. Patients with younger age, high PS and role functioning are likely to experience conflict in deciding topics of discussion. Patients with low PS, global score, role functioning, emotional functioning, and high fatigue and insomnia were likely to give up on their doctors. These findings suggest that even patients with few symptoms experience hesitation while communicating with their doctors. Furthermore, because patients with poor physical and psychological conditions are likely to give up, doctors may need to adopt a more active communication approach with them. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-23

Work-Related Stress and Helping Professionals: The Experience of The Oncohematology Department of Cosenza Hospital

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BACKGROUND: First aim of the study was to evaluate quali/quantitatively stress experienced by the oncohematological working group. Second aim was to design shared actions and behaviors in line with both: good practice on psychosocial risk in the workplace, with the needs of both relational, emotional and organizational of the professionals., to encourage personal and professional growth as a vehicle for change and continuous improvement of a working group. **METHOD:** We used the Apolis (Association of Psychology Organizations Work In Security) procedures which include the administration of the ROAQ (Organization Risk Assessment Questionnaire) to the members of the working group and the administration of a structured interview to the leaders of the professional group for analysis quantitative. Instead, for the qualitative analysis method involves the construction of four workshops conducted by the method of focus groups. Three of these were focused on perception, motivation and interpersonal relationships within the work group. The fourth workshop was made using the techniques of problem solving. **RESULTS:** 65 subjects (32 Oncology Unit, 20 Hematology Unit, 13 Units of Radiation) participated. The development of the ROAQ highlighted critical points in the emotional variables and action such as to prefigure a high level of risk that the operators develop work stress-related

psychopathologies. The qualitative analysis of the content of the laboratory showed the most frequent responses in terms of emotional charge given by the relationship with the young patient and between the members of the working group. In the laboratory of problem solving the most frequent responses were oriented towards the realization of dynamic groups meeting. **CONCLUSIONS:** All the participants expressed their motivations about stress workplace experienced. This result made it possible to implement reductive measures of future risk of work-related stress as the realization of dynamic groups meeting: a monthly basis setting to plan together change and improvement in the working group. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-24

Brain Tumors in Children: A Support Tool for Parent-Child Communication About The Disease

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BACKGROUND: Psychological disturbances in children with brain tumor are determined by many factors, including the quality of parent-child communication about the disease. Proper communication about the disease is associated to a better adjustment by the child. The aim of this research was to verify whether a communication support tool for parents improves communication with their children, favoring a more functional awareness of the disease as well as a better psychological outcome in children. **METHOD:** The parents of 31 children with brain tumor were given a book – which had been created for the purpose – containing indications and examples on how to explain the disease to children. At the end of tumor treatments, children received a psychological assessment, including the Child Behavior Checklist (CBCL), to investigate the quality of parent-child communication about the disease and the child's awareness. The experimental group consisting of 12 children was compared with a control group of 64 children who received the same assessments prior to the book creation. **RESULTS:** The 2 groups did not differ in clinical and demographic variables. Parent-child communication was found to be appropriate in 75% of the cases in the experimental group and 31.2% of the cases in the control group. This difference proved to be significant ($p = 0.016$). The experimental group obtained on average lower scores on all CBCL scales. The difference between the 2 groups proved significant on the "Social Problems" scale ($p = 0.005$). On the "Internalizing Problems" scale, the control group scored in the pathological

range more frequently than the experimental group ($p = 0.011$). **CONCLUSIONS:** Our findings demonstrate the efficacy of the book, which helped parents enhance communication about the disease with their children. The experimental group received to a greater extent complete, truthful, consistent and individualized information about the etiology of the disease, its evolution and outcome and the treatment received (tumor treatment, drug therapy, rehabilitation). This information was always provided in a language that was intelligible, age-appropriate and at a level consistent with their cognitive abilities. This favored a greater psychological adjustment. **RESEARCH IMPLICATIONS:** Our findings should translate into indications and guidelines for clinical practice. This is why we deem our findings worthy of being further explored. We plan to carry out an additional investigation in order to confirm them in a larger sample of patients. **CLINICAL IMPLICATIONS:** Both avoidance and ineffective communication are associated with psychological problems. One of the priorities of clinical practice is to identify early the families with difficulties in dealing with, and sharing, information about the disease with their child. Our study shows that psychological difficulties can be prevented or minimized by raising the parents' awareness of the importance of proper communication and training them. **ACKNOWLEDGEMENT OF FUNDING:** We gratefully acknowledge the funding support provided by Fondazione Guido Berlucci.

P1-25

Patient-Centered Communication (PCC), Illness Perceptions and Self-Management Behaviors in Lung Cancer Patients: Ongoing Research Project

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BACKGROUND: PCC requires partnership, mutual exchange of information and an empathic relationship between patients and healthcare providers (Erickson, Gerstle, & Feldstein, 2005). Positive illness perceptions in cancer patients have been associated with improved quality of life and better coping strategies (Buick, 1997; Kaptein et al., 2011). Yet, there is still much unknown about the relationship between PCC, illness perceptions and self-management behaviors in cancer patients. This study will examine the association between those three variables. **METHOD:** In this cross-sectional

study, participants are recruited during treatment and follow-up clinic appointments at the Princess Margaret Hospital in Toronto, Ontario. They are asked to complete five self-administered questionnaires at the clinic or complete the questionnaires at home and return them in a stamped envelope. The questionnaires consist of a demographic questionnaire, the Patient Perception of Patient-Centeredness questionnaire (PPPC) (Stewart, Meredith, Ryan, & Belle-Brown, 2004), the Revised Illness Perception Questionnaire (Moss-Morris et al., 2002), the Cancer Behavior Inventory-Brief version (Heitzmann et al., 2011), and the Hospital Anxiety and Depression Scale (HADS) (Zigmond & Snaith, 1983). **RESULTS:** Statistical analyses: Multiple regressions will be performed to assess how much variance in illness perceptions and self-management behaviors is explained by the following independent variables: patient-related variables (3 variables: age, education, social support) and PCC (3 scores: 2 subscores and a total score). The steps used by Katz (2011) to develop multivariate models will be followed. Mediation analyses using the steps of Baron and Kenny's (1986) model will verify if the association between PCC and self-management behaviors is mediated by the illness perceptions. **CONCLUSIONS:** Not applicable because study is in progress. **RESEARCH IMPLICATIONS:** This is an important study because it will help researchers understand if PCC is a type of communication that all healthcare providers need to provide to their patients in order to help them perceive positively their illness, and manage better their illness during treatment and at follow-up. Also, the results of this proposed study will be instrumental in identifying a key factor related to the healthcare delivery services that would be beneficial for managing cancer. **CLINICAL IMPLICATIONS:** Interventions could be put in place to improve the communication skills of both healthcare providers and cancer patients if the results demonstrate that PCC influences positively the way lung cancer patients perceive and self-manage their illness. Also, more emphasis could be put on training better future physicians about using the PCC. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-26

How are Verbal and Paraverbal Contents Associated With the Use of Communication Skills in a Highly Emotional Simulated Interview? A Pilot Study

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BACKGROUND: Highly emotional interviews are frequent in oncology. These interviews require specific communication skills. Few studies have investigated the relation between verbal and paraverbal content of communication skills. This study examines the relation between verbal content and paraverbal content - in terms of prosodic synchrony or desynchrony of voice intonation modulations - of communication skills used by an experienced clinician to facilitate a highly emotional simulated interview. **METHOD:** Voice intonation modulations have been assessed in a simulated interview between an experienced clinician and an actress playing the role of a young mother diagnosed with a breast cancer recurrence and expressing a fear of death. The verbal content of communication skills used by the clinician was assessed with the CRC Workshop Evaluation Draft Manual. Twelve sequences of turns-of-speech alternances including these communication skills were identified. These turns-of-speech alternances were then assessed with the Praat Software in order to examine prosodic synchrony and desynchrony of turns-of-speech alternances. Fifty-eight prosodic desynchrony alternances were identified and compared with fifty-eight prosodic synchrony alternances. **RESULTS:** "Interpretative hypotheses" were more associated with prosodic desynchrony (38% of alternances) than with prosodic synchrony (1% of alternances). **CONCLUSIONS:** Clinicians should be aware that the use of an "interpretative hypothesis", in highly emotional interviews, is associated with prosodic desynchrony. In the context of these interviews, prosodic desynchrony clearly supports the verbal content of communication skills. **RESEARCH IMPLICATIONS:** Paraverbal content and especially voice intonation modulations should be further studied to examine how they may - positively or negatively - be associated with the verbal content of communication skills, not only in simulated but also in actual interviews. **CLINICAL IMPLICATIONS:** Clinicians should be aware that the paraverbal content and especially voice intonation modulations may be congruent or not with the verbal content of their communication skills. **ACKNOWLEDGEMENT OF FUNDING:** This research program was supported by the "Fonds National de la Recherche Scientifique - Section Télévie" of Belgium and by the "Centre de Psycho-oncologie" of Brussels.

P1-27

Perceived Information Provision and Satisfaction Among Patients With Ovarian Tumors: The Role of Health Literacy

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BACKGROUND: Appropriate information provision is an essential aspect of patient-centered care, and can result in better patient reported outcomes. However, low health literacy (HL) can create a barrier to accessing and processing information provided, leading to patient dissatisfaction. The general aim of this study was to investigate the role of HL in perceived level of information provision, information satisfaction and the use of Internet to find disease-related information in a sample of patients with ovarian tumors. **METHOD:** Women ($N = 548$) diagnosed with an ovarian or borderline ovarian tumor between 2000 and 2010, registered in the Eindhoven Cancer Registry, received a questionnaire including a subjective item to screen for low HL (“How confident are you filling out medical forms by yourself?”), the EORTC QLQ-INFO25 to evaluate the perceived level of and satisfaction with information provision about the disease, medical tests, treatment and other services, and one item about Internet usage. Multiple linear and logistic regression analyses were conducted to investigate the associations of subjective HL and educational level with perceived information provision, satisfaction with information received and Internet usage. **RESULTS:** About 50% responded ($N = 275$). Of all women, 46% had high, 41% had medium and 13% had low subjective HL. Lower HL was associated with less perceived information provision about medical tests (medium compared to high HL: $B = -15.8$; low compared to high HL: $B = -8.3$, on a scale from 0–100) and lower information satisfaction (low compared to high HL: OR = 0.2). We did not find significant associations between HL and information provision about disease, treatment and other services, and Internet usage. Educational level was positively related to HL, but not associated with perceived information provision, information satisfaction and Internet usage. **CONCLUSIONS:** Low subjective HL was associated with a lower level of perceived information provision related to medical tests and lower information satisfaction among patients with ovarian tumors. **RESEARCH IMPLICATIONS:** Future research

may be improved by addressing objectively measured HL and information provision. Our findings may also indicate a need for the development of a more sensitive cancer-specific measure of HL, which might be more related to cancer-specific communication. **CLINICAL IMPLICATIONS:** Patients with lower HL perceived that they received less information about medical tests, which may have caused them to be less satisfied with the information received. As information provision is an important influential factor in the support for patients, it is important to further investigate whether, and how, the provision of information to patients with low HL should be enhanced. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-28

The Analysis of The Relationship Between Marital Adjustment and Coping Strategies in Married Women With Breast Cancer

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BACKGROUND: The breast cancer occur crisis by the women on physical, psychological and social area. It have been reported that social support is very effective to cope with crises of women especially support by spouses of women with breast cancer. The marital adjustment is important predictor to perceive social support and coping with stressors of women with breast cancer. This paper reports relationship between marital adjustment and coping strategies in married women with breast cancer. **METHOD:** The aim of this study was to investigate the relationship between marital adjustment and coping strategies in married women with breast cancer. The sample of study included 50 women with breast cancer who have been treated in an Oncology Hospital in Turkey and 50 in the general surgical service of the same hospital treated non- cancer. In the study three instruments were used: Descriptive Knowledge Form, Dyadic Adjustment Scale (Spainer, 1976), and Ways of Coping Inventory (Folkman & Lazarus, 1984). The data were evaluated chi Square test, Mann Whitney-U and Correlation Analysis. **RESULTS:** It was found that there were not statistically significant differences between the socio demographic characteristics of the women with breast cancer and non-breast cancer except the living city characteristic. A positive correlation was found between the scores of marital adjustment and effective coping way in the correlation analysis. ($r = 0.32$, $p < 0.05$). There is also a negative correlation between the scores of marital adjustment and ineffective coping way with the percentage 38%. ($r = -0.38$, $p < 0.05$). **CONCLUSIONS:** This study has identified that women with breast cancer can cope more effectively and less ineffectively as the marital

adjustment of the couple increases. The marital adjustment could be a predictor to assessment perceived social support of the women with breast cancer which is necessary for coping with cancer related problems. Given the fact the cancer is a not personal but a family disease, the health care providers can identify the easier the women's problems and origin of them. According to this identification they could give more effective psychological support to women with breast cancer. **RESEARCH IMPLICATIONS:** Based on these conclusions, it suggested to select the sample of control group except the patients without any breast disease that it could effect similar worries and coping problems with the cancer patients. It suggested too that next research could structured about the relationship between positive thinking, coping and marital adjustment to identify better if the positive thinking effects both of them. **CLINICAL IMPLICATIONS:** Based on these conclusions, it suggested that to assessment the relationship between coping and marital adjustment and to provide family counseling if the marital adjustment has been perceived less by the women with cancer. Family counseling can be used in cancer care especially when the women with breast cancer have problems with coping of cancer experiences. The health professional in cancer care can use the results of study to prevent the possible coping problems. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-29

The Influence of Paediatric Cancer on Parents' Marital Satisfaction: Differential Predictors for Mothers and Fathers' Marital Satisfaction When Caring for a Child With Cancer

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BACKGROUND: Within the paediatric oncology context, the cancer experience can have a significant influence on the family system as a whole (Long & Marsland, 2011). Parents have several caregiving and support roles in the child's rehabilitation (Hutchinson, Willard, Hardy, & Bonner, 2009), thus their well-being (including their marital well-being) is of fundamental importance. This research examines the impact of paediatric cancer on mothers and fathers' marital satisfaction over time while accounting for interrelationships in partner's adjustment. **METHOD:** Couples completed the Family Well-Being Assessment to determine familial stress and perceived well-being (Caldwell, 1988) and the Profile of Mood States-Bipolar Form to determine mood states (Lorr, McNair & Heuchert, 1980, 2003) at diagnosis and 3 months later. Marital satisfaction was assessed at 1-year ($n = 72$) and

2-years post diagnosis ($n = 61$) with the Locke-Wallace Marital Adjustment Scale (Locke & Wallace, 1959). **RESULTS:** Analyses using the Actor-Partner Interdependence Model (APIM; Kenny et al., 2006) suggest differential marital satisfaction predictors for mothers and fathers of paediatric cancer patients. Mothers' marital satisfaction at 1 and 2-years post diagnosis was predicted by familial variables at diagnosis and 3 months (family well-being, family support, and parental role conflict) (actor effects). For fathers, marital satisfaction predictors at 1 and 2-years post diagnosis included depressed mood (at 3 months) and fatigue (at diagnosis) (actor effects). Fathers' marital satisfaction at 2-years post diagnosis was also predicted by the partner's role conflict (at diagnosis) and fatigue (at 3 months) (partner effects). **CONCLUSIONS:** By using a relatively new conceptual model, this study was able to take past research on parental couples of children with cancer one step farther; accounting for both individual and interactional predictors of mothers and fathers' marital satisfaction over time. These findings demonstrate that marital satisfaction for parents of children with leukemia differ, and indicate the importance of considering dyadic elements, such as partner effects. Mothers' marital satisfaction was solely related to her family well-being in the early stages of the illness, whereas fathers' marital satisfaction was related to both his own mood and his partner's mood and family well-being. **RESEARCH IMPLICATIONS:** These findings have implications for theory and research advancement within the field of paediatric oncology. This research advocates for theoretical considerations to be made on the level of analysis used. Examining the parental couple at the dyadic level, as was done in this study, has inherent advantages such as accounting for interrelationships and testing gender effects. Hence, this research could be a catalyst for a more social-internationalist approach towards understanding parents of children with cancer. **CLINICAL IMPLICATIONS:** Furthermore, this research has significant clinical implications for health professionals working with these couples. It suggests that although mothers and fathers encounter the same chronic stressor (paediatric cancer), their experiences vary according to gender and to an extent time of assessment. Thus, clinical interventions aimed at helping these couples need to be tailored to their specific needs at that time. In addition, these findings emphasize the importance of early intervention and continued support for parents. **ACKNOWLEDGEMENT OF FUNDING:** CRSH-UdM "small grants", Fondation CHU Sainte-Justine; Le Centre de recherche interdisciplinaire sur les problèmes conjugaux et les agressions sexuelles (CRIPCAS).

P1-30

Paediatric Cancer Through The Lens of Attachment Theory: A Systematic-Critical Review of The Literature on Marital Adjustment in The Parental Couple

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BACKGROUND: Although the effects of paediatric cancer have been examined in parents individually (Vrijmoet et al., 2008), the impact on their marital adjustment is a relatively novel research area, which has received little attention (cf. Da Silva, Jacob, & Nascimento, 2010; Long & Marsland, 2011). The aim of this research was to perform a systematic-critical literature review exploring the impact of paediatric cancer on marital functioning of parents and explain these findings according to attachment theory. **METHOD:** A systematic literature review was conducted using both keywords and associated MeSH terms in the following databases: *PubMed*, *CINAHL*, *PSYCInfo*, and *Web of Science*. The aim was to review paediatric oncology literature that focused on the parental couple, and put primary emphasis on relational aspects and/or marital functioning of these parents. Only studies that met this aim, as well as the restrictions for language (either English or French) and date of publication (January 1993 to December 2012) were retained. After synthesis of the results, key findings on these parental couples were paralleled with attachment theory research. **RESULTS:** Review of the literature showed that paediatric cancer was evidently a difficult experience for these parents and effects of the illness on parental couples were quite varied. Some studies reported negative repercussions, such as increased marital dissatisfaction and conflict (e.g., due to coping style differences), and dissatisfaction with sexuality within the parental couple. However, other studies reported the positive impact on the couple, such as strengthened trust, communication and spousal support. These discrepancies might be explained by differences in attachment styles of these couples; whereby secure couples would cope with this stressor in a more adaptive and mutually supportive manner. **CONCLUSIONS:** Overall, this review acknowledges that the stress of paediatric cancer does not have a uniform impact on parental couples. While some couples' marital functioning deteriorates, others' is reinforced as a result. This is consistent with core tenets of attachment theory, which suggest that one's attachment representations (i.e., secure or insecure) influence both their perception of stress and how they cope with stressors. Presumably reported differences in the impact of cancer on the parental couples in this review can be explained by

attachment differences; whereby secure couples were more likely to report positive effects on their marital relationship than insecure couples. **RESEARCH IMPLICATIONS:** The systematic approach in this review provided a concise synthesis of research on parental couples, while the critical aspect allowed findings to be grouped theoretically and then explained through a relevant theoretical framework: attachment theory. This field of research is generally atheoretical, and this the first time that attachment has been proposed as a conceptual framework for understanding the impact of paediatric cancer on the parental couple. Future research needs to examine this proposed association. **CLINICAL IMPLICATIONS:** By establishing parallels from findings on parental couples of paediatric cancer patients with findings on attachment theory, we formed an argument that could have significant clinical implications. If future research empirically tests the proposed association and it is significant, clinicians would be able to predict to some extent, which parental couples, based on their attachment tendencies, might experience deteriorations in marital functioning as a result. This in turn could allow for early intervention and support. **ACKNOWLEDGEMENT OF FUNDING:** CRSH-UdM "small grants", Fondation CHU Sainte-Justine; Le Centre de recherche interdisciplinaire sur les problèmes conjugaux et les agressions sexuelles (CRIPCAS).

P1-31

Carers in Medical Consultations: How Can They Support Patients and Be Supported?

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BACKGROUND: Informal carers (e.g. family members/friends) often accompany patients into oncology consultations. They may provide emotional, informational, and logistical support for patients, and participate in medical decision-making. Carers may also change the dynamics of the consultation, influence the patient-physician relationship, and increase the complexity of the encounter. In 3 studies we have explored patient, carer and physician views on the carer role, the roles they actually play and reviewed the evidence on this topic. **METHOD:** 52 papers were identified

in a systematic review of quantitative and qualitative studies exploring physician-adult patient-adult companion communication and/or decision-making within medical encounters. Data were extracted, quality reviewed and synthesised. Interviews were conducted, audiotaped, transcribed and coded with 30 patients, 34 carers, 10 oncology nurses and 11 oncologists, regarding their views of the carer's role, and barriers and facilitators to their appropriate involvement. Twenty audiotaped oncology consultations involving carers were reviewed and on the basis of all of the above, an interaction analysis coding system for triadic consultations was developed and applied to 72 further consultations involving carers. **RESULTS:** Results indicated carers regularly attend consultations, are frequently perceived as helpful, and assume a variety of roles. Some carer behaviors were felt to be more helpful (e.g. informational support) and less helpful (e.g. dominating/demanding behaviors), and preferences for involvement varied widely. Interviews revealed perceived benefits (e.g. support, improved recall, reduced patient burden) and challenges (e.g. dysfunctional family dynamics, conflicting treatment wishes) of family involvement. Facilitators (e.g. oncologists' encouragement of family involvement), barriers (e.g. blocking behaviors of the oncologist) and health professional strategies (e.g. clarify patient and carer role preferences) were described. Such facilitation however, occurs very rarely in clinical practice. **CONCLUSIONS:** Triadic communication in medical encounters can be helpful but challenging. A new theoretical framework is needed to guide ethical carer involvement in medical consultations. Strategies and training for health professionals are needed. Carers and patients need support to maximise their contribution and ensure carers are adequately supported. **RESEARCH IMPLICATIONS:** Future research could usefully evaluate interventions targeting training for health professionals in ethical communication with carers and patients, and support for carers and patients to maximise communication. **CLINICAL IMPLICATIONS:** Carers require support to maximise their involvement in medical consultations to better support patients, and involve carers to the level the patient and carer desire. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Informed Medical Decisions Foundation (IMDF).

P1-32

Post-Traumatic Stress Symptoms in Parental Dyads of Children Diagnosed With Cancer: A Longitudinal Analysis

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BACKGROUND: Posttraumatic stress symptoms (PTSS) are a common reaction in parents to their child's cancer diagnosis. However, little is known about how parents' PTSS develop during the course of the disease and about how fathers' and mothers' symptom trajectories are related. The present study had two aims: (1) examine the change in parents' PTSS and (2) examine the dynamic longitudinal relationship between fathers' and mothers' PTSS, exploring the phenomenon of interdependent emotional systems in this population. **METHOD:** Participants of this study were 91 parental dyads whose children were diagnosed with cancer. Mothers and fathers completed the PTSD Checklist - Civilian Version (PCL-C; Weathers et al., 1993) via telephone after the moment of diagnosis, during treatment and after the end of successful treatment or transplantation. The latent difference score (LDS) modelling framework was applied to the data collected at six assessments. The framework of LDS modelling represents an alternative method for the structural modelling of longitudinal data combining features of latent growth curve models and cross-lagged regression models. The models were fit using Mplus (Muthén & Muthén, 1998-2010). **RESULTS:** Results generally indicated that fathers' and mothers' PTSS decreased proportionally to their previous symptom levels. Further, LDS analyses revealed that change in fathers' PTSS was proportional to previous symptom levels in corresponding mothers after the end of successful treatment or transplantation, respectively. That is, mothers with high levels of PTSS put fathers at risk for stagnating or even increased symptoms over time. Reversely, when fathers suffered from high levels of PTSS, mothers with low symptom levels had a protective effect. For mothers, however, change in symptoms was not significantly associated with fathers' previous levels of PTSS. **CONCLUSIONS:** In conclusion, crucial processes in parental dyads may be overlooked when mothers and fathers are examined as 2 separate units. Previous studies are limited with regard to investigating how parents' PTSS are dynamically related over time. The findings of this study demonstrate that one parent may act as a risk or, conversely, as a protective factor in terms of the other parent's development of PTSS. **RESEARCH IMPLICATIONS:** The present analyses of coupled change in PTSS were mainly exploratory, aiming at identifying the phenomenon of interdependent emotional systems. Since the results indicate that parents actually react as an emotional system rather than as 2 separate units, theoretical models of mechanisms by which parental dyads influence each other in symptom development are desirable. On that basis, refined research questions can be addressed in future studies. **CLINICAL IMPLICATIONS:** Future psychosocial strategies may be based on the unique needs of the parental dyad. A more efficient

and rapid route to symptom reduction in one parent may involve considering the role of the other parent. It may be important to buffer the endangering effect of a highly affected other parent, or foster the protective potential of a less affected other parent, respectively. Psychosocial care addressing both parents may strengthen the relationship between mothers and fathers. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by grants from the Swedish Research Council (K2011-70X-20836-04-4), the Swedish Cancer Society (2010/276), and the Swedish Childhood Cancer Foundation (PROJ08/010).

P1-33

In Sickness and in Health: Diurnal Salivary Cortisol Patterns in People With Cancer and Their Spouses

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BACKGROUND: Recent studies show evidence of co-variation between healthy couples' diurnal salivary cortisol secretion, suggesting that they face similar stressors in their shared life. What if one in the couple experiences a disproportionate stressor? The study examines the diurnal salivary cortisol patterns in people with cancer and in their spouses, and investigates if there is any spousal influence on cortisol regulation. **METHOD:** The study analyzed data collected at a baseline assessment prior to a randomized controlled trial examining the effects of an exercise intervention on cancer-related quality of life. Analysis was based on fifty-three persons with cancer and their spouses. Each couple collected saliva samples at home on the same day (waking, 45 minutes after waking, noon, 5pm and 9pm). Cortisol values were natural log transformed before analysis. They also completed questionnaires that measure health-related quality of life, sleep quality, perceived stress, mood, and social support. **RESULTS:** Compared to their spouses, cancer patients (mean years since diagnosis = 1.68 years; SD = 1.41) had poorer physical well-being and sleep quality, but perceived greater social support. Couples did not have different salivary cortisol levels and diurnal slopes. Only cortisol levels at waking and 5pm were conjugally correlated. Linear regressions showed (a) patient's diurnal slope associated with patient's sleep quality, while spouse's diurnal slope associated with patient's, not spouse's, sleep quality, and patient's social support; and (b) patient's and spouse's morning cortisol level (45 minutes after waking) was associated with the

other partner's perceived stress and social support. **CONCLUSIONS:** Findings showed that while patients reported poorer physical health, they did not experience significantly different psychosocial and physiological responses from those of their spouses. Similar to past findings, only cortisol levels at morning and evening were correlated, when the couples were more likely to spend time together. For both patients and spouses, diurnal salivary cortisol patterns associated only with patient's sleep quality. **RESEARCH IMPLICATIONS:** This is the first study of the possible co-regulation effect of cortisol rhythms between cancer patients and their spouses. Further prospective research is recommended in light of the limitation of the current study being cross-sectional. **CLINICAL IMPLICATIONS:** Findings suggest that although cancer is a health threat to an individual, couples face the illness together both in psychological and physiological terms. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-34

Couples' Experiences Of Undergoing Treatment for Prostate Cancer Adjustment-Related Difficulties: A Qualitative Study

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BACKGROUND: The diagnosis and treatment of prostate cancer (PCa) can result in significant changes to a man's physical and emotional functioning, which may adversely affect intimate aspects of his relationship with his partner. Survivorship issues in this population therefore pose unique challenges related to promoting the psychological well-being of couples. This qualitative study explored couples' experiences of CECT, a manualised six-session couple therapy program delivered by clinical psychologists and psychiatrists via a randomised controlled trial. **METHOD:** Purposefully sampled couples ($N = 10$) who completed CECT were interviewed about their experiences of undertaking a specialist mental-health intervention. Interviews were exploratory, but utilised semi-structured prompts to facilitate discussion relating to: (1) Acceptability and perceptions of CECT; (2) Life after treatment for PCa; (3) Impact of PCa on the relationship; (4) Methods of coping; (5) Hopes for the future. Interviews were recorded, transcribed, and checked for accuracy. A thematic analysis was undertaken by three investigators,

using a constant comparative method influenced by grounded theory. Analysis was undertaken simultaneously with data collection, and emerging themes were explored until data saturation was reached. **RESULTS:** The following themes were prevalent in the data: (1) Returning to a “new” normal - which encompassed life as it was before diagnosis, but with changed perceptions of intimacy. (2) Talking about the unspoken - whereby CECT opened up communication of PCa-related concerns, which were previously unacknowledged between partners. (3) Setting the scene for dealing with future challenges - creating a mutual approach to face the uncertain future, and adapt to difficulties as they arise. (4) Cementing coping strategies used at the couple level - positivity, humour, and affirmation of each partners’ feelings, as important coping strategies recognised by couples. **CONCLUSIONS:** The breakthrough in this CECT approach is the treatment of PCa adjustment-related difficulties systemically, at the couples level. We surmise: (1) Couples reported favourably the opportunity for a mutual supportive forum in which to communicate their fears and concerns. (2) Partners appreciated the opportunity to be involved and acknowledged in the PCa treatment and care process. (3) The couples approach provides a unique leverage point, which likely affords the greatest opportunity for change. **RESEARCH IMPLICATIONS:** Further research examining support for men with PCa related challenges should prioritise a couples approach. Adaptations to the CECT framework for structuring support may include reducing CECT to 4 face-to-face sessions \pm 2 bolster sessions as required, with the option for these additional sessions to be provided via a telephone/internet format. **CLINICAL IMPLICATIONS:** Specialist mental-health professional’s providing CECT were a valued addition to patient care. CECT has clinical relevance for men and their partners requiring support and the couple approach was endorsed by all participants. Alterations to the treatment dose, as suggested by couples, may be clinically appropriate. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by beyondblue.

P1-35

Impact of Partners Variables on Depression and Quality of Life in Couples Facing Cancer

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BACKGROUND: The purpose of this study was to examine the impact of partners’ variables

(patients and partners anxiety, Sense of Coherence (SOC), posttraumatic growth (PTG), relationship quality (RQ) and physical complaints) on depression and quality of life (QOL) in couples facing cancer. **METHOD:** Questionnaires assessing anxiety and depression, SOC, PTG, RQ, QOL and physical complaints were applied to 207 patients with different cancer types and stages and their partners. Anxiety and depression was measured by the Hamilton anxiety and depression scale, SOC by the 13-item Sense of Coherence scale, PTG by the Posttraumatic Growth Inventory and QOL by the EUROHIS-QOL 8-item index. To determine RQ patients and partners were asked the following question: How happy do you feel yourself in your relationship right now? Hierarchical regression analysis was done to calculate the impact of partner variables on patients and partners depression and QOL. **RESULTS:** Partners depression and RQ account for 23.7% of the variance of patients’ depression. 29.2% of the variance was explained by patients’ physical complaints, SOC and PTG. In partners patients’ depression and RQ account for 24.7% of the variance of the partners’ depression. 36.1% of the variance was explained by partners’ physical complaints and SOC. Partners’ depression and RQ accounted for 21.4% of the variance of patients QOL. 45.8% of the variance was explained by patients’ variables. In partners patients’ depression and RQ accounted for 13.4% of the variance of partners QOL. 44.1% of the variance was explained by partners’ variables. **CONCLUSIONS:** These findings demonstrate the needs for survey depression and relationship quality in both cancer patients and their partners. If a depression or worse relationship quality is detected, couples should be referred to a psychiatrist with experience in couple therapy. It can be assumed that if the depression of the partner or the relationship problems is treated properly patient’s depressive symptoms can be reduced and his or her quality of life increased. That applies to the partner as well. But this has to be scientifically proven in the future by further studies. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by the Zurich Cancer League (Krebsliga Zürich, www.krebsliga-zh.ch).

P1-36

Psychological Distress in Caregivers of Cancer Patients

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BACKGROUND: Caregivers of cancer patients go through a lot of psychological distress. As the sufferings and needs of the patients increase, so does physical, emotional and financial burden of

the caregivers, who often become “second-order patients”

The aims of the study are–:

1. To assess psychological distress of the caregivers of cancer patients.
2. To assess the impact of life events.
3. To assess coping strategies used by the caregivers.

METHOD: A retrospective observational cross sectional study was done in the setting of psycho-oncology service of a tertiary care cancer centre in a developing country. Caregivers of patients referred to the service and who are closely involved in patient care were included. A retrospective analysis of caregivers’ assessments done over a period of 3 months was conducted, noting the sociodemographic details of the caregivers, patient’s disease status, psychological distress of and coping strategies used by caregivers (identified on the basis of interview done with the help of semi-structured proforma) and Life Event Scale score. Relevant statistical analysis was done. **RESULTS:** 100 (59 men and 41 women) primary adult caregivers of cancer patients between the age group of 18–75 years were assessed. Psychological distress was present in 43% of caregivers, who were between the age group of 21–40 years. High distress was noted in gastrointestinal (60%) and (53%) in haemato-lymphoid cancer patients’ caregivers followed by head and neck (33%) and brain tumor (29%) patients’ caregivers. In 36% caregivers, Life event Scale score was high. Majority of caregiver (98%) expressed multiple problems and concerns, main being emotional and practical. Adaptive coping strategies were used by 97 out of 100 caregivers assessed. **CONCLUSIONS:** Psychological distress was seen in 33% of caregivers of cancer patients. Increased distress is associated with diagnosis of high care giving demands associated with some types of cancers like hemato-lymphoid, brain tumor, gastrointestinal and head and neck. The predicted degree of risk for distress due to life events was seen at moderate level in 36% of caregivers. Useful and adaptive coping strategies were used by almost all the caregivers, indicating a high amount of resilience, despite the burden of caregiving. **RESEARCH IMPLICATIONS:** There is a need for research to assess the impact of psychological interventions (individual or group based) on distress of cancer patients’ caregivers at different stages of treatment. The influence of personality and cultural variables on resilience of caregivers also needs to be studied. Socio-cultural influences on caregiver distress and coping strategies is another challenging area of research. **CLINICAL IMPLICATIONS:** Considering high levels of distress in cancer patients’ caregivers, specialized psychological and social interventions for caregivers are a priority service area. Clinical efforts are needed to assist distressed caregivers in providing practical support to the patient. Tailor made psy-

chological interventions for helping caregivers to attend to their own emotional needs and taking into account their coping strategies, will be useful. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-37

When a Parent Has Cancer: Developing an Educational Programme to Enhance Supportive Care for Patients and Young Families

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BACKGROUND: There is an established need for family-centred care when a parent has cancer. Oncology professionals often avoid issues associated with patients’ families and children because they lack confidence, feel inadequately prepared and unsupported. Targeted, evidence-based educational initiatives are needed to improve the quality of care. A pilot educational programme was developed to enhance the supportive care for patients and young families when a parent has cancer. The development, implementation and evaluation of the programme are described. **METHOD:** The development of the programme followed examination of theory and research and consultation with psycho-oncology and educational experts. Attachment, child development and systemic theory informed the content; models of adult learning, problem-based and reflective practice the learning methods. It was run 3 times with professionals from a specialist cancer treatment centre - 10 per programme. Evaluation pre-post programme: prior to participants were asked about their hopes for the programme and concerns about providing support. On completion they were asked about their experience of programme, its influence on clinical practice, their feelings about providing support. Qualitative analysis was used for questionnaire data. **RESULTS:** Thirty-one professionals from varying backgrounds took part. Before, they described fears and felt they lacked skills, knowledge, experience, and emotional capacity. Afterwards, they were enthusiastic about providing support and meeting challenges more pragmatically. They reported increased confidence: initiating conversations; explore emotions; assess family coping; providing support; facilitate parent-child communication; had increased understanding of the impact of illness on children at different ages; open communication; and importance of self-care. Group reflection, support and clinical scenarios were seen as essential to learning. All anticipated a positive change to their clinical practice. Some had concerns about forgetting skills, balancing family support with other roles, and time for self-care. **CONCLUSIONS:** The programme successfully increased oncology professionals’ confidence and enthusiasm; and perception of their skills, ability

and knowledge in offering supportive care when a parent has cancer. It was highly acceptable to professionals from a range of backgrounds, including medics, nurses and allied health. Findings suggest that group-based reflection and clinically-based problem-solving exercises are important factors in building confidence, mechanisms of support, and helping participants connect learning to the clinical context. Professionals experience a significant emotional burden providing support to young families. The programme helped to deepen professionals' appreciation of their emotional needs and encourage self-care. **RESEARCH IMPLICATIONS:** Initial findings suggest the programme is beneficial and suitable for further evaluation. Further research following-up participants at timed periods after completing the program is needed to assess whether learning outcomes are transferred to the clinical setting, and what professional support mechanisms sustain the provision of supportive care, and help to manage the emotional burden on professionals. Further research would usefully also include patient and family perspectives' on the quality of care provided. **CLINICAL IMPLICATIONS:** There is an unmet need for family-centred care when a parent has cancer. The programme is a useful step toward enhancing professionals' supportive care in this underrepresented area. Systematic provision of support to patients and families that encourages open communication, assesses family coping, and considers the needs' of children is likely to help prevent psychological difficulties occurring in children and family members. It may also help to identify vulnerable families where specialist services are needed. **ACKNOWLEDGEMENT OF FUNDING:** The Royal Marsden Cancer Charity.

P1-38**Creative Therapy for Children of Cancer Patients**

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BACKGROUND: It is more recognized that cancer and its treatment have impact on the emotional, cognitive and social life of children of cancer patients. At the psycho-oncology foundation the Vruchtenburg (Rotterdam, the Netherlands) the application of creative therapy for children of cancer patients has been evaluated in terms of the perceptions by parents on the quality of the therapy (satisfaction, reaching the aims), and progress of the children in expressing their emotions and social activities. **METHOD:** The children (6–18 years) did participate in 6–8 sessions doing all kind of creative expressions: painting, drawing and molding. A questionnaire was sent to the parents of children who followed the therapy during 2009–2012. The

questionnaire contains standardized questions about the aims and effects of the therapy, the impressions of the parents on changes in the children, and the satisfaction with the therapy. Forty-three parents received the questionnaire; 24 questionnaires were sent back; the non response was mainly due to the physical and psychological condition of the parents. **RESULTS:** The parents did evaluate the therapy with a mean score of 8.4 (10 point scale). Nearly all parents (91%) indicated that their aims were realized. They perceive that their children did express more emotions, paid attention to their feelings of mourning, and could easier to talk about the illness and their emotions. The parents indicate an improvement of the functioning of the children: less expression of anger, sadness and anxiety. The therapy gave the children a place to talk about their emotions and experiencing that they are not alone with their problems. **CONCLUSIONS:** The creative therapy is evaluated very positively by the parents. It leads to changes in the emotional life of children and their social functioning. The therapy did fulfill their aims. **RESEARCH IMPLICATIONS:** The current positive evaluation is not measuring the objective effects of the therapy, but only the perception by the parents, which may be biased in the perception of the emotional and cognitive problems of their children. There is a need for further research applying follow-up measures and comparing this therapy with other interventions. **CLINICAL IMPLICATIONS:** Creative therapy is a fruitful approach to support children of cancer patients to cope with their emotional problems. It is advised to offer this therapeutically approach in Dutch center for psycho-oncology for children of cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** No.

P1-39

Abstract withdrawn

P1-40**Valleys: A Webseries About Survivorship and Caregiving for Young Adults With Metastatic Cancer**

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BACKGROUND: Film has quickly become a dominant form of communication around the world. This is shown by the fact that one billion people watch videos on YouTube every month. Psychosocial oncology professionals can use the medium of film in their practice. The purpose of this presentation is to provide an example of a freely available film tool, Valleys: The Webseries, that can be used in individual and family counselling. **METHOD:** This

presentation will use Episode 3 – “This Guilty Feeling” from the newly released webseries, Valleys, to illustrate how film has the ability to teach important coping behaviours and open lines of communication between cancer survivors and their supporters. Set in the majestic and wild Grand Canyon of the southern USA, this webseries includes the perspectives of one young adult woman with metastatic cancer, Amy, her best friend Annie and her husband and daughter as they explore their relationship and grapple with the unique physical and emotional challenges that cancer has brought into their lives. **RESULTS:** The webisode shows the emotional burden that is placed on the supporters of someone with cancer as well as the cancer patient themselves. The story emphasizes the importance of open and honest communication between cancer survivors and their supporters and demonstrates that everyone touched by cancer experiences the same emotions, just for different reasons. The universality of the difficult emotions faced in a cancer experience often goes unnoticed because each person involved does not feel like they should be “burdening” each other with their feelings. This webisode gives the opportunity to broach this subject during family or individual counselling. **CONCLUSIONS:** Film is a universal language that can be used for many different purposes in clinical psychosocial oncology practice. **CLINICAL IMPLICATIONS:** Attendees will learn about a freely available film tool that can be used in their clinical practice with metastatic cancer patients as well as gain a candid and engaging insight into the challenges faced by both cancer survivors and their supporters. **ACKNOWLEDGEMENT OF FUNDING:** Lazarex Cancer Foundation, Chasing Rainbows Young Adult Cancer Advocacy, Survive & Thrive Expeditions.

P1-41

Trajectories of Marital Satisfaction for Couples Confronted to Husband’s Prostate Cancer

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BACKGROUND: To be face to a prostate cancer and the radiotherapy’s effects, patients often need for a caregiver on a daily basis: their wife. However, both spouses are confronted to an important distress. In this deleterious context, marital satisfaction is not only an element of well-being, but could also be a determinant of disease’s adjustment. The purpose of this study was to define the marital adequacies’ trajectories and psychosocial determinants associated. **METHOD:** Our sample was composed by 90 French prostate cancer patients, who received radiotherapy (mean age: 67 years),

and their spouses (mean age: 62 years). A longitudinal approach was used with 4 times of evaluations from the beginning of radiotherapy to 4 months after treatment. Both husbands and wives completed the following questionnaires. State anxiety (Spielberger’s STAI adapted by Bruchon-Schweitzer and Paulhan), social support (Segrestan et al.’s QSS) and coping strategies (Lazarus and Folkman’s WCC adapted by Cousson et al.) were evaluated at T1. Marital satisfaction (Spanier’s DAS adapted by Antoine et al.) was completed at T1, T2, T3 and T4. **RESULTS:** Patients’ and spouses’ marital satisfaction whether in groups or within each matched pair is stable between the 4 measurement times and reflects a good fit between spouses. Overall, adequacy also remained stable. However, 5 trajectories of dyad adequacy could be distinguished (aftershock, stable mismatch, stable match recovering, unstable). No significant effect was found between STAI, QSS or WCC at T1 and those trajectories, except the low spouses’ perceived social support at T1 increasing the probability of belonging to the “stable mismatch” group. **CONCLUSIONS:** We aimed to make a first approach of adequacy pathways for the marital satisfaction during a prostate cancer disease. In accordance with previous researches, we have found overall a good stable adequacy between patients’ and wives’ adequacy, hiding heterogeneity of reactions. The most frequent (“aftershock”), concerning 26.4% of the couples, improve adequacy after the beginning of treatments, but led to a later decrease. The presence of a subgroup of wives perceiving low social support in the “stable mismatch” group confirms the importance for a following of the 2 spouses. **RESEARCH IMPLICATIONS:** This research highlights the importance for taking account the 2 spouses’ point of view when investigating marital satisfaction. Moreover, in terms of methods, this study aimed to compare patients with their wives, not only comparing 2 groups like most of the studies, but preserving the unique relation of each couple. Further studies are still necessary to develop statistical analyzes to determine developmental trajectories for paired samples. **CLINICAL IMPLICATIONS:** This study supports previous recommendations for practitioners to keep an attention on both of the spouses when one of them is confronted with cancer. Illness affects not only the patient’s life and deleterious situations can pre-exist that should not be ignored. More generally, patients’ marital satisfaction should be considered not just as an intimate question but as a part of quality of life. **ACKNOWLEDGEMENT OF FUNDING:** INCA, French National Cancer Institute and French League against Cancer.

P1-42

Start the Talk: Supporting Children and Adolescents When a Family Member has Cancer - A Guide for Educators and Health Care Professionals

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BACKGROUND: Although most people with cancer are older, a significant number will develop cancer during child rearing years. Studies on the impact of parental cancer suggest children and teens experience distress when living with a parent with cancer. Those whose parents have more advanced disease appear to be the most distressed. Few resources exist to guide educators and health care providers on how best to support children and adolescents when a family member has cancer. **METHOD:** The Canadian Association of Psychosocial Oncology (CAPO) Education Committee, supported by the de Souza Institute, developed an evidence-based online education resource for health care professionals and school based personnel to support children and adolescents when a family member has cancer. A working group of Canadian experts in psychosocial oncology guided the development of the resource, which included environmental scans of existing resources, and a review of the literature. Demographic data is being collected from users before they can access the resource, and users are invited to evaluate their experience with the resource through an online survey. **RESULTS:** "Start the Talk" consists of 4 modules: What is Cancer; Children's and Teen's Responses to Cancer in the Family; Preparing to Help; and Communicating and Providing Ongoing Support. Available 24/7, it is intended to prepare educators and health care providers with a greater understanding of the impact of cancer in the family on children and teens, and suggests ways to be helpful. The resource was launched in May, 2013. Evaluation data from the first 6 months will be presented, including a description of users, satisfaction and suggestions for revisions. **CONCLUSIONS:** The mandate of CAPO is to provide psychosocial oncology related education to professionals and members of the public. Online resources extend the

reach of education resources to provide 24/7 help, to those in both urban and rural areas. Data collected from users will help inform whether the target audiences are being reached as well as the effectiveness of this approach to meeting identified needs. **RESEARCH IMPLICATIONS:** Evaluation of online education resources is challenging. Our first step is to evaluate satisfaction and reach, the results of which will be discussed in this presentation. Possibilities for more rigorous evaluation of this, and similar resources that CAPO has developed will be presented. **CLINICAL IMPLICATIONS:** The benefit of "just in time" web-based resources to practitioners, whether in education, health or community based settings, is largely unknown. We anticipate that evaluation will help us to understanding how practitioners use such resources, as well as opening the door to collaborations between CAPO, psychosocial oncology specialists and practitioners in other settings. **ACKNOWLEDGEMENT OF FUNDING:** Funding was received from the de Souza Institute for costs related to developing this online resource.

P1-43

Comparing Depression and Anxiety in Spousal Relatives With Cancer Patients: Meta-Analysis of Long Term Cancer Survivors

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BACKGROUND: There is considerable debate about levels of depression and anxiety in spousal relatives of cancer patients in the early stages and also in the long-term. We aimed to discover whether depression/anxiety are more or less common in spousal relatives compared with long-term survivors of cancer. **METHOD:** We defined long term survivors as those 2 years or more since a diagnosis. We conducted a systematic review and meta-analysis 12 comparative depression analyses (against spousal relatives) and 5 comparative anxiety studies (against spousal relatives). In the 12 analyses examining the prevalence of depression studies recruited 2722 individuals a mean of 4.2 years after cancer. The anxiety studies recruited 1230 individuals. **RESULTS:** The prevalence of depression was 26.7% in the pooled sample of 1437 cancer survivors and 26.3% in 1285 spousal relatives, a pooled relative risk (rr) was 1.01 (95% CI = 0.86 to 1.20). The prevalence of anxiety was 28.0% in the pooled sample of 631 cancer survivors and 40.1% in 539 spousal relatives. The pooled relative risk (rr) was 0.71 (patients vs relatives) suggesting 41% higher anxiety in relatives than LCS. Within this data there appeared to be one outlier and if removed the rr was 85% higher in spousal relatives vs LCS. **CONCLUSIONS:** Results

suggest that risk of depression is equivalent in relatives of long-term cancer patients but risk of anxiety is actually higher. After 2 years of more post-diagnosis anxiety remains very high in spousal relatives. **RESEARCH IMPLICATIONS:** Results may be mediated by time since cancer, type of case-ascertainment and burden of disease in cancer patients. These moderating factors should be clarified in future research. **CLINICAL IMPLICATIONS:** From this study we suggest screening and surveillance for mood disorders is extended to relatives of cancer patients, and extended to include relatives of long-term survivors. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-44

Family Participation in the Adjustment of Children and Adolescents who Survive Cancer

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BACKGROUND: The aim of this non-experimental study was to determine the active participation of the family in the adjustment of children and adolescents who survived cancer. **METHOD:** The sample was represented by 21 children and adolescents of both sexes, between 2 and 21 years old, assisting to the Oncology department in the University Hospital, and one parent for each child. The questionnaire applied to each parent was Family Involvement in the Past (PIP) which assesses the behavioral and emotional support given by family members as well as the level of patient adaptation. **RESULTS:** High parent involvement ($M: 28$) was shown, with the mother having a 70% of intervention. The average emotional support ($M: 24.3$) and high behavioral support ($M: 78$) found showed that parents have tools to deal with the nuisance of the child. The negative emotions present in the parents during treatment were stress*, anxiety*, impotence*, fear*, depression* and sadness*, all decreasing significantly at the time of completing the treatment. Positive emotions such as joy* peace* and happiness* were also found. $(P > 0.05)$: **CONCLUSIONS:** The mother had the greatest participation in terms of emotional and behavioral support, showing that parents have tools to deal with the discomfort of the child. The negative emotions during treatment disappeared in the period of survival, showing a new period of adjustment appearing in the opportunity of well being. Surviving cancer involves a series of trials that must be overcome from the physiological perspective as a “cure or remission” of disease, as well as the healing of “emotional” wounds that the situation involves. **RESEARCH IMPLICATIONS:** There are many

questions needing to be answered when working with oncology patients: adjustment to new life, family support, treatment of a serious illness. This research gives appropriate answers to these questions. **CLINICAL IMPLICATIONS:** Integrated, multidisciplinary work between physician and psychologist should be strengthened each day to make it function as a tool to accelerate steps towards a happy and healthy survival. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-45

Abstract withdrawn

P1-46

Characteristics Associated with Posttraumatic Stress Symptoms and Quality of Life in Children with Parental Cancer in Japan

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BACKGROUND: About a quarter of cancer patient have dependent children. Cancer not only affects the patients, but the experience also encroaches deeply on family life. Recently in Japan, there is a greater recognition for the need to understand the effects of parental cancer on children. However, there are few studies in Japan evaluating the relationship between characteristics of the parents with cancer and the functioning of their children. **METHOD:** We conducted a multi-institutional cross-sectional study comprising children of cancer patients hospitalized or visiting on an outpatient basis for treatment or follow-up at one of four major clinical centers in Japan between October 2011 and December 2012. Children were considered eligible if they were between ages 6 and 18 years. Questionnaires were administered to the children and their affected parent with cancer to collect information on sociodemographics, psychosocial factors, quality of life (QOL), and illness-related characteristics. These included a scale of social-support, emotional condition (HADS and IES-R), family functioning, posttraumatic stress disorder-reaction index (PTSD-RI), and PedQL for children. **RESULTS:** Eighty-two children and their parent affected with cancer returned questionnaires. The median ages of the parents and children were 45 years (range: 36–53 years) and 13 years (range: 6–17 years), respectively. Forty-three percent of children aged 6–14 years and 12% of children aged

15–17 years showed symptoms of posttraumatic stress. Daughters reported higher PTSD-RI scores than sons ($p = 0.012$). Single parent ($p = 0.002$) and no siblings ($p = 0.003$) were associated with lower QOL based on children's self-reported data. Additionally, lower QOL of children was associated with anxiety ($p < 0.001$), depression ($p < 0.001$) and posttraumatic stress syndrome (PTSS) ($p < 0.001$) of parents. **CONCLUSIONS:** To our knowledge, this is the first study to evaluate the characteristics of children affected by parental cancer in Japan. Our data showed PTSS to be more frequent in elementary and junior high school children than high school children and affected more girls than boys. Low QOL of children was related to having a single parent and no siblings. Poor mental health of parents affected physical, emotional and social functioning of children. These findings suggest that total care for cancer patients should include their children. **RESEARCH IMPLICATIONS:** Our previous research showed that 70% of clinicians believe it is better to support children with parental cancer, and 85% of them indicated there to be a lack of appropriate data about children affected by parental cancer in Japan. We demonstrated that considerable proportion of children with parental cancer suffer from psychosocial issues and suboptimal QOL suggesting a need for further studies to clarify the risk factors and evaluate the effectiveness of potential intervention strategies. **CLINICAL IMPLICATIONS:** The number of individuals affected by cancer in their 30's, 40's and 50's are increasing. Many have school aged children making it increasingly necessary for clinicians to consider the children with parental cancer in an effort to provide total care. Our results suggested that lower QOL in children is related to their parents' emotional state and the composition of family. Total care needs to have a field of vision that includes the support of children. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by a grant from the Japanese Ministry of Health, Labour and Welfare.

P1-47

Is Primary Caregiving Stress Related to Secondary Caregiving Stress? A Cross-Sectional Study of Chinese Family Cancer Caregivers

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BACKGROUND: Caregivers stress is cited as a focus of intervention for effective informal cancer care in the field of psycho-oncology. Existing literature on caregivers are plagued two major limitations: First, few studies examine how stress related to care provision (primary stress) spreads and influences the other aspects of the caregivers' life (secondary stress). Second, few studies examined caregiver stress in a patient-caregiver dyad. This study contributes to our understanding of caregiver stress by addressing these limitations. **METHOD:** 235 pairs of Chinese cancer patients and their family caregivers completed questionnaires on their perceived social support (Multidimensional Scale of Perceived Social Support), perceived stress (Perceived Stress Scale), mood (Hospital Anxiety and Depression Scale), and self-reported mental health (Short Form 12). To measure the impacts on cancer caregiving on caregivers' financial well-being, health status, and daily life schedule (secondary stress), caregivers also completed the Caregiver Stress Assessment (CRA). **RESULTS:** Regression analyses with caregivers' demographics background, perceived stress related to primary cancer caregiving, as well as care recipients' demographics, cancer-related medical condition, mood, and self-perceived social supports as reported by caregiver-patient dyads were entered as possible predictors showed that: (a) caregivers' perceived caregiving stress was associated with all dimensions of secondary stress (betas = 0.16, 0.10 and 0.21); (b) impacts on daily schedule was also associated with patient's depression and physical health (betas = -0.06 and 0.19), and; (c) impacts on caregiver's health was associated with caregivers' gender and perceived family support (betas = 1.0 and -0.9). **CONCLUSIONS:** The present study found that primary caregiving stress proliferated into secondary stress in the context of primary family cancer giving. Caregivers' perceived cancer caregiving stress appeared to be a major factor associated with all aspects of secondary stress. Impact on caregivers' schedule was associated with care recipients' mood and physical functioning, whereas impacts on caregivers' health was associated with caregivers' gender and the self-perceived family support. **RESEARCH IMPLICATIONS:** The present study showed that primary stress is associated with secondary stress in the context the cancer caregiving among Chinese patient-caregiver dyads. The present study leaned empirical support to and extended the application of the stress process model (Pearlin, Mullan, Semple, and Skaff, 1990). **CLINICAL IMPLICATIONS:** The findings of the present study highlighted the multi-faceted needs of cancer caregivers and the care recipients. The cultural obligation of taking care of one's family member imposes considerable stress on the caregivers. The present study suggested that to improve quality of informal caregiving, it is important to facilitate

expectation management of the caregivers, to enhance the family support of the caregivers, and to address the psychological and physical needs of the care recipients. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-48

Dyadic Coping of Patients With Hematologic Malignancies – Preliminary Findings of a Longitudinal Study

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BACKGROUND: Hematological cancer is related with multidimensional burden for the patients and their partners. This is caused by the life threat itself and by the prolonged and often exhausting treatment including transplantations for the patient. The concept of dyadic coping (Bodenmann 1995) acknowledges this fact. In this context, supportive and not helpful ways of coping can be distinguished. **METHOD:** Therefore, 320 patients and their partners (dyads) will be included in a German multicenter study (Leipzig and Ulm). In a prospective design with 2 time points (t1: < a half year after diagnosis; t2: 6 months later) patients, aged 18 to 75 with ICD-10 diagnosis (C81–C96; D46) complete a questionnaire assessing dyadic coping (instrument: Dyadic Coping Inventory) and further psychosocial parameters (e.g. distress with PHQ-4, quality of life with the SF-12, attachment with a German short version of the ECR). Further, 15 problem-centered interviews focusing on dyadic coping processes will be conducted. **RESULTS:** We will present findings concerning (a) the course and changes in dyadic coping over time, (b) dyad-related predictors of dysfunctional coping, (c) associations of dyadic coping and personal, pair- and illness related characteristics and (d) specific aspects of dyadic coping in dyads with one partner having hematological cancer. **CONCLUSIONS:** The results will provide an enhanced understanding of dyadic coping in partnerships of haematological cancer patients. Further, the results could have impact on the development and adaptation of psychosocial interventions for dyads that are faced with cancer. **RESEARCH IMPLICATIONS:** Common coping processes in a partnership have the potential to encourage or to hamper individual coping. Therefore, it is necessary to investigate interactions of illness-related coping of the patient and the partner in order to conduct patient-centered psychosocial

research for cancer patients. **CLINICAL IMPLICATIONS:** The systematic consideration of dyadic coping could contribute to an early detection of dysfunctional and maladaptive coping. Due to an early identification of factors related to dysfunctional dyadic coping appropriate and tailored psychosocial interventions can be offered early. **ACKNOWLEDGEMENT OF FUNDING:** This study is funded by a grant from the German José Carreras Leukaemia-Foundation (grant: DJCLS R 12/36).

P1-49

The socio-Economic Costs of Back Pain on Working Children of Working Patients with Cancer of the Cervix

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BACKGROUND: Back pain is a common reason of multiple doctor consults in patients with cervical cancer. It affects all ages but worse at the age of >50. The study explored the socio economic effects of back pain on the working children of working patients. **METHOD:** Data consisted of working children whose parents presented with back pain with a primary diagnosis of cervical cancer. A questionnaire was sent to the children. Cross sectional study. **RESULTS:** Over 30% of the participants reported absence from work at least 10 days in an year to assist their parents visit doctors, buy medication, attend non pharmacological modalities and do chores for their parents. 40% reported that in 1 year, >40 days were away from families, the longer the duration of pain, the more the absence time. Adjustments of work load factors, at home, at work, and socio-economic standing showed that pain was a relatively independent determinant of care burden. >75% reported missing an engagement in 1 year. The scenario was worse if there were other underlying conditions. **CONCLUSIONS:** The burden of back pain with cancer of the cervix affects the whole family both socially and economically. It is important that excellent management coupled with counseling is practiced. Supportive care for the patient and family is an important aspect of quality care. **RESEARCH IMPLICATIONS:** Physical aspects of care are important when dealing with patients with cancer. But social factors are usually ignored with consequence more distress for patients and families. A bigger research need to be undertaken to assess this situation. **CLINICAL IMPLICATIONS:** Though the parents were working, children had to chip in financially and assist their parents to access better care which became even more frustrating when the pain was not controlled. As such paying attention to psychosocial settings greatly enhance the care patients receive. **ACKNOWLEDGEMENT OF FUNDING:** No acknowledgement.

P1-50

Quality of Life in the Informal Carers of Cancer Patients with CachexiaSally Wheelwright¹, Anne-Sophie Darlington¹, Deborah Fitzsimmons², Jane Hopkinson³, Colin Johnson¹¹University of Southampton, Southampton, UK,²Swansea University, Swansea, UK, ³Cardiff University, Cardiff, UK

BACKGROUND: Informal caregivers have an important role in managing care and supporting patients with cancer. The challenges associated with caregiving may be increased if the patient also has cachexia, a multidimensional syndrome characterised by involuntary weight loss, muscle atrophy and physiological changes which cause progressive functional impairment. The aim of this study is to identify the quality of life (QoL) issues which are important for carers of cancer patients with cachexia. **METHOD:** Relevant electronic databases were searched using free text and MESH-terms related to cancer, cachexia, QoL and carers. Full papers were retrieved for studies which described qualitative interviews with the informal caregivers of cancer patients with cachexia or unintentional weight/appetite loss. Studies of carers of patients with paediatric cancers were excluded as were studies in which the carer only acted as a proxy for the patient. The reference lists of the retrieved articles were checked for additional articles. Direct quotes from carers were extracted from the articles by 2 judges, who carried out open content analysis. **RESULTS:** The search found 15 relevant studies with 114 direct quotes. In about half the quotes, there was no information about how the carer's own QoL was affected. QoL issues in the remaining quotes fell under the following general headings: - dissatisfaction with health care professionals; feelings of guilt, worry and anger over patient's eating; change to own diet and eating habits; missing past food-related experiences; empathy and sympathy for patient; not knowing what to do for the best; family conflict; putting a lot of time and energy into food. **CONCLUSIONS:** The complexity of caring for a cancer patient with cachexia translates into a range of problems and experiences for informal carers. However, carers can sometimes be reluctant to report on how their lives are affected and focussed research with carers is required to provide a complete list of the relevant QoL issues. **RESEARCH IMPLICATIONS:** Carers of cancer patients with cachexia may be too focussed on the patient to report fully on their own experiences. Carefully designed interviews are therefore required to fully explore the impact on the QoL of carers. These interviews will also inform the content of psychoeducational interventions for families affected by cancer cachexia. **CLINICAL IMPLICATIONS:** The liter-

ature shows the challenges of caring for a loved one with cachexia. Clinicians should not ignore the patient's weight loss: carers want their acknowledgement and advice. It may help the patient, and their relationships, if professionals acknowledge and address carers' feelings of guilt, worry and anger, and provide advice to carers as well as patients on how best to address eating difficulties in cachexia. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-51

The Peculiarities of Perception of Cancer of the Oncological Patients, People Related to Them and Within the SocietyYeva Asribabayan*Yerevan State University, Yerevan, Armenia*

BACKGROUND: Today in Armenia, despite the wide prevalence of the disease, public perceptions of cancer remain mostly imaginary and are mainly based on myths and fear rather than scientific facts. An important indicator of Armenian society's wrong attitude towards cancer is the fact that the true diagnosis is often concealed from the patient. This work was aimed at research of the peculiarities of attitude towards cancer with groups having various relations with the disease. **METHOD:** To achieve maximal efficiency of the research, methods of survey, association and testing were selected and the following methodologies were utilized: a survey developed specifically for this research and aimed at revelation of attitudes towards cancer was used with all research groups. The group of patients diagnosed with cancer was additionally tested with Behterev Institute personality test (LOBI) aimed at revelation of types of attitudes towards diseases and SF-36 health survey, which belongs to the unspecific questionnaires aimed at assessment of quality of life. Microsoft Excel and SPSS (Statistical Package for the Social Sciences) software were used for data processing. **RESULTS:** Taking into account the type of relation with cancer, the survey sample is divided into 5 main groups: (1) cancer patients, (2) relatives and friends of cancer patients, (3) oncologists, (4) junior medical staff and (5) the general public - group of individuals with no direct relation with cancer. First 20 participants are included in each of the first 4 groups while 60 are included in the fifth group. Summing up the research in this 5 pilot groups and combining the results, the following conclusions were made. **CONCLUSIONS:** Cancer patients' attitude towards cancer is ambiguous and contradictory. The attitude of cancer patients' relatives is extremely negative: the fact of the disease itself is considered to be unfair and horrific. In the group of junior medical staff, it was found that the intensive, close interaction with cancer patients is mainly based on compassion and emotional support. Oncologists

demonstrate rational, realistic approach towards cancer and are based on more “scientific” knowledge of the issue and the need of putting a meaning to their own work. The attitude towards cancer among the general public has 2 important features: fear and avoidance. **RESEARCH IMPLICATIONS:** This research brings out the real attitude of the Armenian society towards cancer and the reasons for this attitude. It also provides an insight into the ways attitude towards cancer is impacted by the type of one’s relation with the disease. International psycho-oncology specialists can refer to this research for information on the peculiarities of patients’ attitude towards cancer in cases of concealment of the disease from the patient and lack of relevant psychological assistance. **CLINICAL IMPLICATIONS:** The results of this work can be useful for cancer patients, their relatives, as well as the medical staff for organization of complex psychotherapeutic work, which will take into account the peculiarities of perception of cancer among above mentioned groups as well as their impact on each other. This work can also have an educational role among cancer patients, their relatives and medical staff, thus contributing to mutual recognition and creation of environment of comfort. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-52

A Plea for Total Care: An Examination of the Doctor-Patient Relationship in the Context of Breast Cancer Care in Egypt

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BACKGROUND: The research is an empirical study examining the doctor-patient relationship as an important foundation to the quality of health care with patients with breast cancer in Egypt. The research focuses on four bioethical concerns that emerge within the doctor-patient relationship: equal allocation of resources, disclosure of diagnosis, decision-making and informed consent; for analyzing such relationship in the context of cancer care in Egypt. **METHOD:** This is a qualitative research mainly relying on semi-structured in depth interviews using open-ended questions to explore patients and doctors’ perceptions and attitudes on the various bioethical constructions and the doctor-patient relationship. Eleven patients with breast cancer and nine doctors were interviewed coming from both public and private medical institutions in Cairo. **RESULTS:** The bioethical concerns are culturally constructed in Egypt unlike the already institutionalized bioethical principles in the west. In many cases, doctors and patients’ perceptions differ in relationship to the way and degree of disclosure of diagnosis. Doctors do not negotiate power with patients as they feel and are expected to always

know what is right, while some patients demand participation in the treatment decision-making. Although informed consent is formally institutionalized it is not explained thoroughly to patients, leading to disappointments post breast surgery. Equal allocation of resources has been recognized as a major public problem influencing the doctor-patient relationship. **CONCLUSIONS:** The culturally constructed bioethical concerns are determined by several factors affecting the doctor-patient relationship with breast cancer in Egypt. These factors include the nature, severity, and risk of the illness, the illness’ psychological impact on patients, family structure, the socio-economic position of both patients and doctors, and the medical institution. The doctor-patient relationship is just another contextualized social relationship. Adapting the bioethical principles to fit the context within which the clinical encounter is taking place without comparing it to the western basis will improve the doctor-patient relationship enhancing patients’ satisfaction and compliance thus improving the quality of health care. **RESEARCH IMPLICATIONS:** This research is an initial exploratory study to the doctor-patient relationship and bioethical principles in Egypt. This research should not be generalized but can be used by other researchers and policy makers to explore new bioethical guidelines. Researchers can also administer a larger scale to draw new guidelines and further improved quality of health care programs. **CLINICAL IMPLICATIONS:** The doctor-patient relationship is poorly described and misunderstood within the clinical encounters of breast cancer in Egypt increasing patients’ dissatisfaction and non-compliance to treatment. Clinicians should consider all the different aspects that play a role in shaping the doctor-patient relationship in order to institutionalize bioethics for improving the relationship. A plea for total care is called for putting into consideration an integrated perspective: clinical, psychological, socio-economic, cultural, spiritual, political and educational. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-53

What are the Factors Associating With Caregiver Identity in Cancer Care? A Cross-Sectional Study of Chinese Family Cancer Caregivers

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BACKGROUND: Numerous studies have identified the positive role informal cancer care in enhancing quality of life of the care recipients. However, little is known about associating factors of caregiver identity in primary cancer caregiving within a family; and that available studies focused primarily on Caucasian population. Thus, this study aimed to bridge the gap in existing knowledge by identifying factors within the patient-caregiver dyads that are associated with caregiver identity in the Chinese community. **METHOD:** 235 pairs of Chinese cancer patients and their family caregivers were surveyed. The caregivers completed a questionnaire on their perceived stress (Perceived Stress Scale) and the “self-esteem” subscale of the Caregiver Stress Assessment (CRA), which is presumably a proxy measure for caregiver identity; whereas the care recipients completed questionnaire on their self-reported mental and physical health (Short Form 12). In addition, the patient-caregiver dyads also completed a measure on their perceived social support (Multidimensional Scale of Perceived Social Support), as well as their demographics. **RESULTS:** Caregiver identity was significantly correlated to care recipients’ mental functioning ($p = -0.35$), and; caregivers’ social support from friends ($p = 0.32$) as well as perceived stress in caregiving ($p = -0.35$). Caregiver identity was not associated with family support as well as caregivers’ physical functioning. Regression analyses with care recipients’ mental health, caregiver’s social support from friends and perceived stress entered as possible predictors found that higher level of caregiver identity was associated with: (a) higher level of caregivers’ perceived support from friends, (b) higher level of caregivers’ perceived stress, and; (c) poor care recipients’ self-reported mental health status. **CONCLUSIONS:** Contrary to existing literature on caregiving identity, the present study found that perceived stress in caregiving as well as the care recipients’ impaired mental state appeared to be the building blocks for Chinese caregivers’ identity. Nevertheless, it is consistent with existing literature that caregivers who received more supports from friends are more likely to report a lower level of sense of caregiving burden. **RESEARCH IMPLICATIONS:** The present identified factors associated with caregiver identity of Chinese primary cancer caregiver in the family. The paradoxical findings on the effect of perceived stress and care recipients’ mental health status warranted additional research efforts to further explore the phenomenon in the Chinese community. **CLINICAL IMPLICATIONS:** The results of the present study also highlighted the importance of cultural sensitivity in understanding caregiver identity and burden, as well as informal health practices in psycho-oncology. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-54

Does Caregiver Stress Mean Differently for Male and Female Cancer Caregivers? A Cross-Sectional Study of Chinese Family Primary Cancer Caregivers

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BACKGROUND: Informal cancer caregiving has long been recognized as a stressful experience. Cancer caregiving resulted in impairments to daily life schedule, financial arrangement, family relationships, and physical health of the caregivers. Little is known about caregiving stress across the gender. This study attempts to explore whether caregiver stress means differently to Chinese male and female caregiving spouse, in the context of the patient-caregiver dyads. **METHOD:** 146 pairs of Chinese cancer patients and their caregiving spouse were surveyed. The caregivers completed a questionnaire on their perceived stress (Perceived Stress Scale) and the Caregiver Stress Assessment (CRA); whereas the care recipients completed questionnaire on their self-reported mental and physical health (Short Form 12). In addition, the patient-caregiver dyads also completed a measure on their perceived social support (Multidimensional Scale of Perceived Social Support), as well as their demographics. For this study, a total of 72 male caregiving spouses (49.3%) and 74 female caregiving spouses were surveyed (50.3%). **RESULTS:** Regression analyses with patient- and caregiver-perceived social support, patients’ mental and physical health, and caregivers’ perceived stress entered as possible predictors of impairments on caregivers’ financial arrangement, daily schedule, and family relationship found that: (a) impacts on financial arrangement were associated only with support from family for the females (beta = -0.29); (b) impacts on schedule were associated with caregivers’ support from friends for the females (beta = -0.41), but with the patients’ familial support for males (beta = 0.30), and; (c) impacts on family relationship were associated with caregivers-perceived support from friends for both genders (beta = -0.17 and -0.28). **CONCLUSIONS:** Caregivers’ support from friends appeared to have the protective effects on family relationships for both gender. Nevertheless, impairments on financial arrangements and daily scheduling were associated with different sets of factors for caregiver of different gender. Caregivers’ familial support appeared to have the protec-

tive effect on disruptions of financial arrangement, daily schedule and family relationships only for the female caregivers. Whereas for the male caregivers, self-perceived stress and supports from friends appeared to have the protective against caregiver stress, whereas patients' support from friends seemed to mitigate disruptions of daily life schedule. **RESEARCH IMPLICATIONS:** At present, existing literature studied caregiver stress without taking adequate consideration to the possible gender effect. And thus, little was known about cancer-related caregiving stress across the genders. The findings of this research implied that caregiving stress might mean differently for Chinese male and female caregivers, and thus future research efforts on Chinese caregiving stress have to take into consideration of the possible gender differences. **CLINICAL IMPLICATIONS:** This study implied that family-based psychosocial intervention would benefit female cancer caregivers, but not male caregivers. The findings of this study called for a review of existing psychosocial support for male caregiving spouse in the Chinese context, who might need strengthening their social support networks outside the family to help them cope. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-55

Carry That Weight: A Comparison of the Impacts of Cancer Caregiving on Male and Female Chinese Family Caregivers

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BACKGROUND: Cancer not only impacted on the patients, but also on their caregivers. Cancer caregiving resulted in impairments to daily life schedule, financial arrangement, family relationships, and physical health of the caregivers. Little is known about caregiving stress across the gender. This is the purpose of this study to explore whether impact of caregiver stress means differently to Chinese male and female caregiving spouses in the context of the patient-caregiver dyads. **METHOD:** 146 pairs of Chinese cancer patients and their caregiving spouse were surveyed. The caregivers completed a questionnaire on their perceived stress (Perceived Stress Scale) and the Caregiver Stress Assessment (CRA); whereas the care recipients completed questionnaire on their self-reported mental and physical

health (Short Form 12). In addition, the patient-caregiver dyads also completed a measure on their perceived social support (Multidimensional Scale of Perceived Social Support), as well as their demographics. For this study, a total of 72 male caregiving spouses (49.3%) and 74 female caregiving spouses were surveyed (50.3%). **RESULTS:** Regression analyses with patient- and caregiver-perceived social support, patients' mental and physical health, and caregivers' perceived stress entered as possible predictors of impairments on caregivers' financial arrangement, daily schedule, and family relationship found that: (a) impacts on financial arrangement were associated only with support from family for the females (beta = -0.29); (b) impacts on schedule were associated with caregivers' support from friends for the females (beta = -0.41), but with the patients' familial support for males (beta = 0.30), and; (c) impacts on family relationship were associated with caregivers-perceived support from friends for both genders (beta = -0.17 and -0.28). **CONCLUSIONS:** Caregivers' support from friends appeared to have the protective effects on family relationships for both gender. Nevertheless, impairments on financial arrangements and daily scheduling were associated with different sets of factors for caregiver of different gender. Caregivers' familial support appeared to have the protective effect on disruptions of financial arrangement, daily schedule and family relationships only for the female caregivers. Whereas for the male caregivers, self-perceived stress and supports from friends appeared to have the protective against caregiver stress, whereas patients' support from friends seemed to mitigate disruptions of daily life schedule. **RESEARCH IMPLICATIONS:** At present, existing literature studied caregiver stress without taking adequate consideration to the possible gender effect. And thus, little was known about cancer-related caregiving stress across the genders. The findings of this research implied that caregiving stress might mean differently for Chinese male and female caregivers, and thus future research efforts on Chinese caregiving stress have to take into consideration of the possible gender differences. **CLINICAL IMPLICATIONS:** This study implied that family-based psychosocial intervention would benefit female cancer caregivers, but not male caregivers. The findings of this study called for a review of existing psychosocial support for male caregiving spouse in the Chinese context, who might need strengthening their social support networks outside the family to help them cope. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-56

Build it, but will They Come? Development and patient use of an Online Information Tool Designed to Reduce Psychosocial Distress

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BACKGROUND: Communicating treatment options and providing psychosocial support are critical in assisting patients to cope with a cancer diagnosis. The provision of information can take many forms, from verbal information provided by a clinician to the use of written, video and web based materials. The advantages and disadvantages of each of these approaches will be described, as well as the development and use of a web-based information tool in the context of a randomised controlled trial. **METHOD:** A randomised controlled trial is being conducted to examine the effectiveness of a web-based information tool in reducing depression, anxiety, and unmet information needs among haematological cancer patients and their support persons. Patients and their support persons are recruited by their clinician at the first consultation then randomly allocated as a dyad to receive the intervention or usual care. Intervention participants are provided with access to a web-based tool designed to provide tailored information and decisional support around diagnosis, treatment options, and self-management strategies. Participants can access the web-based tool in hospital using iPads, and via home computer when discharged. **RESULTS:** The content of the web program was developed using existing resources from cancer organisations. Two expert advisory committees rated written and video content for accuracy, completeness, detail and communication style. Information was revised until consensus was achieved. The program was then piloted with 33 haematological cancer patients; 90% found the program easy to use and all reported that they would share it with others. The web-based tool records at each log in the date, time, person accessing the content, which sections and how long the content is accessed. Data about use of the web based tool will be provided. **CONCLUSIONS:** Web-based information access has the potential to improve critical outcomes for cancer patients. This innovative intervention uses technology to support tailoring, can be easily integrated into practice, and draws on best practice recommendations at a critical phase of the disease trajectory. This research

has a high potential for translation into clinically significant benefits for haematological cancer patients and their families. **RESEARCH IMPLICATIONS:** Empowering patients to self-manage offers a mechanism for improving important patient centred outcomes. This trial will provide information about the acceptability, feasibility and effectiveness of web-based information program in meeting important needs of cancer patients. **CLINICAL IMPLICATIONS:** Web-based technologies offer the potential of providing tailored information about treatment options, as well as preparing patients for potentially threatening interventions. Access to information via tablet computers is now feasible for patients who are admitted to hospital for long periods of time. The ability to track patient use of information provides useful clinical and research feedback necessary to improve the quality information provided to patients. **ACKNOWLEDGEMENT OF FUNDING:** This research is funded by a Translational Research Grant from the Cancer Institute New South Wales.

P1-57

'Fitter na Kanker': The Effectiveness and Working Mechanisms of two Different e-Health Interventions for People Suffering From Chronic Fatigue After Cancer

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BACKGROUND: About a quarter of cancer survivors suffer from chronic cancer-related fatigue (CCRF). Physical activity interventions and psychosocial interventions seem effective in reducing these fatigue complaints. E-health makes interventions available for patients who do not have the energy to travel. This study aims to investigate the effectiveness of 2 e-health interventions in reducing fatigue. Also, working mechanisms and predictors to the effectiveness of the interventions, are studied. Results are expected in the year 2016. **METHOD:** In the next 2 years, an RCT including 330 CCRF patients will be performed using 3 conditions: 2 nine-week e-health interventions (Ambulant Activity Feedback and online Mindfulness Based Cognitive Therapy) and a 9 week minimal control condition (psycho-education). Participants in the control condition are offered one of the interventions six months after baseline. Fatigue is measured with the fatigue severity subscale of the Checklist Individual Strength. Work ability and mental health are studied as secondary outcome measures.

Working mechanisms (i.e. mindfulness, physical activity) are studied during treatment. Follow-up is assessed 6 and 12 months after baseline. Bayesian statistics will be used. **RESULTS:** We expect that both interventions are effective in lowering fatigue severity 6 months after baseline. We expect that increasing the level of mindfulness will reduce fatigue in online MBCT and balancing and/or increasing physical activity as well as improving activity perception will reduce fatigue in AAF. Also, we hypothesize that general working mechanisms account for lowering fatigue severity, that is increasing sleep quality, a good working relation with the therapist, and high expectations of the patient for the intervention. **CONCLUSIONS:** What Is Known:

- CCRF is a serious and growing problem, for which easy accessible interventions are needed.
- Both physical activity interventions and psychological interventions aimed specifically at reducing CCRF are effective. What This Study Adds:
- Knowledge about the effectiveness of 2 different types of e-health interventions for CCRF.
- Knowledge about specific and general working mechanisms of these interventions to optimize treatment for CCRF.
- Knowledge about what type of treatment works best for whom.

RESEARCH IMPLICATIONS: By studying the working mechanisms of 2 different e-health interventions simultaneously, we are able to isolate treatment specific working mechanisms from more generic working mechanisms. Bayesian statistics allows us to evaluate a set of informative hypothesis by incorporating prior information into the analysis. Consequently, more power is generated with the same sample size, therefore, making it possible to do these complex analyses on relatively small sample sizes. **CLINICAL IMPLICATIONS:** If we find AAF and MBCT to be effective, a large group of cancer survivors will have access to home-based interventions that reduce fatigue, increase well-being and promote work ability. In addition we will know how to advice patients which type of intervention will most likely help them. By studying the relative importance of treatment specific working mechanisms as increasing level of mindfulness and a good balance in activities we can optimize interventions for fatigue. **ACKNOWLEDGEMENT OF FUNDING:** This project is sponsored by Alpe d'Huzes/KWF foundation.

P1-58

An Innovative, Interactive Intervention for the Internet: Helping Cancer Patients Find Solutions and Cope With Negative Feelings

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BACKGROUND: Since the birth of Psycho-Oncology in the 1980's, one focus concerned research on interventions that help patients cope with emotional distress. Returning from a Fulbright-grant in Ho Chi Minh City, November 2012, the author re-framed a teaching tool (1990's) that improved patients' ability to overcome moments of, "Loss of Control," and turned it into an interactive, self-directed website, <https://www.copingengine.com/> designed for users to identify negative feelings, thoughts and find solutions to the underlying problem(s). **METHOD:** During her breast cancer treatment in 1987, Fobair was surprised to learn how many emotional moments there were in the post diagnosis experience. To better prepare other patients, she found a teaching tool used with drug addicts. Fobair took Matano's design and added 22 active coping choices. "Coping with Loss of Control" was important to patients at Stanford University Hospital for 22 years. But, in Vietnam (2012), a cross cultural validation occurred as social work students and others found it the most compelling work presented in the 9 lectures at the University of Social Sciences and Humanities, Vietnam National University. **RESULTS:** A unique, user directed interactive intervention was launched May, 2013 as an i Phone app/website for cancer patients. It is designed for the user to identify an emotionally charged negative feeling or thought, then choose an active coping solution. The [copingengine.com](https://www.copingengine.com/) can be reused as many times as desired. Now live, <https://www.copingengine.com/> is being disseminated through lectures and internet distribution. As interest increases, and supporting funds develop, a validation of it's effectiveness is planned. Stanford University Hospital, the American Cancer Society and others have found the website useful for patients. **CONCLUSIONS:** Since the 1990's the development of interventions for cancer patients has followed the medical guidance and self-help models of each decade. As people throughout the world make use of websites to learn about and solve their problems, it is helpful to have a teaching tool on line which improves the ability to find solutions to problems that brings up emotionally charged negative feelings. **RESEARCH IMPLICATIONS:** With additional funding, validation research is planned to learn the effectiveness that [copingengine.com](https://www.copingengine.com/) has for subgroups. What steps are necessary to make an active coping choice

work? The copingengine.com can be expanded to address the needs of other chronic illness groups, the bereaved, or being in a "car accident." Outcome research is possible, how does 1 judge whether an active coping choice was helpful or not. Work has been started in these directions. **CLINICAL IMPLICATIONS:** Cancer patients experience frequent moments of distress post-diagnosis, during the treatment period and beyond. Now, with access to a computer, i Pad, and i Phone or Android, the patient will have the opportunity to define his feelings, and thoughts and choose a solution to problems that come up for them each day. **ACKNOWLEDGEMENT OF FUNDING:** The website, <http://www.copingengine.com/> was funded by the author. The teaching experience in Vietnam, November 2012 came from grant #5133, CIES Fulbright Specialist program.

P1-59

Motivating (Former) Cancer Patients to Increase Their Physical Activity: The Computer Tailored Oncoactive + Project

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BACKGROUND: The increasing incidence of cancer, increasing survival rates, and important negative physical, psychological and psychosocial effects of cancer and its treatment emphasize the importance to develop interventions that reduce negative effects and prevent recurrence of cancer and co-morbidities. Physical activity (PA) enhancing interventions provide important efforts in this respect. Despite the beneficial effects of PA, most (former) cancer patients do not meet the recommended levels of PA, therefore easily accessible PA programs should be developed. **METHOD:** During this project an existing effective personalized computer tailored intervention (based on behavioral change techniques) to increase and maintain PA in older adults (ActivePlus) will be adapted and extended for (former) colon and prostate cancer patients. Adaptations will be based on preliminary studies, literature and interviews with cancer patients and experts. A randomized controlled trial (RCT) will be performed, comparing the intervention to a waiting list control group. In total 428 (former) colon and prostate cancer patients will be recruited. Follow-up measurements will be performed 3, 6 and 12 months after baseline measurement. Concurrently a process evaluation will be performed. **RESULTS:** The adaptations will result in a unique new intervention for (former) colon and prostate cancer patients: OncoActive+. The intervention will be fine-tuned to specific needs and

experiences of (former) cancer patients such as coping with fatigue, lack of energy, physical side effects, distress and a lack of self-efficacy in overcoming these barriers. A printed and a Web-based version of the intervention, and a website with additional elements (e.g. discussion forum, expert consultation facility) will be developed. The RCT will provide us with information on PA behavior, health outcomes (e.g. health related quality of life, fatigue) and appreciation of the intervention. **CONCLUSIONS:** The developed OncoActive+ intervention will be an easily accessible PA intervention for (former) colon and prostate cancer patients as the user defines when and how to be physically active. Since OncoActive+ is based on computer tailoring, it has the potential to easily reach broad patient populations with low (personnel) costs, and is therefore low in demand of health care providers. If proven effective, the feasibility of the intervention will be examined among relevant organizations in order to come up with an end product that is usable in practice. In the future OncoActive+ might also be useful for other cancer types. **RESEARCH IMPLICATIONS:** The results of the RCT may provide information on the effects of PA on (former) colon and prostate cancer patients. If the OncoActive+ interventions is effective in increasing PA, further research may be done to extend the intervention to other groups of cancer patients. Additionally, the research may also provide information on the feasibility of implementing PA programs in practice. **CLINICAL IMPLICATIONS:** OncoActive+ has the potential to positively influence several health outcomes, cancer recurrence and co-morbidities by stimulating PA. As most current PA programs are based on face-to-face contacts, they are quite demanding for health care providers in terms of time, money and quality of implementation. If proven effective, OncoActive+ would be a less demanding alternative to most current PA programs. The end product of the project ought to be ready for large scale implementation. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by KWF Kankerbestrijding (Dutch Cancer Society), project number NOU 2012-5585.

P1-60

Communicating Cancer Treatment Information Through the Web - How can we use the Patient's Perspective in Developing Useful Information?

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BACKGROUND: As patients are increasingly expected to participate in healthcare decisions, adequate and useful information about cancer treatment is vital. It seems important to incorporate the patients' perspective in developing such information. The purpose of this study was to investigate how patients understand, use and evaluate a newly developed website providing information on a new treatment option for stage I non-small cell lung cancer (NSCLC). **METHOD:** From patients who were referred to undergo stereotactic ablative radiotherapy (SABR) for stage I NSCLC, as well as their family members, a total of 24 were recruited. A qualitative user evaluation of the developed prototype website was followed by an additional user test after a redesign of the website. Methods used included semi-structured interviews and "thinking aloud". **RESULTS:** Participants appeared most interested in the pages about "which treatment options are available" and "what is stereotactic radiotherapy", and indicated a preference need for more detailed information. Furthermore, not all participants clearly understood the risks of side-effects and struggled with some specific definitions mentioned on the website, especially concerning NSCLC and the difference between conventional radiotherapy and SABR. **CONCLUSIONS:** By using several established user testing methods such as thinking aloud, we gathered data before and after design changes of the website. Pre- and post comparisons of the website highlighted the improvements made to the site, including a large decline in number of problems and increased readability and lay-out. Had this qualitative approach not been taken, some of these problems and subsequent improvements to the website may have been overlooked, and the website would thus not have been patient-centred. **RESEARCH IMPLICATIONS:** The development of online information about cancer treatment should involve testing by patients, as involving the targeted patient group in website development will increase the likelihood of a more patient-centred and comprehensive website that can support patient participation in treatment decision-making. **CLINICAL IMPLICATIONS:** By involving patients in the development of adequate and useful cancer treatment information, clinicians can understand the information needs and barriers in information processing of their patients

when confronted with new treatment options. This can lead to better available information, which can support the treatment decision making process. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-61

An Online Community for Oncology Professionals in Flanders

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BACKGROUND: Within the Belgian National Cancer Plan 320 extra psychologists, nurses and social workers were recruited. This increased the need for exchange and sharing experiences in Belgium. In answer to these needs, the Cédric Hèle institute (CHi) wants to create a secure online community, with access to up-to-date information, training materials and scientific research. The CHi trainings and workshops confirm the need for exchange of knowledge and good practices between health care providers, beyond the borders of hospitals and organizations. **METHOD:** CHi conducted a qualitative research with 100 onco-professionals to discover the need for an online community. We developed a survey. Results show a large support base for the community, beyond the borders of disciplines and institutions. There is little to no experience in the use of communities. Many professionals use the internet on a regular basis to search for work related information. Almost all professionals were in favor of an accessible online platform in psycho oncology. In addition CHi composed a core group with representatives from each discipline (oncologist, psychologist, social worker, nurse) in order to specify and further develop functionalities. **RESULTS:** There is a large support base, both amongst professionals working in the hospitals as in the home care for cancer patients. Major focus is ease of use, the community shouldn't require prior knowledge or experience with social media. It is a secure platform, with clearly visible profiles, and close quality control. In terms of functionalities, there is a need to a clear who's who, a news feed, a forum for the exchange of study materials and discussions, calendar with useful events and training courses, a research track in which the bridge between researchers and clinicians is simplified, e-learning possibilities. **CONCLUSIONS:** An online community is a relatively new phenomenon within the healthcare industry. A search for similar initiatives provided little to no sites. CHi would mainly expand the interactive part of the site and give people the chance to strengthen their working skills. The CHi community wants to cultivate better psychosocial care for cancer patients, in a secure environment. All relevant, up-to-date information in

our field will be there to consult. To this end, we set up cooperation initiatives with universities, key-players and experts in Psycho-Oncology. **RESEARCH IMPLICATIONS:** The community aims to connect the clinical world with scientific researchers. There will be more attention to implementation of research results in the daily practice. The community will facilitate contacts between researchers and clinicians making participation in research more accessible. Researchers will have clearer view of research questions, relevant to the field. The community will help to establish and realize multicentre studies. **CLINICAL IMPLICATIONS:** The clinical implications are 3-fold: to scientific research, offering access to relevant high-quality information, create a platform for continuous professional development. Researchers can announce and publish their research results directly to professionals, which will facilitate implementation in the daily practice. In addition, access to quality information for onco-professionals will be simplified, bundled in one place. The meeting with colleagues will respond to the need to exchange. **ACKNOWLEDGEMENT OF FUNDING:** The Cédric Hèle instituut was founded thanks to the support of the national society “Vlaamse Liga tegen Kanker” (the Flemish League against Cancer).

P1-62

Development and Feasibility of a Web-Based Question Prompt Sheet Aimed to Increase the Discussion of Health Related Quality of Life Topics in the Initial Follow-Up Consultation After Esophageal Cancer Surgery

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BACKGROUND: Given the poor prognosis of esophageal cancer and the impact of surgery on health-related quality of life (HRQL), it is important to address patients' postoperative information needs. Therefore, we have developed a web-based list of example questions (i.e., a question prompt sheet, QPS) for the initial follow-up consultation after surgery for esophageal cancer. The QPS aims to increase patient participation (e.g., more questions asked) and the discussion of HRQL topics. **METHOD:** We will conduct a total of three studies to examine (1) patients' usability of the QPS ($n = 8$), (2) patients' evaluation of the usability and usefulness of the QPS ($n = 40$), and (3) the clinical feasibility of the QPS (20 patients and 2 surgeons). Each study will produce a modified QPS which will then be tested in the subsequent study. In study 1, we asked purposefully selected patients who had

undergone surgery, to think aloud whilst using the QPS. Patients were surveyed afterwards. We then categorized audio recorded comments, and changed the QPS accordingly. **RESULTS:** Study 1: 8 patients (6 male, age range 51–70) were interviewed (mean 1 h 45 m). We obtained 454 individual comments (187 positive, 214 negative, 27 neutral) and 91 explicit suggestions for improvement. Most comments were related to: (1) the introduction of the QPS, (2) navigation, (3) the arrangement of example questions, (4) instructions, and (5) logging out. All patients perceived the QPS to be very useful, and many proposed to extend its use to other consultations. Most patients did not find the QPS burdensome. **CONCLUSIONS:** Study 1 resulted in several changes to the QPS to enhance patient-friendliness. The results of study 2 and 3 will further determine the feasibility of a web-based QPS intended to increase the information provision of HRQL. These studies are ongoing and (preliminary) findings will be presented at the conference. **RESEARCH IMPLICATIONS:** This QPS is unique in that it is: (1) web-based and linked to the surgeon, (2) focused on HRQL, (3) for use in a follow-up consultation, and (4) designed for patients with esophageal cancer. In addition, this project demonstrates the iterative process of the development of a feasible communication support tool. By making use of several methods (e.g., think-aloud interviews, web-based surveys, pilot study in clinical practice), we aim to deliver a thoroughly developed QPS. **CLINICAL IMPLICATIONS:** This QPS aims to provide both patients and clinicians with a valuable tool to prepare the initial follow-up consultation after surgery for esophageal cancer. As a result, we aim to increase the number of HRQL questions asked by patients, and also the number of HRQL topics covered by clinicians. In the end, we aim to increase tailored information provision, and to help patients cope with the often detrimental and long-lasting side-effects of esophageal cancer surgery. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-63

The Effect of age on Perceptions of e-Health in Men with Prostate Cancer (PCa)

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BACKGROUND: PCa patients confront physiological and psychological ramifications of disease and treatment that require ample informational and emotional support. E-health may convey such

support through static Internet media as well as interactive online communication. Currently, evidence about how age influences use and perceptions of PCa e-health is lacking. We examined Internet behavior and experiences to determine whether there are differences between patients under 65 years old and patients 65 years old and older. **METHOD:** Permission for this study was granted by the institutional review board of George Mason University and the Inova Health System. PCa patients ($n = 297$, $M_{\text{age}} = 64.99$, $SD = 8.32$, range 40–89) were recruited through the Inova Health System and online PCa social networks. A questionnaire was designed that included measures related to personal and PCa characteristics; general Internet use; PCa e-health seeking behavior and experiences; reasons to use/not use PCa-related online communication; and psychosocial dimensions of e-health (feeling informed, in control, connected with others, able to cope, confident in treatment decision, scared, depressed, lonely, anxious). **RESULTS:** Compared to older patients, patients under age 65 were more frequent and comfortable Internet users. Younger patients used e-health more for concern about erectile dysfunction, whereas older patients used e-health more for concern about urinary incontinence ($\chi^2 = 3.85$, $p = 0.050$). Regarding online communication, younger patients reported using e-health more to receive emotional support ($\chi^2 = 12.50$, $p < 0.001$). Finally, older patients experienced more negative psychosocial dimensions of e-health (e.g., more anxious, depressed) and less positive dimensions of e-health (e.g., more informed, in control) as a result of less Internet use ($b = -0.10$, 95% CI [-0.26, -0.01]). **CONCLUSIONS:** Our findings suggest that greater use of the Internet leads to a more positive psychosocial response to PCa-related Internet information and/or support. Furthermore, important findings include greater use of online PCa communication for emotional support and encouragement by younger patients. This is noteworthy because past research without consideration for age has shown e-health to be used predominantly for informational support over emotional support. Because PCa incidence is lower in men under 65 years old, it may be difficult to find emotional support in their own social circles. Online social networks may generate new social circles to fulfill emotional support needs. **RESEARCH IMPLICATIONS:** Our findings show that use and perceptions of PCa e-health vary by age. Future studies should examine how use and perceptions vary not only by age but with greater time since diagnosis. Furthermore, audience analysis of other segments of the PCa population is warranted, including evaluation of patients affected by the “digital divide,” such as racial and ethnic minorities. Understanding of diverse audience segments gleaned from research should be translated from evidence to practice. **CLINICAL IMPLICA-**

TIONS: Clinicians should be cognizant of greater use of e-health for emotional support among younger PCa patients. Patients under 65 years old may benefit from education about how to access online PCa social networks. Furthermore, for patients 65 years old and older, clinicians should be aware of the relationship between increased Internet experience and positive psychosocial effects of e-health. Helping advance the Internet skills of this age group may reduce feelings of loneliness, anxiety and depression. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-64

Digitally Empowered: Psychometric Validation of an Instrument to Measure Patient Reports of Informational and Decisional Empowerment

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BACKGROUND: Nearly half of cancer web sites have links to online health support communities. This suggests computer-connected patients' desire to be proactive by networking with other patients and developing their support resources. The aim of this presentation is to provide data on initial psychometrics of a newly developed the Cyber Info-Decisional Empowerment Scale (CIDES). The instrument is a seven-item self report questionnaire and measures perceived informational and decisional support benefits of using cancer support websites. **METHOD:** Data come from a sample of ($N = 350$) of cancer patients ($M = 50$, $SD = 11$) who participated in the Study of Virtual Health Networks for Cancer Patients of the 21st Century. Respondents completed the survey in a web-based format. A subsample of women with breast cancer ($N = 255$) was selected from the total sample and further divided into age-based subsamples to assess factor structure stability on an age-stratified subsample. Data were subjected to exploratory factor analysis (EFA) using principle components with VARIMAX rotation on the full and subsamples. A conformatory factor analysis (CFA) was conducted using AMOS 19.0 to further validate the scale. **RESULTS:** The composite scale is unidimensional with excellent internal consistency reliability. The highest average scores were obtained for informational empowerment items. The lowest average was found for the item that measured empowerment to seek second opinion from other health care professionals. Comparison of the resulting factor matrices across the subsamples and CFA goodness-of-fit indices provided an additional confirmation of the robustness of the scale. **CONCLUSIONS:** The study provides initial empirical foundation of an instrument specifically designed for measurement of digital empowerment. The study expanded the measurement of patient empowerment to include

info-decisional support in cyberspace via peer-based health communities. This is the first step, albeit an important one, in understanding how computer-mediated health support communities help those coping with cancer. **RESEARCH IMPLICATIONS:** The ability of this composite measure to provide information about the extent to which computer-connected patients view digital peer support as an empowerment tool makes it a valuable addition to the literature on supportive care in cancer and quality of life research. As there is a growing discussion in online information technology to transform personal health, the findings constitute a step forward in understanding how patients use technology to better manage their health care through provision of support. **CLINICAL IMPLICATIONS:** The information obtained from the administration of this short scale will provide helpful information for health care professionals and researchers in understanding patient efforts to be proactive during the process of cancer management. Additionally, this instrument will help to unpack digital influences on physician and patient encounters. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-65

The Use of Social Media to Recruit Participants in Cancer Care Research: Challenges and Opportunities

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BACKGROUND: Ethical concerns about the involvement of seriously ill patients in research are often raised by ethics committees and health care professionals. On the other hand, seriously ill patients are happy to take part in the studies as it often gives them a sense of purpose and an opportunity to give something back. As a result, recruitment in this field is often challenging. Social media can provide an alternative opportunity for recruitment. **METHOD:** Ethical concerns about the involvement of seriously ill patients in research are often raised by ethics committees and health care professionals. On the other hand, seriously ill patients are happy to take part in the studies as it often gives them a sense of purpose and an opportunity to give something back. As a result, recruitment in this field is often challenging. Social media can provide an alternative opportunity for recruitment. **RESULTS:** The types of social media most commonly used for recruitment include, but are not limited to, interactive social applications (e.g. Facebook) and blogs. Some studies have successfully used social media to recruit the so called “hard to reach” participants, as they have the potential to target a wider audience. However, this method may attract patients who are already well informed and proactive in seeking support, creating a biased

picture. Screening of potential participants may also prove difficult as it relies on patients’ understanding of their condition, which in a traditional research set-up is usually done by the clinicians. **CONCLUSIONS:** Social media provide an opportunity worth exploring in regards to the recruitment of research participants in fields where recruitment has proven to be challenging. However, the scientific literature on the use of social media to recruit research participants in cancer care is sparse and more research needs to be done in this field. The case study presented here has shed some light into the potential challenges and opportunities when using social media for recruitment purposes. Guidelines must be kept up to date in the fast-moving, dynamic landscape of social media. **RESEARCH IMPLICATIONS:** The opportunities provided by this method of recruitment should not be overlooked. Equally, we must be mindful of the ethical challenges associated with the use of social media. Methodologically, using social media may produce an inaccurate picture of patients’ experiences and needs, as patients who use social media might not be representative of the population studied. Guidelines are essential if we are to incorporate this as a standard practice. **CLINICAL IMPLICATIONS:** Holistic care means responding to changing patients’ needs. e-Health is part of a paradigm shift, where patients have become active consumers, as opposed to the traditional, “doctor knows best”, passive receiver of health care. The use of social media by patients in healthcare provides a very good example of this new paradigm. **ACKNOWLEDGEMENT OF FUNDING:** Oxford Brookes University.

P1-66

Kanker Nazorg Wijzer: Supporting Cancer Survivors With Psychosocial and Lifestyle Problems Using an Online Tailored Intervention

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BACKGROUND: Cancer is a life-threatening disease which causes psychosocial and physical problems that may continue after primary treatment has been completed successfully. However, the current aftercare available does not sufficiently meet cancer survivors’ needs. Therefore, we developed an online tailored intervention, the “Kanker Nazorg Wijzer” (Cancer Aftercare Guide; KNW). The primary goal of the KNW is to encourage self-management in cancer survivors, in order to help them to deal with psychosocial and lifestyle problems they encounter. **METHOD:** The content of the KNW was determined by the results of preliminary research, consisting of a literature study and focus group interviews

and a survey among former cancer patient. Aim of this research was to investigate the most prominent information and support needs of former cancer patients and to gain insight in the psychosocial and lifestyle problems they experience. For the evaluation of the KNW, an RCT with follow-up measurements at 3, 6 and 12 months will be performed comparing the KNW intervention to a waiting list control group. In total, 750 adult cancer survivors will participate in the study. **RESULTS:** The preliminary research results led to the development of eight modules in the KNW focussing on depression and anxiety, fatigue, return to work, social contacts and intimacy, physical complaints, physical activity, nutrition, and smoking. First, participants will be advised which modules fit their specific needs. Within a module, participants get tailored advice and practical assignments teaching them to cope better with the specific theme. Additionally, participants can get in contact with other cancer survivors through online discussion forums. The RCT will provide information on change of self-management and coping skills, lifestyle behaviours, and experienced quality of life and psychological distress. **CONCLUSIONS:** The KNW will be an easily accessible self-management intervention for cancer survivors. Since the KNW is based on computer tailoring, it has the potential to easily reach broad patient populations at low costs, while still providing specific information tailored to the personal needs of the user. Also, the KNW is consistent with the current guidelines, stating that self-management in cancer survivors should be stimulated. If the KNW cannot sufficiently meet the user's needs, the user will be advised on where to get (more intensive) professional help. In this way, the KNW can serve as a starting point in stepped care. **RESEARCH IMPLICATIONS:** The results of the RCT will provide information on the relationship between secondary outcomes such as coping, perceived social support, experienced fatigue, return to work and lifestyle behaviour on the primary outcomes quality of life and psychological distress. Additionally the research will provide information of the intervention elements, including tailored information and self-management training on the primary and secondary outcomes. **CLINICAL IMPLICATIONS:** The development of the KNW intervention could lead to a theory- and evidence-based intervention aimed at improving QoL of cancer survivors by assisting them in self-care. The study results will demonstrate which people are at risk of developing psychosocial and lifestyle problems during their life after cancer. The KNW aims to support these patients by encouraging self-care through offering tailored information and support at an early stage. **ACKNOWLEDGEMENT OF FUNDING:** This research project is funded by the Dutch Cancer Society (KWF Kankerbestrijding).

P1-67

Unmarried Women With Breast Cancer: Their Psychological Distress and Quality of Life After Treatment

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BACKGROUND: According to the World Health Organization in 2008, there were around 7.6 million people died from cancer around the world. More and more women encountered the incidence of breast cancer. Early detection and improvement in breast cancer treatments had contributed to the low breast cancer death rates, however patients gone through cancer treatments may usually experience lots of physical discomfort and psychological distress. The negative affect even lasts after the treatment. **METHOD:** Pre-test and post-test design had been used in this study. 76 breast cancer patients had been recruited from 2 local hospitals and community cancer support organization. Participants were asked to fill in a set of self-reported questionnaires prior to the commencement of radiotherapy treatment and right after the completion of the treatment. Participant's radiotherapy-related symptoms (fatigue, stress, anxiety, depression, pain level and sleep disturbances) and quality of life would be measured. **RESULTS:** At the baseline measurement, married women scored higher mark in social well-being (FACTB-SWB), functional well-being (FACTB-FWB) and overall quality of life (FACTB) than single women. There was significant difference at baseline (before randomization) in their quality of life between the married women and single women (all $ps > 0.05$). The post-test measurement (after receiving the radiotherapy treatment), married women still scored significant higher quality of life score than single women. Moreover, single women had lower emotional well-being (FACT-EWB) and higher psychosocial distress (PSS). **CONCLUSIONS:** This research finding is aimed at discussing the psychological characteristics and quality of life among married and unmarried breast cancer patients. Findings showed that unmarried had more negative psychological reactions to the cancer treatment and it affected their quality of life. More than that, single women had higher psychological distress after treatment. It would be a negative influence on their survivorship care. **RESEARCH IMPLICATIONS:** The importance of spousal support after breast cancer treatment had been widely studied in the field. However, limited research findings has

addressed on the psychological needs of single women. This study may reveal the unique challenges of unmarried women with breast cancer. And how did the cancer treatment affect their social and functional well-being. **CLINICAL IMPLICATIONS:** It is very important to provide intensive psychological care to breast cancer patients after treatment. This study may also imply that single women with breast cancer may need more survivorship care after cancer treatment. **ACKNOWLEDGEMENT OF FUNDING:** This study is supported by the Research Grants Council General Research Fund (HKU745110H), Hong Kong Cancer Fund, Queen Mary Hospital and Pamela Youde Nethersole Eastern Hospital.

P1-68

A Unique Challenge: Sexuality in Young Women After Breast Cancer Treatment From a Developmental Perspective

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BACKGROUND: Earlier diagnosis and advances in breast cancer treatment have significantly improved survival rates. Consequently, quality of life has become a matter of great importance and more attention has been focused on sexuality. Although sexuality is important at every stage of life, it plays a crucial role for young women in achievement of developmental tasks: establishing intimate relationship and starting a family. Altered sexuality after cancer treatment may create a unique challenge in their development. **METHOD:** Review of literature was made to present up-to date research findings on sexual life in young women with breast cancer. The PubMed, Elsevier, Medline browsers and the web were searched for scientific articles published in English language in the period of 1999–2013. Following phrases were used: breast cancer, young women, premenopausal, sexual, sexual functioning, sexuality, development, developmental tasks. Literature review was supplemented by the author's own clinical experience. **RESULTS:** Numerous studies report that many young women experience disturbances in body image after breast cancer treatment. Invasive therapy raises concerns about fertility. A wide variety of sexual dysfunctions are reported including low sexual desire, decreased arousal and lubrication, impaired orgasm, painful intercourse, diminished sexual satisfaction and frequency of sexual activity. What is more, treatment may induce premature menopause. Altered sexuality challenge future and present relationships. Single women face concerns about cancer disclosure and engaging in new intimate relationships whereas couples have to resume sexual activity after cancer and adjust to a new sexual situation. **CONCLUSIONS:** Breast

cancer treatment may affect sexuality of young women in all its domains: biological, psychological and relational and sexual act in all its functions: procreation, pleasure and intimacy at the time when sexuality is essential in successful attainment of specific developmental tasks: being in an intimate romantic relationship and starting a family. Altered sexuality may threaten natural developmental trajectory. Consequently, young women after breast cancer treatment are at high risk of sexual dysfunctions and are more vulnerable to disruptions in biopsychosocial development. Due to this unique developmental context young women require special attention of researchers and clinicians. **RESEARCH IMPLICATIONS:** A precise definition of young women must be provided. More research on the impact of breast cancer on sexuality and intimate relationships in young women is needed both from women's and partners' perspectives. Risk and protective factors for sexual dysfunctions must be recognized for single and partnered women, in heterosexual and same-sex couples, with more attention to cultural context and methodological quality of studies. A unique experience of young BRCA mutation carriers requires further investigation. **CLINICAL IMPLICATIONS:** Due to developmental context changes in body image, sexual functioning and fertility in young women with breast cancer must be addressed in clinical settings throughout the process of diagnosis, treatment and recovery. Intervention programs should be couched in developmental framework. Interventions that target body image, cancer disclosure and establishing new relationships seem beneficial for unpartnered women whereas coupled-based psychoeducational interventions with elements of sexual therapy are recommended for partnered women. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-69

Sexuality and Cancer in the Elderly: What About Moroccan Patients?

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BACKGROUND: Understanding sexuality among older adult cancer survivors is complex. Thorough assessment merits consideration of normal physical and emotional changes with age. In Morocco, the influence of cancer on sexuality represents a delicate and little investigated subject where the taboo of sex adds to the mystical fear of the disease. This survey has shown that lack of communication is one of the main problems in

recognizing and handling sexual problems. **METHOD:** We conducted a prospective study conducted during 10 months, including 150 patients aged over 70 years followed at the National Institute of Oncology in Rabat assessing the impact of cancer on sexuality in older subjects after informed consent. **RESULTS:** Median age was 73 ans, the most commun cancer is lymphoma and breast cancer 82 (54.7%) patients were married, 43.3% widower, 72(48%) of patients have a preserved sexual activity. 65% of patients reported decrease in libido, 19.4% have erectile dysfunction and only 9.7% of them were able to communicate with their spouse partner about this taboo. Anxiety was found in 74% of cases and depression in 12.6% (DSM IV). 52 patients (34.7%) admitted taking plants and 30 (20%) patients used sprituel medicine **CONCLUSIONS:** In morocco the impact of cancer in sexuality represents a delicate and little investigated subject where the taboo of sex specially in the elderly adds to the mystical fear of disease. the patient partner's spouses and healthcare team underestimate this impact witch affect the quality of life. Efforts are necessary to improve sexual activity of elderly cancer patients **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-70

Dealing With Cancer – Does Gender Matter? Gender Differences as an Important Psychosocial Aspect in Cancer Patients

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BACKGROUND: Cancer is a leading cause of death worldwide and the total number of cases globally is growing, influenced in part by an increasing and aging world population. Gender aspects have been identified as relevant to our health system, patient-doctor communication and the outcome of cancer patients. So far, limited data is available analyzing the relationship between gender aspects, somatic and psychosocial parameters in cancer patients. **METHOD:** 4278 adult cancer patients (51.8% women, 48.1% men) were included in a cross-sectional single-center study. Fifteen somatic and psychosocial variables were included in the analysis based on published data and feasibility: somatic factors: sex, age, cancer site, metastatic disease, anemia; social factors: income, education, unemployment, social support (children, marital status), residency; psychological factors: depres-

sion, anxiety, distress and previous psychiatric disorders. Standardized questionnaires have been used to assess anxiety and depression (the Hospital Anxiety and Depression Scale –HADS- cut off >7 for depression and >9 for anxiety), socio-demographic characteristics as well as the patients' need for psycho-oncologic support. **RESULTS:** Our data demonstrated significant psychosocial differences based on gender issues in patients dealing with cancer. Women showed significantly higher levels of anxiety ($p < 0.001$), requested more frequently psychosocial support by our psycho-oncology team ($p < 0.005$) and subsequently received more psychosocial support. Women affected with cancer were more often divorced/widowed (social support), had lower education and income than men. Moreover, a significantly higher number of women used complementary medicine in addition to their standard treatment. **CONCLUSIONS:** The results of this study indicate that

1. women and men have different perceptions of anxiety when affected with cancer.
2. higher levels of anxiety and lack of social support resulted in an active coping style (request for psychosocial support) in female cancer patients.
3. psycho-oncological support strategies offered in our study either do not reflect the needs of male patients or are not communicated in a gender appropriate manner or are indeed not needed by male patients.

RESEARCH IMPLICATIONS: Given the impact of gender aspects in cancer, these factors should be considered in the design of future therapeutic trials, screening and treatment approaches for individual patients. Failure to acknowledge the impact of gender aspects in communication and study design might account for a confounding bias in clinical trials. **CLINICAL IMPLICATIONS:** Gender specific psycho-oncological approaches need to be established. Data presented here indicate that the inclusion of gender issues support the goal of personalized medicine to use each patient's unique genetic and environmental characteristics to design optimal health care strategies. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-71

Breast Cancer: Identity, Intimacy, Sexuality After Total Mastectomy

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BACKGROUND: In Western Society, breasts are overvalued. How does react a woman after a total mastectomy? There is a face to face with a loss of the physical integrity. In the real mirror, she sees an image of an asymmetric body. However, other

images arrive in the same time in the mirror. They come from the social and symbolic mirrors. What are the impacts of these images on identity, intimacy and sexuality after total mastectomy? **METHOD:** I studied this issue by an exploratory qualitative sociological research. Therefore I interviewed ($n = 12$) women in Quebec (Canada) who had a total mastectomy ($n = 6$) with breast reconstruction ($n = 9$) with chemotherapy. Their age varied from 35 to 56 years old. Nine ($n = 9$) women were less than fifty. Eight ($n = 8$) women had a heterosexual partner living with her (4 = singles). The interviews were intimate and varied from 45 minutes up to two and a half hours. I analysed, the respondent's comments that started with the discovery of breast anomaly until the sexual interaction post-mastectomy, by a content analysis ($n = 5$ themes). **RESULTS:** After analysis, I developed the concept of Mirrors. In these Mirrors, the images interlaced: real, symbolic, social. If some women felt as complete women with a new body, others felt as incomplete women or half woman. In my study, ($n = 9$) women resumed sexual interaction after breast removal and before breast reconstruction ($n = 5$). Two women had a sexual exclusion from their regular partner. These 2 women, without breast reconstruction, received a proposition from men who knew about their total mastectomy. One of them refused and another woman accepted. One woman with breast reconstruction refused propositions before and after breast reconstruction. **CONCLUSIONS:** The sexual life is possible after total mastectomy without breast reconstruction. A sexual partner's constructive look helps a woman's perception (images) to re-find their identity as a complete woman. By the opposite, a destructive outlook from her partner isn't helpful. It destroys the sexual link. In my study, the women developed strategies to re-appropriate their intimacy and sexuality: clothing, behaviour, surgery (breast reconstruction). For some, breast reconstruction supports the re-building of the body image and/or the self-image. With breast reconstruction is easier to wear sexy lingerie, so to have again a seductive approach with the sexual partner. **RESEARCH IMPLICATIONS:** My qualitative research was done in Canada in a Western Society. The perception and the interpretation of the images were come from of this sociocultural context. The social images from Mirrors depend on the process of socialization. Where you were born, you growth up and you live influence the way how you interpret the images after a total mastectomy. It would be interesting to study this issue by a transcultural research: African women, etc. **CLINICAL IMPLICATIONS:** The support groups and the health professionals are significant for women who had a total mastectomy. They have an essential role in helping women to regain their self-esteem, for some, consequently their feelings about

their completeness especially when a woman has a partner with a destructive outlook. To feel an incomplete woman interferes on intimacy and sexuality. It would be important to considerate this aspect and to integrate it in health care in onco-sexology. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-72

Abstract withdrawn

P1-73

Communication About Breast Cancer Genetic Counseling Results With Daughters and Sisters in the Long Term

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BACKGROUND: Little is known about the communication to 1st degree relatives of genetic counseling results (e.g. DNA-test results, breast cancer risks and/or screening recommendations) in the long term. We investigated: (1) whether these results were a topic in conversations between mothers and daughters, and between sisters more than eight years after receiving genetic counseling and, (2) how patients coped with the breast cancer risk and screening behavior of their first-degree relatives. **METHOD:** To date, 11 in-depth interviews have been conducted by telephone with female breast cancer patients who had had genetic counseling between 1997–2005, and received screening recommendations for a daughter and/or sister. We used QRS Nvivo 10 to assist with interview data management and the thematic analysis. Interviews were coded independently by 2 researchers and discrepancies were discussed and agreed within the research team. More participants will be recruited until data saturation has been reached. **RESULTS:** Participants included BRCA 1/2 carriers ($n = 2$), and patients with an uninformative test result ($n = 9$). Among the latter, DNA-test results such as the meaning of the test and the increased risk for breast cancer, had usually not been discussed during the past years. Mostly few words were devoted to recent results of periodic surveillance (e.g. mammography). One's own alertness was seen as important for early diagnosis and survival. However overall, patients wanted their 1st

degree relatives to continue their lives without worrying too much about breast cancer risk. **CONCLUSIONS:** Preliminary results show that, though not frequently mentioned, screening practices are a topic of communication between mothers and daughters, and between sisters in the long term. Among sisters, who were frequently given a copy of the counseling letter, patients felt they had done their duty to inform and it was now the responsibility of their sister to undertake screening. When dealing with their daughter's increased breast cancer risk, mothers tried not to pay much attention to that, but to focus on the positive aspects of the participation to a breast cancer screening program and one's own alertness. **RESEARCH IMPLICATIONS:** Genetic counseling advice is targeted to the counselee, and usually to their female first-degree relatives. We gained insight into the content of the communication between these family members and how they cope with their family members' elevated breast cancer risk in the long term. Interestingly, our qualitative analysis showed a difference in the way of dealing with a daughter's or a sister's elevated breast cancer risk. **CLINICAL IMPLICATIONS:** Counsees have a central role in the communication of genetic test results to relatives. We found that mostly sisters, but not all adult daughters, were given a copy of the letter of the genetic counselor. In the long term, these daughters depend on their mother for information about the genetic counseling results. This raises questions as to whether this is an acceptable way of informing individuals at elevated risk for breast cancer. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Dutch Pink Ribbon Foundation (grant number 2010.WO14.C60).

P1-74

Supporting Counsees in Disclosing Hereditary Cancer Information to At-Risk Relatives: A Pilot Study

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BACKGROUND: Despite the use of genetic services, counsees do not always share hereditary cancer information with their at-risk relatives. This project aimed to develop and assess the feasibility of an intervention which supports counsees in disclosing hereditary risk information to relatives. **METHOD:** Intervention: an additional telephonic counseling session, delivered by psychosocial workers, after regular genetic counseling. An intervention protocol was developed by psychologists based

on Motivational Interviewing techniques, aiming to improve counsees' knowledge, motivation and self-efficacy with regard to informing relatives. **Evaluation:** Consecutive counsees visiting the Clinical Genetic department for hereditary breast/ovarian or colon cancer received additional counseling and completed a pre- and post counseling questionnaire. Feasibility of the intervention was based on (1) patients' evaluation; (2) analysis of audio recorded counseling sessions; (3) pre- and post counseling differences of the primary outcomes (knowledge, motivation and self-efficacy) and (4) recruitment potential. **RESULTS:** Of all 358 counsees who were invited between February and September 2012, 231 responded (65%); 21% declined participation and 43% gave their consent to participate. 144 counsees completed the pre-counseling questionnaire; 136 telephonic counseling sessions were recorded and 123 counsees completed the post-counseling questionnaire (drop-out: 15%). Preliminary results show that counsees evaluated the intervention as positive. The psychosocial workers performed the counseling largely according to the protocol. Pre- and post counseling differences were found for knowledge: M1 = 7.23, M2 = 9.10, $p = 0.025$; motivation: M1 = 50.61, M2 = 47.70, $p = 0.01$ and self-efficacy: M1 = 23.80, M2 = 25.01, $p = 0.021$. **CONCLUSIONS:** The intervention, comprising an additional telephonic counseling session to support counsees informing relatives about hereditary cancer, was found to be feasible. The effectiveness of the additional counseling will be investigated in a randomized clinical trial. **RESEARCH IMPLICATIONS:** This pilot studies gives more insight in the feasibility of an intervention which supports counsees in disclosing hereditary cancer risk information to relatives. The effectiveness of this intervention must however be investigated in a randomized clinical trial. **CLINICAL IMPLICATIONS:** Genetic counselors rely on counsees to inform their relatives about their hereditary cancer risk and possibilities to reduce this risk. It is therefore essential that their ability to be a good informant is maximized, while respecting their wish not to inform (some) relatives. The developed intervention will (1) support counsees in this difficult test and (2) hopefully allow more at-risk relatives to make a well informed decision taking up genetic services and preventive screening. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Dutch Cancer Society; Grant number: UVA 2010-4658.

P1-75

Awareness and Acceptability of Preimplantation Genetic Diagnosis (PGD) as a Reproductive Option Among *BRCA* Carrier Couples

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BACKGROUND: The awareness of PGD as reproductive option among *BRCA* carrier couples is often reported to be low (20–30%). Although after explanation the majority of carriers are supportive of offering PGD, most would not consider it personally. However, a majority indicates the desire to be able to take this option into consideration. With this study we aim to increase insight in the awareness and acceptability of PGD among *BRCA* carrier couples in the Netherlands. **METHOD:** 186 *BRCA* mutation carriers and partners of carriers participated in a cross sectional survey. Participants were recruited in cooperation with two clinical genetic centres and via internet. Announcements about the study with a link to an online questionnaire assessing awareness and acceptability of PGD, were made at digital communities of patient organisations associated with hereditary breast and ovarian cancer (HBOC). An online questionnaire was filled in by 165 *BRCA* carriers and 21 partners of a *BRCA* carrier. 38 participants (20.4%) indicated that they (or their partner) had been diagnosed with breast cancer. 24.2% was religious and 62.9% was highly educated. **RESULTS:** 76.3% of *BRCA* carriers and partners were aware of PGD, of whom 88% were aware of its possibility for HBOC. 80.3% found PGD for HBOC acceptable and 41% would personally consider this. Previous awareness, knowledge and higher perceived seriousness of HBOC were positively associated with acceptance and willingness to consider PGD for HBOC. Willingness to consider

PGD was higher among non-religious participants. The majority of carriers (34.8%) first heard about PGD from a physician or other health worker which was also the preferred informational medium. Clinical geneticists and genetic counsellors were the most appreciated health workers for PGD information provision. **CONCLUSIONS:** A large majority of *BRCA* carrier couples is aware of PGD for HBOC and considers it acceptable, whereas less than half would consider it personally. About half prefers natural conception without diagnosis, and a small minority prefers prenatal diagnosis (PND). It appears that the reach of information on PGD as a reproductive option among *BRCA* carrier couples is good although room for improvement remains. These results show that PGD is a preferred reproductive option over PND among *BRCA* carrier couples. **RESEARCH IMPLICATIONS:** Never before data suggested such high awareness of PGD for HBOC. This might imply that *BRCA* carrier couples eligible for PGD are adequately reached. To enhance individual guidance during the decision-making process regarding PGD it would be interesting to get more insight into motives and considerations playing a role in this process, which is currently being studied by our department. **CLINICAL IMPLICATIONS:** Although it seems that information about PGD as reproductive option adequately reaches a large majority of *BRCA* carrier couples, information provision should still be improved for the remaining minority. The recruitment strategy via digital communities of patient organisations associated with HBOC might have led to selection bias and could have contributed to the relatively high awareness of PGD for HBOC. Furthermore, initial information about PGD should be provided by a clinical geneticist or genetic counsellor. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Dutch breast cancer foundation Stichting Pink Ribbon. None of the authors have competing interests to declare.

P1-76

Professional Psychosocial Care Offered to Breast Cancer Patients Undergoing Rapid Genetic Counseling and Testing in Breast Cancer Patients: What is the Problem?

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BACKGROUND: Offering rapid genetic counseling and testing (RGCT) directly after the diagnosis of breast cancer and before surgery has been considered distressing. Therefore, professional psychosocial care is offered to breast cancer patients undergoing RGCT. First results are reported here on the use and nature of professional psychosocial services in the RGCT setting. **METHOD:** Data were collected as part of a multi-center randomized controlled trial (“Time-trial”) comparing RGCT versus usual care in newly diagnosed breast cancer patients with a suspected hereditary form of the disease. The frequency of use of such services was assessed via a checklist completed by professional psychosocial caregivers summarizing the frequency and content of the psychosocial counseling sessions. **RESULTS:** 265 women were randomized at the time of breast cancer diagnosis to either rapid genetic counseling ($n = 178$) or usual care ($n = 87$). Fifty women (28%) in the RGCT intervention group received additional psychosocial care (face-to-face or telephone). Of these, 58% had only one session, 20% two and 22% three or more. Most common presenting problems were: “coping with breast cancer” (49%), “genetic counseling and testing” (22%), “family communication and support” (16%), “personal functioning” (9%), “strengthening social system” (4%). Women opting for “rapid” genetic testing (DNA test results within 4 weeks) more frequently discussed issues related directly to genetics. **CONCLUSIONS:** Approximately one-third of women who undergo RGCT seek additional psychosocial support, the large majority of whom require only one session. In general, coping with breast cancer was the most prominent topic discussed, although women who opted for the “rapid track” were more focused on issues surrounding genetics than the women who opted for the semirapid-track testing (DNA test result within 4 months) and “routine testing” (test results available >4 months). **RESEARCH IMPLICATIONS:** Very few studies have presented data on the content of psychosocial counseling sessions within the field of cancer genetics. More clinical psychosocial care studies like ours are needed that focus on the specific psychosocial problems encountered by individuals who are offered genetic counseling and testing. This may help us in an attempt to further open the black box of need for and content of /satisfaction with targeted evidence-based psychosocial care in (hereditary) cancer. **CLINICAL IMPLICATIONS:** A third of all women who were offered RGCT may benefit from additional psychosocial help. In clinical practice, this professional support

should be available and offered to all counselees undergoing rapid genetic testing. Our first results indicate that not genetics, but coping with (breast) cancer is the most frequently discussed topic during the procedure of genetic counseling and testing. This has clinical implications for the focus of psychosocial workers on predominantly coping with (hereditary) cancer. **ACKNOWLEDGEMENT OF FUNDING:** Funding for the RCT study was provided by NutsOHRA Fund.

P1-77

Sense of Coherence and Self Concept Patterns in Individuals at Risk of Hereditary Colorectal Cancer (Lynch Syndrome)

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BACKGROUND: Lynch syndrome is a hereditary cancer syndrome predisposing to colorectal, endometrial and ovarian cancer. Most individuals who learn about hereditary cancer manage well, but identification of subgroups that find this knowledge burdening would allow psychosocial intervention. The purpose was to assess sense of coherence (SOC) in individuals at risk of Hereditary Colorectal cancer (Lynch syndrome) and correlate the data to results from the general population and to self-concept in the Danish Lynch syndrome cohort. **METHOD:** A total of 345 individuals identified with Lynch syndrome completed the 13-item SOC scale and the 20-item Lynch syndrome self-concept scale. SOC scores were compared to a general population and were correlated to self-concept estimates. Characteristics of subgroups with adverse scores were described. **RESULTS:** Individuals with Lynch syndrome report SOC scores similar to the general population. SOC and self-concept correlated well with a correlation coefficient of -0.51 . Subsets with convergent and divergent scores, which may reflect different psychological effects from knowledge about hereditary cancer, were identified. **CONCLUSIONS:** Individuals with Lynch syndrome report SOC scores similar to the general population. SOC and self-concept correlate well but allow identification of subset that report adverse outcome and may be relevant for targeted intervention. **RESEARCH IMPLICATIONS:** The possibility to apply self-concept and SOC in order to identify subgroups with different needs should be further explored. Such data could be generated through correlations between self-concept and registry data on e.g. health care consumption. **CLINICAL IMPLICATIONS:** Identification of subgroups would be

valuable for individualized management of Lynch syndrome from a psychological point of view. **ACKNOWLEDGEMENT OF FUNDING:** The Danish Cancer society, Copenhagen University Hospital, Hvidovre, Denmark.

P1-78

Familial or Hereditary? Differences in Informational Needs, Communication Behavior and Perceived Quality of Care (QoC) Between Patients With Lynch Syndrome and Familial Colorectal Cancer

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BACKGROUND: Between 2% and 5% of colon cancers arise from well-defined inherited syndromes, including Lynch syndrome (LS), whereas up to one-third of colon cancers exhibit increased familial risk (familial colorectal cancer; fCRC). In fCRC, susceptibility genes are unidentified, thereby limiting possibilities of genetic testing and targeted surveillance strategies. The present study investigates differences in informational needs and communication behavior, quality of life (QoL) and perceived quality of care (QoC) between LS and fCRC patients. **METHOD:** A mixed method approach was applied to investigate impact of diagnosis, satisfaction with provided care and information, and communication behavior among individuals with LS or fCRC who had accomplished genetic testing. First, focus group interviews were conducted ($N = 16$). Transcripts were analyzed and provided input for the development of a 58-item questionnaire, quantifying the main aspects of QoL, informational needs and communication behavior, and QoC. Patients were recruited via the multidisciplinary outpatient clinic for counseling and surveillance of high-risk groups at Maastricht University Medical Center. 87 Patients (41 LS, 46 fCRC patients) participated in the questionnaire study. **RESULTS:** The 2 patient groups did not differ in QoL. fCRC patients expressed high concern regarding the long surveillance intervals, experienced less disease control and had a higher desire for information about medical examinations and risk for CRC than LS patients. 91% of fCRC and 98% of LS patients communicated about their increased risk with partners and relatives. The need for emotional support and providing clarity to their

family were more important motivators for communication in LS patients than fCRC patients. Besides information on the disease and its inheritance, both patients groups preferred information on follow-up, new developments and lifestyle factors. **CONCLUSIONS:** Patients with familial CRC have a higher desire for information about CRC risk and experience more feelings of insecurity than patients with Lynch syndrome, possibly as a result of a perceived need for more intensive surveillance. Psychosocial profiling might form the basis for shared decision making and finally improve the quality of counseling and patients' satisfaction in high-risk groups. **RESEARCH IMPLICATIONS:** Although overall QoL did not significantly differ between the 2 patient groups, subtle differences in informational needs, and particularly the expressed feelings of insecurity and low perceived control among fCRC patients may warrant further investigation to prevent longer-term psychological consequences. **CLINICAL IMPLICATIONS:** Physicians and counselors need to be aware of differences in informational needs between patients with familial and hereditary cancer. Potential insecurities that arise as a result of unidentified genetic causes need to be addressed in counseling, as well as tailored information on lifestyle, risk and medical developments. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-79

Determinants and Changes in Psychological Adaptation and Quality of Life During Chemotherapy for Diffuse Large B Cell Non-Hodgkin's Lymphoma in the Vulnerable and Frail Elderly ("Psy-frail" Study)

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BACKGROUND: The aim of the "Psy-Frail" study is to assess the impact of psychosocial factors on fatigue, quality of life and depression on older patients living with a non-Hodgkin's lymphoma and treated by chemotherapy. We hypothesize that elderly patients with low routines, high fighting spirit, low helplessness/hopelessness and high perceived social support report higher quality of life, lower fatigue and better outcome during treatment. **METHOD:** Sixty-seven patients treated by eight cycles of chemotherapy, aged 70 years old and more were included of 2009 to 2011. Quality of life (QLQC-30), depression (MADRS, MINI, GDS-15), cognitive state (MMS), nutritional state (MNA), fatigue, (MFI-20), comorbidity (CIRS-G), quality

of relationships (QRI), routinization (EPR) and coping (WCC-R) were assessed before (before the cycle 1), during (between the cycles 3 and 4) and after chemotherapy (after the cycle 8). We study the impact of psychosocial variables on quality of life and psychological adjustment during the period of treatment. **RESULTS:** Analysis of the results concerned with the first three-time evaluation is currently under way and will be communicated through this communication and poster, at the congress of 4 to 8 November 2013. These results will be interested in the evolution of the quality of life, mood and psychological adjustment of patients throughout their treatment by chemotherapy. **CONCLUSIONS:** The study represents a major advance which would allow understanding the relationships between psychosocial factors and cancer outcome in older, frail and vulnerable patients. This research could allow a better comprehension of psychological predictors of a good quality of life and survival. **RESEARCH IMPLICATIONS:** The research implications will be available from analysis of results. **CLINICAL IMPLICATIONS:** Thanks to the results, clinicians may refine the psychological care and work on therapeutic approaches to improve counselling offered to patients, in order to reduce anxious and depressive symptoms, if frequent during the haematological cancer. **ACKNOWLEDGEMENT OF FUNDING:** This research was supported by the French National Cancer Institute (INCa).

P1-80

Transfer to an Acute Care Hospital for Nursing Home Residents Without Cognitive Impairment with a Diagnosis of Cancer

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BACKGROUND: There are few studies of hospital admission of cognitively intact nursing home (NH) residents with a diagnosis of cancer. Knowledge about the associations between demographics and medical variables with hospital admissions can aid in preventing unnecessary admissions. The objective was to determine whether residents with cancer have more hospital admissions and whether sociodemographic and medical variables are associated with hospital admission among cognitively intact NH residents with and without cancer. **METHOD:** A prospective study in 2004–2005 with follow-up to 2010. Residents aged ≥ 65 years, 60

with cancer and 167 without, cognitively intact and had at least 6 months' residence. Medical records from the NHs provided sociodemographic and medical variables. We identified 227 respondents through the NHs records and linked them to the hospital record system to register all admissions. We examined whether demographic and medical variables were associated with the time from inclusion to first hospital admission. **RESULTS:** Residents with cancer diagnoses had more hospital admissions (25 of 60) than those without (53 of 167) (log-rank test, $p = 0.04$). Residents with cancer at inclusion had 1.7 times higher risk for hospital admission than residents without. The most common main diagnoses among residents with cancer at discharge were cancer related and circulatory diseases. Infectious diseases, respiratory diseases and circulatory diseases were most common among residents without cancer. Independent of cancer, residents with ≥ 3 years of education had a significantly higher risk of hospitalization than those with less education. **CONCLUSIONS:** Residents with cancer diagnoses had more hospital admissions than those without. Their main diagnoses in hospital were often related cancer. **RESEARCH IMPLICATIONS:** Further information is needed about the symptoms and causes of hospital admission, and especially whether the cancer-related admissions are for palliative care. **CLINICAL IMPLICATIONS:** Preventing unnecessary admissions and securing the necessary care requires that nurses be aware of cancer-related symptoms and collaborate with the nursing home physician and palliative care personnel to provide the best care. **ACKNOWLEDGEMENT OF FUNDING:** Jorunn Drageset received a postdoctoral fellowship from the Norwegian Cancer Society.

P1-81

Knowledge and Attitudes Towards Cancer in an Old Sample: Final Report

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BACKGROUND: In 2007 we began a study to ascertain knowledge and attitudes in old people towards cancer in our culture. Our goal is to have our own data to design programmes that fit to the eldest to improve their knowledge, have a realistic attitude towards cancer and change their minds towards prevention, early diagnosis and pessimism and misbeliefs related to cancer. **METHOD:** We approached 874 people 65 years old or over. They were contacted by trained professionals in their leisure centres. They completed a semi-structured interview consisting of 72 questions covering different topics on cancer knowledge and attitudes, prevention, early diagnosis, research topics and

support. **RESULTS:** We have 814 valid questionnaires. Mean age: 75 (SD = 6.90), 54% women, 31% lives alone, 6% had cancer in the past. 31% feels as a risk group, 2% think cancer is contagious and 5% a punishment consequence. The more known prevention was no smoking (95%) and excessive sunbathing (90%) and the less avoiding overweight (33%). 68% believes in early diagnosis, but differences in procedures (88.4% mammograms, 44% PSA). Research terms are unknown (27% informed consent). 32% feels treatment is worse than cancer, in case of having it 36% would prefer not undergoing therapy. 79% would like knowing diagnosis and prognosis and 71% would inform others. Gender, age and having had cancer yielded few differences. **CONCLUSIONS:** This is a final report of a work previously presented. Our data shows old people in our zone have a low knowledge about cancer illness, being the main conclusion that they do not feel themselves as a risk group. Pessimistic attitudes towards cancer and towards cancer treatment are in the basis of their underuse of medical advice when ill. Also they seek medical consultation in a delay since some symptoms are underestimated or attribute to old age. A high percentage prefer to know full diagnosis and prognosis in case of having cancer and wouldn't hide it to relatives and friends **RESEARCH IMPLICATIONS:** Having these conclusions our next effort is to design a programme to improve knowledge and attitudes towards cancer in this growing population. They may assume themselves as a sample especially in risk and we must work to promote an active attitude in order to have a better prognosis and when is possible a better quality of life of old people. **CLINICAL IMPLICATIONS:** Our next step is being planned now and it is to design an action to reach old people and to change their attitude towards cancer moving from a pessimistic view to a more realistic one. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-82

Impact of Surgery on Psychosocial Needs Among Older Chinese Colorectal Cancer Patients: A Longitudinal Analysis

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BACKGROUND: Colorectal cancer (CRC) is a predominant cancer in developed populations. Hong Kong has a rapidly ageing population. Elucidating the impact and issues older cancer patients face is needed for effective care planning to meet the needs of older cancer patients. Little information has been published on how supportive care needs (SCNs) differ between younger and older cancer patients. This presentation details some

preliminary findings on a cohort of Chinese CRC patients. **METHOD:** Newly diagnosed CRC patients attending surgical departments in a major Hong Kong regional hospital were approached prior to admission for surgery. After informed consent, participants completed a face-to-face interview including assessments of unmet supportive care needs using the Chinese-version of the Supportive Care Needs Survey (SCNS-34-Ch) prior to, and again one month after their surgery. Older (>64 yoa) and younger (<65 yoa) CRC patients' supportive care needs are compared and contrasted before and 1 month after surgery using repeated measures ANOVA. **RESULTS:** Females comprised a larger proportion of younger (45%) than older (32%) patients, while more younger patients reported higher educational achievement. Younger patients reported more SCNs and significant increases in Health Information & Systems (HIS) needs over time, but low and declining Psychological SCNs. Care & Support (PCS) SCNs increased slightly, more so in the older group. Both groups showed significant increases in Physical SCNs. Sex SCNs were low but increased in younger while declining in older patients. **CONCLUSIONS:** Younger cancer patients reported higher HIS, PCS and less so Psy SCNs compared to their older counterparts at Baseline. Younger cancer patients show the most obvious increases in SCNs over the month following surgery, with higher HIS, Physical and Sex SCNs. Older patients demonstrated marked increases only in Physical SCNs. Otherwise, SCNs remained mostly unchanged from low pre-surgery levels. **RESEARCH IMPLICATIONS:** CRC and related surgery impact younger and older people differently. Excepting HIS needs, in this cohort, SCNs remained generally low. Psychological needs declined over time, indicating that these were largely anticipation-based. Most reported SCNs were lower than is reported elsewhere in the literature. Future research needs to consider cultural, service and age influences on SCN. **CLINICAL IMPLICATIONS:** Many CRC patients experience higher psychological need prior to surgery. In this cohort, significant jumps in both HIS and Physical SCNs indicate clinical shortfalls in the provision of both information and assistance in adjusting to the impacts of treatment. Differences in service provisions are likely to be responsible for major differences in SCNs. **ACKNOWLEDGEMENT OF FUNDING:** Health Care Promotion Fund grant 7080651, Food & Health Bureau, Hong Kong Government.

P1-83

Fatigue and Depression Among Younger and Older Breast Cancer Patients: The Mediating Role of Optimism

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BACKGROUND: Several studies reported lower levels of distress in younger than older breast cancer patients, but only a few studies assessed differences in cancer related fatigue (CRF) in this regard and their results were not conclusive. The aim was to assess levels of depression and CRF in older and younger breast cancer patients, post-chemotherapy treatment, and to assess the mediating role of optimism between age, depression, and CRF. **METHOD:** Participants were 84 breast cancer patients, 47 of whom were <60, and 37 ≥60, diagnosed with breast cancer stages I-III, 3 months after the end of chemotherapy. Patients filled out a physical symptoms list, Fatigue Symptom Inventory (FSI), Center of Epidemiological Studies – Depression Scale (CES-D), Life Orientation Test (LOT-R55) for optimism and socio-demographic and cancer-related questionnaires. **RESULTS:** Levels of depression and CRF were low to moderate in both groups, but the older cancer patients reported lower levels of CRF, but no statistically significant differences were found for levels of depression and optimism. CRF and depression were highly associated ($r = 0.59$). Multivariate regression analysis revealed that 49% of the variance of depression and 54% of the variance of CRF were explained by study variables. Physical symptoms and optimism were significant predictors of depression and CRF. The association of physical symptoms and depression, but not CRF, was partially mediated by optimism ($z = 2.16, p < 0.05$). **CONCLUSIONS:** Although levels of CRF were higher in the older breast cancer patient group, age was not a predictor of either depression or fatigue, when background variables were controlled for. In addition, although CRF and depression were significantly correlated, distinct patterns of association to physical symptoms was found; direct association of physical symptoms with CRF was found, while the association of physical symptoms and depression was mediated by level of optimism. **RESEARCH IMPLICATIONS:** This study contributes to the empirical knowledge about symptoms of depression and CRF in older breast cancer patients as compared to younger patients; although depression and CRF were highly associated, older cancer patients reported lower levels of CRF, but

similar levels of depression. The different pattern of associations of physical symptoms and optimism versus each of the symptoms is of importance and should be further studied. **CLINICAL IMPLICATIONS:** In contrast to previous studies, where stage of disease and treatment variables were controlled for, older patients exhibit levels of depression similar to those of younger patients. Therefore, clinicians should be aware of the risk of depression in older as well as younger patients. They should be also aware of the relation between depression and CRF, and also of their distinct characteristics. As suggested for depression, CRF should be also screened for. **ACKNOWLEDGEMENT OF FUNDING:** The study was partially funded by The Israel Cancer Association.

P1-84

Between Two Worlds: Liminality and Late-Stage Cancer-Directed Therapy

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BACKGROUND: Cancer-directed therapy near death is a growing trend among persons with late-stage cancer regardless of national healthcare delivery system. Although rates of aggressive chemotherapy (i.e. within 14 days of death) in developed countries vary, this phenomenon continues undeterred where access to biomedical technology exists. A theoretical framework is presented which describes cancer-directed therapy (e.g. chemotherapy) given for very advanced disease as a socio-cultural phenomenon which offers questionable benefits and portends suffering, but also potential for growth. **METHOD:** Theories and concepts drawn from cultural anthropology, sociology, and existentialism illustrate how contextual factors contribute to the creation of a “liminal” space; the latter part of the cancer trajectory where living and dying can overlap. Derived from clinical observations, this conceptualization demonstrates that practice makes an important contribution to theoretical development in psychosocial oncology and end-of-life care research and practice. **RESULTS:** When liminality is applied to clinical practice, cancer-directed therapy for terminal illness represents a temporal experience stemming from the advanced cancer patient’s uncertain position between 2 worlds as defined by acknowledged roles - neither sick role nor dying role. This tension suggests an existential crisis precipitated by challenges to one’s self where previously valued roles and newer meaningful ones are unattainable. **CONCLUSIONS:** This tension suggests an existential crisis precipitated by challenges to one’s self where previously valued roles and newer meaningful ones are unattainable. Taboos about cancer, terminal illness, dying, and death

serve as negative rites by masking authenticity during social interaction. An abrupt transition from this space to a dying role affords advanced cancer patients and their families little time for the instrumental or emotional tasks associated with dying and death. **RESEARCH IMPLICATIONS:** Biomedical explanatory models are inadequate to fully understand the lived experience of cancer patients and how they manage change over time. Moreover, the clinical significance of living/dying with paradoxical realities has received little attention in the psychosocial oncology assessment or intervention literature. This presentation will demonstrate how a theoretical framework can inform interventions for existential despair when patients with advanced metastatic disease express loss of meaning and interconnectedness with others. **CLINICAL IMPLICATIONS:** Applied to clinical practice, this perspective gives the cancer patient, family, and health care provider a way of “unmasking” a period of transition during terminal illness when aggressive disease-directed care continues. This conceptualization contributes to new theories on dying from cancer in a hypermodern society. Existential therapies, as part of whole person care, are discussed as an approach to support people during medical decision making and transition from disease-specific treatment to palliative care. **ACKNOWLEDGEMENT OF FUNDING:** Supported in part by a Doctoral Training Grant in Oncology Social Work from the American Cancer Society.

P1-85

Hope and Meaning in the Context of Different Psychological Intervention Settings: When - to Whom - How?

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BACKGROUND: “To have hope then is to acquire a belief in your ability to have some control over your circumstances.” (Jerome Groopman). Hope and meaning are the spiritual domains in the care of cancer patients and are described as predictors for “good coping”. Hope as a never ending process is also a choice and involving will, which is influenced by different factors and different behaviours. Some psychosocial interventions are focusing on those factors relating to hope and meaning. **METHOD:** Different psychosocial interventions including the focus on hope and meaning will be demonstrated based on the literature search. Thereby it will be analysed at which stage of the illness to whom these interventions are carried out and which psychotherapeutic methods are used. The importance of hope and meaning integrated in the basic communication between professionals,

patients and their families will be characterized relating on the literature and existing data. **RESULTS:** I will discuss which different aims are described in the different used psychosocial interventions relating to hope and meaning. **CONCLUSIONS:** Hope and meaning are effective values for different outcomes, e.g. relating coping and quality of life the concept of hope and meaning should be integrated in the care of patients from the beginning of the diagnosis until the terminal phase of the disease. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-86

Hope and Optimism - The Additional Benefit for Patients With Cancer in the Interdisciplinary Treatment - From the Perspective of Psychoneuroimmunology

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BACKGROUND: “Face the worst while hoping for the best - because wonder and tragedy are always interwoven” (David Spiegel, *Living Beyond Limits*; 1993). Hope and its “little sister” optimism give us meaning and perspective in our lives. Both are important resources to power the will to live. Our patients define hope as “that you can still enjoy a good quality of life even if live expectancy is uncertain.” **METHOD:** We undertook a randomized study to evaluate a psycho-educational intervention program offered to an intervention group (IG) compared to a waiting group (WG) with the same intervention 6 months later and healthy volunteers (NC). Fifty-one postmenopausal women with breast cancer stage I, II, III and comparable healthy women used as a control group (Healthy Controls, HC), were evaluated in three different time points during a 6 months study period: A semi-structured interview, standardized psychological questionnaires and blood draws were carried out. **RESULTS:** We observed that even patients after curative treatment of early breast cancer and no evidence of disease experience a higher degree of state and trait anxiety as well as intrusion compared to NC. The stress hormone levels cortisol and noradrenalin were significantly elevated compared to NC. Furthermore, immune cell numbers were altered significantly in the patients group versus NC. Stress hormone levels and immune cell alterations were significantly improved in the IG but not in WG. **CONCLUSIONS:** We conclude that psychological variables are attributed to hormonal and immunologic parameters and may be influenced by psycho-educational interventions supporting the concept of the mind-body unity. **ACKNOWLEDGEMENT OF FUNDING:** Supported by grants of the Oesterreichische Nationalbank (Anniversary

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P1-87

Measure of Hope & Spirituality in End Stage Renal Disease

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BACKGROUND: This study was undertaken to develop an insight into the psychosocial and spiritual issues in patients with End Stage Renal Disease (ESRD) in the Indian subcontinent. The palliative care needs of patients with ESRD are well documented. This study attempts to explore the relationship if any between spirituality and hope in patients with ESRD on maintenance haemodialysis. The secondary aim was to assess the symptom burden. **METHOD:** 40 patients with ESRD undergoing haemodialysis in a unit in a semi-urban hospital setting in the Eastern part of India were randomly selected over a period of 3 months. Patients in all age groups and both genders were included. Patients who consented were requested to self-administer 2 questionnaires -Spiritual Health and Life Orientation Measure (SHALOM) and Health Hope Index (HHI). Both questionnaires were translated in Hindi, the local language. The symptoms experienced by the patients and their severity were also recorded to assess symptom burden. **RESULTS:** The age of patients ranged between 35 and 80 with a mean of 54.8. There were 9 females. Most of the patients reported experiencing symptoms of depression, fatigue and pain. There appears to be a strong relationship between some indices of SHALOM and HHI. Relationship between Spiritual Dissonance and hope appears weak. These will be further discussed in detail at the conference. **CONCLUSIONS:** Professionals should be able to recognise and address spiritual health issues to be able to provide holistic care to patients in palliative medicine. It is important for all health care professionals to be able to pick up symptom burden, mental health issues and seek specialist advice. **RESEARCH IMPLICATIONS:** A larger randomised multicenter study to assess the relationship between spiritual health and hope in ESRD should be undertaken to validate these results. **CLINICAL IMPLICATIONS:** Patients with ESRD have a comparable, if not greater, symptom burden to patients suffering from terminal malignancies. Addressing the spiritual concerns in such patients & helping them to foster a sense of hope is an integral part in the holistic care of such patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-88

The Detection of Positive Responses After a Breast Cancer Diagnosis: A Systematic Review

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BACKGROUND: This systematic review aims to find the best available evidence regarding positive responses in women diagnosed with breast cancer from their disease experience. **METHOD:** Relevant outcomes were located in electronic databases (Medline, PsycINFO, Web of Science, Scopus, Cochrane, CINAHL, Wiley Online Library, DIALNET and TDX) using subject headings, keywords, titles and abstracts until 2012. A selected list of descriptors was used to identify studies including positive psychology related responses from breast cancer. The information was extracted independently by 3 reviewers and results were compared. Discrepancies were resolved by consensus. There was no restriction regarding the year of publication, study design, sample size or participants' demographical and medical characteristics. **RESULTS:** 59 studies were included in the review. Posttraumatic growth, optimism and spiritual coping were the most common responses found among papers. Also an inverse association between developing positive responses and age was found, as well as a direct association between positive responses and having children or being partnered. Additionally, 5 groups of positive psychology related therapies were found to be applied on breast cancer patients: hope therapy, meaning-making therapies, spiritual therapies and written emotional-expression interventions. These therapies were capable of enhancing QoL, well-being, PTG, hope, meaning, happiness, optimism, life satisfaction and benefit finding in women with breast cancer. **CONCLUSIONS:** Positive psychology is beginning to be studied in relation to breast cancer. It has been found that these positive responses are given in 3 vital spheres: the personal sphere (e.g. well-being, personal growth), social sphere (e.g. enhanced altruism, personal relationships) and disease-related sphere (e.g. hope, meaning-making). However, few interventions have been developed in order to promote these positive responses. Only 5 groups of therapies have been found to be applied in breast cancer patients. This entails a need to engage more research in order to develop ways of promoting positive responses among women with breast cancer. **RESEARCH IMPLICATIONS:** This review reveals that more evidence is needed regarding positive psychology, especially among women with breast cancer. Thus, future research needs to examine those women who are more likely to develop positive responses from their experience of breast cancer. Identifying the processes through which these women develop

responses like hope, meaning or optimism, between others, is also relevant for researchers in developing therapies to promote these responses. **CLINICAL IMPLICATIONS:** Psychologists may obtain benefit from the information obtained in this review in, at least, 2 ways. On the one hand, it provides relevant data regarding the demographical and medical characteristics of those women who tend to develop positive response from breast cancer, what can result in useful screening criteria. On the other hand, it also provides psychologists with efficient therapies in promoting positive responses among women diagnosed with breast cancer **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-89

Effect of Group Meaning-Centered Hope Therapy for Cancer Patient and Their Families on Their Quality of Life

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BACKGROUND: Quality of life is a multidimensional concept which is considered as main purpose of supportive care in chronic diseases like cancer. Many interventions have been done for quality of life improvement in cancer patient, however, effect of indirect intervention on patients' quality of life has not been investigated yet. This work was designed and carried out to determine effect of group meaning centered hope therapy on cancer and their families' quality of life. **METHOD:** This survey was a 3 group clinical trial with pre-test and post-test design in which effect of independent variable (meaning-centered hope therapy) on dependent variable (quality of life) was investigated. The sample was selected among cancer patient who were aware of their diagnosis were in the early stage of disease and had pass one course of chemotherapy. Statistical analysis of data was performed in tow section, descriptive and illative. **RESULTS:** Based on our finding, group meaning-centered hope therapy for patients and their families were usefule compared to control group. The results show that group sessions either for patient and their families equally improved their quality of life. **CONCLUSIONS:** Quality of life in cancer patients improved by group meaning-centred hope therapy either for patients or their families. **CLINICAL IMPLICATIONS:** When patient can't come to group therapy if one of the home caregivers (families) come in group session we can increase pateint's quality of

life. **ACKNOWLEDGEMENT OF FUNDING:** Thanks to Entekhab center of Supportive and Palliative Care for kind cooperation and support that made conducting this research possible.

P1-90

Meaning in the Life of Japanese Female Breast Cancer Patients: Its Idiographic Aspects

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BACKGROUND: Meaning in Life (MiL) is a core concept for psychological care of cancer patients. The author has already reported quantitative aspects of MiL in Japanese female breast cancer patients (IPOS, 2012). This study aims to assess its idiographic nature using the "Schedule for Meaning in Life Evaluation" (SMiLE), an individualized instrument for the assessment of MiL, which was developed in Germany and validated in English, French, Japanese and Spanish. **METHOD:** In the SMiLE the respondents list 3–7 areas providing MiL to their lives in their current situation, and rate the current level of satisfaction (–3, very unsatisfied, to +3, very satisfied) and importance (0 to 7) with each area. 200 healthy Japanese females and 119 female breast cancer patients (age 30–70) diagnosed as Stage I–III, without recurrence and metastasis, were asked to answer the SMiLE and other questionnaires. The areas nominated were assigned to 15 categories identified in a representative study conducted in Germany (Family, Partnership, Social relations, Occupation/Work, Leisure time/Relaxation, Home/Garden, Finances, Spirituality/Religion, Health, Satisfaction, Nature/Animals, Social commitment, Hedonism, Art/Culture and Growth). **RESULTS:** (a) 110 patients (P, age 54.6 ± 10.4) and 192 healthy females (H, age 49.6 ± 11.1) filled in the SMiLE. In P, "Family" was most often indicated, followed by "Leisure time/Relaxation" and "Social relations", while "Spirituality/Religion", "Finances" and "Home/Garden" were the least 3 areas. In H, "Family" was also the most, but "Occupation/Work" was the 2nd, "Social relations" was the 3rd. "Spirituality/Religion", "Home/Garden" and "Art/Culture" were the least ones. (b) Mean values of satisfaction were 1.90 ± 1.27 (P) and 1.75 ± 1.32 (H) ($P > H$, $p < 0.05$) and those of importance were 5.47 ± 1.60 (P) and 5.57 ± 1.57 (H) (n.s.). **CONCLUSIONS:** Patients showed higher levels of satisfaction with MiL in total. That implies that the patients are feeling more grateful for their lives. The percentages of the people who have nominated the specific categories were not significantly different between 2 groups except for 2 categories, "Occupation/Work" and "Leisure time/Relaxation", the former H listed more, the latter P listed more. The mean value of satisfaction of P for the category "Social commitment" was significantly

higher ($p < 0.05$). These imply that in P the areas that provide MiL might shift from the material things to psychological ones. **RESEARCH IMPLICATIONS:** The analysis of these qualitative data together with the quantitative data (presented last year) will provide multilateral findings about the MiL of the cancer patients. The tendency of the data of the Japanese cancer patients is similar but not the same when compared with the results of German and French studies. The precise comparison will open the possibilities for cross-cultural studies on MiL of the cancer patients between the West and the East. **CLINICAL IMPLICATIONS:** The overall analysis of the qualitative data and quantitative data on MiL of the cancer patients with SMiLE helps the Japanese clinicians to know and assess the patients' current situation and need for MiL and to plan effective intervention programs for them. The SMiLE also could be a useful tool to open communication between cancer patients and clinicians about MiL. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by JSPS KAKENHI Grant Number 22530771.

P1-91

Quality of Life, Spirituality and Hope in Elderly Palliative Care Patients: An Italian Experience

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BACKGROUND: Aging process and psychological distress related to the cancer experience may adversely affect an older patient's ability to cope with the illness. Particularly, the critical condition of the advanced phase of cancer suggests the importance of a global approach that consider not only the quality of life but also the spiritual needs. The aim of the present study is to evaluate QoL and the Spirituality of elderly palliative care patients in Italy. **METHOD:** The evaluation was conducted through two structured questionnaires: the EORTC (European Organization for Research and Treatment of Cancer) QLQ-C15-PAL and the WHO-QOL-SRPB (World Health Organization Quality of Life - Spirituality, Religiousness and Personal Beliefs). **RESULTS:** The sample presents 80 elderly patients ($M = 46$; $F = 34$; range age: 65–94; mean age: 79.5). The study is in progress, final results will be presented at the conference. The partial analysis show a tendency of our subjects to have lower scores regarding QoL domain (Physical functioning, Emotional functioning and Global health status); instead is possible to observe higher score in Fatigue, Dyspnoea, Insomnia, Appetite loss and Constipation. Spirituality domain tend to

show lower results on: Awe, Whole, Strength, Peace, Hope, Faith. Physical scale negatively seems to correlates with Whole, Emotive scale with Connect, Strength and Faith, Dyspnoea with Awe. **CONCLUSIONS:** The partial results indicate that QoL, Spirituality and Hope are key variables in the elderly palliative cancer patients. Actually, we can observe a critical QoL with a poor global status and with more symptoms. Regarding Spirituality, our patients seems to demonstrate a less sense of participation to these dimensions. Various aspects of QoL tend to be associated with different spiritual issues. Our results, although observational, allow interesting reflections on the Italian context and indicate the opportunity to continue further studies to more accurately describe the relationship between QoL, psychological well-being and spiritual needs. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-92

Investigating the Role of Physical Symptoms on Important Goal Pursuit in Early-Stage Breast Cancer Patients

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BACKGROUND: The diagnosis and treatment of early-stage breast cancer can interrupt ongoing goal-directed behaviour, and disrupt or completely block the pursuit of important personal goals. Symptoms of pain, fatigue, and insomnia are common across different treatments. Patients who report this particular cluster of symptoms are highly susceptible to functional impairment and poor psychological outcomes. This prospective study sought to better understand the relationship between physical symptoms and personal goal pursuit in breast cancer patients over time. **METHOD:** Forty-three women recently diagnosed with early-stage breast cancer provided self-report data at 1, 2, 4 and 6 months post-surgery. Questionnaires assessed physical symptoms, cancer-related goal interference, and psychological distress. Non-parametric correlations, cluster analysis and one-way analysis of variance were conducted to test the study hypotheses. **RESULTS:** The 5 most prevalent symptoms at each time-point were pain, difficulty sleeping, lack of energy, feeling drowsy and difficulty concentrating. Goal interference was significantly correlated with pain at T1, difficulty sleeping and feeling drowsy at T2, lack of energy at T2–T4, and difficulty concentrating at T1–T4. Women in the moderate-to-high symptom cluster had significantly higher average goal interference, depression, anxiety and stress than women in the

low-to-moderate cluster at each time-point. **CONCLUSIONS:** These novel findings indicate that common treatment-related physical symptoms differentially impact on the personal goal pursuit of breast cancer patients in the months following surgery. As expected, cancer-related goal interference was higher in women experiencing higher combined levels of these symptoms. Women in this subgroup also reported higher levels of psychological distress. **RESEARCH IMPLICATIONS:** This study provides important insight into the impact of cancer diagnosis and treatment on important goal pursuit, an under-researched topic in oncology. More research is needed to further explore the role of physical symptoms on goal pursuit in the short- and long-term following a cancer diagnosis. **CLINICAL IMPLICATIONS:** The findings suggest that women who experience high levels of pain, insomnia and fatigue at one or multiple times following surgery may require ongoing psychosocial support to help them cope with goal interference, disengage from unattainable goals and continue pursuing goals that remain attainable. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-93

Course and Predictors of Hopelessness and Demoralization

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BACKGROUND: The constructs of hopelessness and demoralization represent 2 different approaches that are currently used to assess existential distress in patients with cancer. The present study aims to determine and compare the course and predictors of these phenomena over 1 year. Given the high relatedness between hopelessness and depression, we further aimed to analyze the course and potential difference of these constructs in 2 groups of cancer patients with different prognosis. **METHOD:** At T1, $N = 307$ patients with lung/gastrointestinal (46%) and breast/gynecological (54%) cancer were recruited during inpatient treatment. The majority (79%) were diagnosed with advanced cancer, 55% received palliative treatment. After 1 year (T2), 25% of the patients had died and $N = 150$ (65% of remaining patients) participated again. Patients completed self-report measures including Beck Hopelessness Scale, Demoralization Scale, Patient Health-Questionnaire-9, and Memorial Symptom Assessment Scale - Short Form. In order to identify predictors of each dependent variable at T2, regression analyses were conducted controlling for baselines values, age, gender, treatment phase (curative vs. palliative) and number of physical problems at T2.

RESULTS: At T1, moderate to severe scores were found in 33% of the patients for hopelessness, 33% for demoralization, and 30% for depression. At T2, moderate to severe scores were found in 43% for hopelessness, 27% for demoralization, and 29% for depression. The correlation between hopelessness and demoralization was $r = 0.75$ ($p < 0.001$). At T2, the mean hopelessness score was significantly higher ($M = 7.6$, $SD = 2.8$ vs. $M = 8.1$, $SD = 3.0$) ($p = 0.003$). Hopelessness at T2 was higher in patients with lung/gastrointestinal cancer ($\beta = 0.17$, $p = 0.04$) and in those with more physical problems ($\beta = 0.30$, $p < 0.001$). Demoralization at T2 was only higher in those with more physical problems ($\beta = 0.29$, $p < 0.001$). **CONCLUSIONS:** The differences in changes of hopelessness and demoralization over 1 year point toward different conceptual emphases within these constructs, despite their high intercorrelation. This is further underscored by patients with lung/gastrointestinal cancer being more hopeless at T2 compared to T1, but not more demoralized, depressive or anxious. Importantly, this result was independent of gender and treatment phase. **RESEARCH IMPLICATIONS:** Based on the results it could be hypothesized that the constructs of hopelessness and demoralization identify different aspects of existential distress in cancer patients. Hopelessness refers to negative cognitive expectations of the future, while demoralization refers to both emotional and cognitive symptoms of loss of meaning and a sense of failure in addition to feelings of hopelessness. Hopelessness might hence more closely relate to changes in prognosis. **CLINICAL IMPLICATIONS:** Only patients with lung/gastrointestinal cancer showed an increase in hopelessness after 1 year, independent of treatment phase. An explanation might be that among those receiving palliative treatment, patients with lung/gastrointestinal cancer still face a faster disease progression than patients with breast/gynecological cancer. Patients with lung cancer did however not show an increase in depression, anxiety, and demoralization in our sample, indicating that an increase in hopelessness is not necessarily associated with higher emotional distress. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the German Donor's Association.

P1-94

Oncological Case Management and Care for Concerns Regarding Meaning - A Case Study

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BACKGROUND: Several Dutch hospitals - among which the Maasstad Hospital - have recently introduced casemanagement in their oncological

care chains. The casemanagers of the Maastad Hospital call their patients by telephone 2 to 5 days after they have received the diagnosis to monitor their well-being (post-diagnosis telephone call). In the current exploratory mixed-methods study the experiences of oncological patients and casemanagers of the Maastad Hospital regarding casemanagement and the post-diagnosis telephone call were investigated. **METHOD:** Semi-structured, qualitative interviews were held with the 6 casemanagers of patients with ovarian, prostate, or breast cancer that were treated with curative intent. In addition, seven post-diagnosis telephone calls were recorded by the urology and gynaecology casemanagers. Consecutive patients with prostate, ovarian or breast cancer were asked to fill out a short questionnaire on their satisfaction with the care from their oncology nurse ($N = 52$) and 11 of these participants took part in a semi-structured qualitative interview. All interviews were verbally transcribed. The transcripts were then coded and the coded fragments were summarized in order to answer the research questions. **RESULTS:** In particular the information about the diagnosis, curative treatment and prognosis that was provided by the casemanagers and the availability of the casemanagers for the patient's needs were appreciated by patients. Nevertheless, several areas of improvement were observed (see Conclusion). The casemanagers seemed to be equipped to carry out the post-diagnosis telephone calls. However, they did not always respond adequately to questions and concerns regarding meaning that were raised by the patients - such as feelings of guilt, questions about performing one's profession, and fear of death - thereby overlooking some of their needs. **CONCLUSIONS:** There is room for improvement in casemanagement for cancer patients in the Maastad Hospital. The following recommendations are made, that may also benefit other hospitals:

- Ensure attention to a patient's concerns regarding meaning through guidelines about the goal and structure of the post-diagnosis telephone call
- Provide regular contact between patients and casemanagers.
- Assign only one casemanager to a patient.
- Adjust the amount of information that is provided to the needs of the patient.

Provide structure in the duration of consultations so that waiting-time is reduced, but patients can voice all of their questions and concerns.

RESEARCH IMPLICATIONS: The current exploratory study raises a number of questions regarding the presence and effects of spiritual needs, and the need for and the effects of spiritual care in the curative oncological setting. As of yet not much is known about these issues, particularly within the Netherlands. Furthermore, information is needed on the effects of the implementation of

oncological casemanagement on patient satisfaction and well-being within the Netherlands, to further increase the quality of oncological care. **CLINICAL IMPLICATIONS:** The present study has provided information on several issues that should be taken into account when implementing casemanagement in a hospital's oncological care chain. Especially the structuring of the consultations with the casemanager and the provision of information, need to be considered carefully in order to fully meet the needs of the patient without increasing the workload of the casemanager too much. Involving the patient in these matters is key. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Stichting Geestelijke Verzorging Rijnmond and the Helen Dowling Institute.

P1-95

A Case Report of Application of Existential Approach in an Elder Cancer Patient With Suicide Ideation

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BACKGROUND: Cancer patients maybe think suicide as coping strategy in a sudden or for a long time when they fell much distress or hopelessness. We can see the cancer as existential frustration (Frankl, 1959) or really anxiety about death to patients (Yalom, 2008), and the therapeutic relationship, the patient-therapist encounter, will heal patients in terror of existential isolation (Yalom, 1980). This case report illustrates the meaning of the relationship in a elder cancer patient with high suicide risk. **METHOD:** The patient is a 70-year-old man who divorced 50 years ago and lives alone thereafter. He was diagnosed with prostate cancer, stage IV, with spinal metastasis in January 2013. His suicide ideation resulted from his dysfunctional left leg and the diagnosis. The psychiatrist referred him to the psychologist. Till the end of April, he has undergone 11 sessions bedside individual psychotherapy during the period of inpatient, 5 sessions on the telephone after discharged from hospital, and 1 session in outpatient clinic. All sessions will be analyzed based on the approach of logotherapy and existential psychotherapy. **RESULTS:** The patient had strongly suicide ideation at first but finally had the will to living again. It was the relationship effected his attitude remarkably because he said he appreciated our team "remembered" him. He had no will to tell us why he lived alone all his life. But he knew he deserved to be loved though this experience. He

practiced hard walking instead of jumping to death alone at home. He found the meaning of suffering (Frankl, 1959), showed his potentialities in life (May, 1983) and took his responsibilities (Yalom, 1980). And these changes were revealed in here and now (Yalom, 1980) in psychotherapy. CONCLUSIONS: Even we can use some screen tools to assess the problems cancer patients with suicide risk have, it still has obstructions. Such as patients don't want to talk or it's not right time to use these tools. At this time, therapists are "the tool". According to Frankl's and Yalom's concepts, if therapists see the suicide ideation/attempts of cancer patients not masks for other problems, if therapists can contain patients' terror of death and bravely enter into their existential concerns, and these attitude can facilitate patients finding the meaning of suffering autonomously in a genuine and secure base. CLINICAL IMPLICATIONS: If applying existential approach to cancer patients appropriately, the therapeutic alliance will get much more steady and secure. With much more helpful relationship, any screen tool or intervention will get much effective. ACKNOWLEDGEMENT OF FUNDING: None.

P1-96

The Influence of Chemotherapy on Cognitive Functioning in Patients With Breast Cancer

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BACKGROUND: The effect of chemotherapy on cognitive functioning has not been adequately described yet, and results of previously published studies provide equivocal results. The aim of the study is to assess the influence of chemotherapy on cognitive performance (memory and learning, information processing speed) and some aspects of executive functions in patients with breast cancer. **METHOD:** 31 breast cancer female patients qualified to adjuvant chemotherapy with four doses of AC (mean age = 52 ± 8) participated in the prospective study before chemotherapy initiation (T1), after the 2nd cycle (T2) and up to 30 days after the last dose of chemotherapy (T3). The evaluation of cognitive functioning was carried out using the Trail Making Test A&B (TMT A&B), the Stroop Color-Word Interference Test (SCWIT), the Digit Symbol Substitution Test (DSST), the Fluency Test (COWA) and the Rey Auditory Verbal Learning Test (RAVLT). **RESULTS:** The results obtained showed significant improvement in: TMTA in T3 compared to T1 ($z = 2.9$; $p = 0.004$); TMTB in T2

compared to T1 ($z = 4.14$; $p = 0.000$); T3 compared to T1 ($z = 4.04$; $p = 0.000$). Significant improvement was also found in the second part of SCWIT in: T2 compared to T1 ($z = 2.845$; $p = 0.004$); T3 compared to T1 ($z = 3.989$; $p = 0.000$); T3 compared to T2 ($z = 2.02$; $p = 0.04$). Moreover significant improvement was observed in DSST: T2 compared to T1 ($z = 3.55$; $p = 0.000$); in T3 compared to T1 ($z = 3.61$, $p = 0.000$). Significant deterioration was found in the first part of SCWIT in T3 compared to T1 ($z = 2.34$; $p = 0.019$). CONCLUSIONS: Our results indicate that after adjuvant chemotherapy with four doses of AC for breast cancer only the time of accomplishment of the first part of the Stroop Color-Word Interference (reading colors written in black) worsened, whereas in all other tests no differences or even improvement was found. Further analyzes will be performed. **RESEARCH IMPLICATIONS:** The results obtained are inconclusive. Probably other factors which were not taken into consideration during these analyzes could have influenced these results. Further studies should include other factors (e.g. emotional and somatic functioning) which might influence cognitive performance. Use of tests, which have psychometrically matched, alternate forms could help to minimize practice effect. Moreover, different types of chemotherapy should be compared. **CLINICAL IMPLICATIONS:** While analyzing cognitive functioning of patients treated with chemotherapy various factors should be taken into consideration, e.g. emotional and somatic aspects of functioning of patients. It is important to use, if possible, the tests with have alternate forms to minimize practice effect. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-97

Self-Report Behavioral Measures Associate More Strongly Than Psychosocial Measures With Diurnal Salivary Cortisol Patterns in Persons With Cancer

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BACKGROUND: Diurnal salivary cortisol rhythms are associated with various psychosocial and behavioral factors (e.g. sleep quality and stress). Most psycho-oncological studies involving cortisol were done with specific cancer groups, most notably breast and prostate cancer patients. Little is known about patients with mixed cancer diagnoses. At the same time, the relation between salivary cortisol and physical activity has not been explored

before. The current study aims to investigate which measures are better predictors of cortisol response. **METHOD:** The study analyzed data collected at a baseline assessment prior to a randomized controlled trial examining the effects of an exercise intervention on cancer-related quality of life. Ninety-four persons with mixed cancer diagnoses completed an online questionnaire with behavioral measures (sleep quality, daily physical activity) and psychosocial measures (perceived stress, mood, social support). They also collected five saliva samples at home during 1 day (waking, 45 minutes after waking, noon, 5pm and 9pm). Cortisol values were natural log transformed before analysis. **RESULTS:** We calculated the diurnal slope (by linear regression on collection time) and area-under-the-curve (AUC). Poor sleep quality was correlated with flatter diurnal slope ($r = 0.27$, all $ps < 0.05$ below), elevated evening cortisol ($r = 0.30$) and higher AUC ($r = 0.28$). Low physical activity was associated with elevated evening cortisol ($r = 0.21$) and higher AUC ($r = 0.25$). On the other hand, psychosocial measures did not associate with salivary cortisol patterns, despite the fact that behavioral and psychosocial measures were correlated. Regression on diurnal slope and AUC with behavioral and psychosocial measures confirmed the same findings. **CONCLUSIONS:** Among persons with mixed cancer diagnoses, low physical activity and poor sleep quality salivary were found to be associated with higher cortisol levels and flatter patterns. Interestingly, while psychosocial measures were correlated with poor sleep quality, they did not appear to affect salivary cortisol secretion. The findings of the study suggest that behavioral measures of physical activity and sleep may be superior to psychosocial measures in predicting cortisol responses, and by extension physiological outcome, in cancer patients. **RESEARCH IMPLICATIONS:** The study demonstrated for the first time in mixed cancer patients the relationship between physical activity and diurnal cortisol secretory activity. **CLINICAL IMPLICATIONS:** The study re-confirms the importance of sleep quality and physical activity in maintaining the well-being of cancer patients. The findings suggest that behavioral intervention, such as exercise, may produce physiological improvement in cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-98

Looking at the Mirror: Different Approaches in Assessing Body Image in Breast Cancer Patients

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BACKGROUND: An effective psychological assessment is the one that promotes a standardized and personalized information gathering. It ought to allow a quantitative comparison with normative data and a qualitative analysis of the personal experience. The more complex is the focus of such an assessment, the more important is the integration of quantitative and qualitative data. In order to develop a supportive-expressive group therapy on body image in breast cancer patients, we integrated psychometric and narrative methods. **METHOD:** During the phase I of the study we translated and validated the Body Image Scale (Hopwood et al., 2001) on an Italian sample ($n = 217$) of cancer patients. We also developed and validated a procedure for eliciting (open questions) and analyzing (computer aided qualitative data analysis software) the personal narratives about Quality of Life, cancer and body image. The 2 tools have been administered together with the Psychological Distress Inventory (Morasso et al., 1996) and the Distress Thermometer (Roth et al., 1998). In phase II we explored constructions of breast cancer patients ($n = 127$) using Body Image Scale and narrative procedure. **RESULTS:** The Italian version of Body Image Scale shows a high reliability (Cronbach's alpha = 0.919). As in the original English version the Factor Analysis (Principal Component Analysis) highlights one significant factor (% of explained variance = 58.281). The analysis of the written narratives about Quality of Life, cancer and body image shows some recurrent clusters: (I) QoL is usually described in terms of daily normality; (II) cancer narratives refer to psychological constructs of distress and anguish; (III) questions about body image subsume a relational barrier, especially with partners. **CONCLUSIONS:** The described procedure seems to be useful in assessing the patients distress about body image and in developing a tailor-made intervention. On one side we were able to identify high-level distress women, on the other side we clearly defined the personal experiences and the recurrent themes to be elaborated during the group therapy. It is interesting to note that the relational themes were the core issues of illness experience and specifically of problems in coping with changes in body image. **RESEARCH IMPLICATIONS:** An integration of quantitative and qualitative procedures in assessing cancer experience seems to be a preferential option. Narrative approaches enhance and specify the psychometric results. Standardized tools allow to compare personal narratives with a normative sample. Such an integration is particularly significant whenever we aim to develop a supportive-expressive intervention. **CLINICAL IMPLICATIONS:** The body image changes in breast cancer patients involve aesthetic and relational issues. In our research recruited women highlighted that the more stressful issue was the relational barrier they experienced. Dealing with

body image issues probably means to deal with a rift in reciprocal constructions between patients and their social networks' members. In order to promote an elaboration of such issues, psycho-oncologists ought to understand the personal experiences of significant relations, especially with the partners. **ACKNOWLEDGEMENT OF FUNDING:** The research was supported by CIPOMO (Italian Association of Hospital Oncology Head Physicians), through the grant of Manzione Award.

P1-99

The Recall of Information After First Oncological Consultations in Female Patients With Breast Cancer

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BACKGROUND: After a consultation the recall of information is influenced by many contextual variables. In oncology setting, to remember correctly the information provided by the oncologist may have important implications on treatment adherence, and on the level of anxiety and depression. The aim of this study is to propose a method to study the degree of information recalled by female patients with breast cancer after their first contact with the oncologist. **METHOD:** 71 breast cancer patients at early stage, who attend the Oncology Out-patient Services were asked to participate the study. After the consultation patients completed the Recall Questionnaire regarding information on treatment information (treatment name, frequency, duration, posology) and side effects. These information are then coded adopting a check-list which is also applied to the audio-recorded consultation, to code the information given by the oncologist. The two coding check-lists are then matched in order to calculate their agreement. A regression analysis will be performed in order to explore the association between the agreement index and the characteristics of patients and oncologists. **RESULTS:** The patients' medium age was 59 years (SD = 10.51; range 29–74). The Lin's coefficient shows a low concordance ($\rho = 0.156$; $p < 0.01$) between the number of recalled information by the patients ($M = 4.4$ [SD = 2.6]) and the number of information given by oncologists ($M = 11.4$ [SD = 4.75]). Analysis on patients' recall by treatment name, duration, frequency and posology, shown that patients recall a mean of 1.9 information (SD = 1.5), in comparison with a mean of 6

information given by oncologist (SD = 2.4). Moreover, patients recall a mean of 2.5 side effects information (SD = 1.8), in comparison with a mean of 5.4 information given by oncologist (SD = 3.5). **CONCLUSIONS:** The method used in this study to analyzes the patients' recall appears feasible and effective. The preliminary data show that the more information (cut score of 4) is given, the less information patients recall. This result is consistent with the literature. Future studies should consider additional factors such as anxiety of the patients, the illness stage, the doctors' style, the context and when the memory is measured. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-100

Assessment of Cancer Outpatient Satisfaction With Care: A Systematic Literature Review of Self-Reported Instruments

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BACKGROUND: Cancer care is increasingly provided in out-patient settings for treatment follow-up or cancer survivors' surveillance. Patient satisfaction is now recognized as an important indicator of care quality, related to adherence and health outcomes, and providing indications for care improvement. A literature review was performed to highlight the population target, content, developmental process and psychometric performance of patient satisfaction assessment in the cancer outpatient setting, and to highlights needs for improved cancer outpatient patient satisfaction instrument. **METHOD:** A systematic literature search from the past 20 years using the Medline, PsycInfo, CINAHL and Cochrane databases to identify studies that described the development/validation of cancer patient satisfaction questionnaires to be used in the outpatient setting, or that applied patient satisfaction questionnaires in that specific setting (excluding the cancer screening or advanced/EOL cancer care setting) was conducted. A combination of keywords including satisfaction with care OR patient satisfaction, AND determinant OR factor OR predictor AND psychomet* OR validation AND cancer AND ambulatory OR outpatient were used. Reference lists of patient satisfaction reviews and relevant organization websites were also consulted. **RESULTS:** A total of 146 citations were identified, mostly from the past 10 years. After removing duplicates, analysis of these citations indicated that 13 studies described questionnaires/subscales

specifically designed for the cancer outpatient setting. Among these studies, the population target mainly included any cancer diagnosis type. Domains of care assessed addressed access, availability, choice, communication/interpersonal skills, convenience, continuity, coordination, effectiveness, health promotion, multidisciplinary teamwork, waiting time. Whereas most questionnaires were developed according to a multi-step approach, only 2 questionnaires underwent a (non-simultaneous) cross-cultural validation. Twelve questionnaires underwent at least basic psychometric analyses including construct validity and internal consistency analyses. **CONCLUSIONS:** The number of studies addressing patients' perception of the quality of care in the cancer outpatient setting is increasing, reflecting the need to improve cancer patients' interactions and navigation through long-term, multidisciplinary and multi-setting care. However, there is paucity of studies using psychometrically solid cancer outpatient satisfaction questionnaire. No such questionnaire developed in a cross-cultural setting, taking into the account the characteristics of different cultures, was identified. **RESEARCH IMPLICATIONS:** There is urgent need to develop a cross-cultural and methodologically sound cancer patient satisfaction questionnaire that could be used in international studies aimed at assessing and comparing results of initiatives for care improvement in the oncology outpatient setting. **CLINICAL IMPLICATIONS:** During the initial diagnostic-treatment, the metastatic chronic treatment or the surveillance phase of the cancer trajectory, cancer patients or survivors are regularly followed over long time periods in outpatient settings, e.g.: to check for treatment effects, to monitor disease recurrence or evolution, to manage symptoms or adverse effects, or to address psychosocial issues. Assessing patient satisfaction in this context may provide indications for care improvement in the clinical encounter or at the institutional level. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-101

Prevalence, Intensity, and Predictors of the Supportive Care Needs of Women Diagnosed With Breast Cancer

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BACKGROUND: The assessment of supportive care needs is a crucial step in the development of

appropriate interventions that may improve the quality of life of cancer patients. This review describes and analyzes the prevalence and predictors of the unmet supportive care needs of breast cancer (BC) patients and survivors and suggests paths for further research. **METHOD:** Multiple databases were searched (CINHAL, PubMed/Medline, PsycInfo), considering only quantitative studies using validated needs assessment instruments and focusing uniquely on women diagnosed with BC, returning 761 hits. After removing duplicates, titles and abstracts were inspected for relevance (439 papers). A remaining fifty-seven were read in entirety, of which thirty-three were rejected as they did not employ validated measures or did not report concrete data regarding frequencies or mean scores. **RESULTS:** Twenty-four studies answered to all eligibility criteria. Twenty were cross-sectional and the remaining 4 were longitudinal. Most included patients at different moments along the BC trajectory, from diagnosis to decades into survivorship, with the major proportion of patients under treatment. Results clustered around psychological and information needs, with the top concern being "fear of the cancer returning." Predictors of higher needs included advanced disease stage, greater symptom burden, shorter time since diagnosis, higher levels of distress, and younger age. Prevalence differed between cultures with Asian women reporting greater information needs and lower psychological needs compared to Western women. **CONCLUSIONS:** To date, studies assessing BC needs are primarily cross-sectional and include women who are at different moments along the BC trajectory, employing different measures, or the same measure scored in different ways, making comparison between studies problematic. The paucity of psychosocial factors assessed in relation to needs thwarts our ability to understand and predict who is at risk for greater needs. **RESEARCH IMPLICATIONS:** In illustrating what is known so far about the needs of women who have been diagnosed with BC we can move forward and design research protocols to refine our understanding in order to predict who is at risk for greater needs and how needs are likely to change over time. Specifically, future research should delve deeper into individual factors that may influence needs, employ longitudinal designs, and use unambiguous scoring and reporting of needs. **CLINICAL IMPLICATIONS:** This study is the first step in designing effective care for those women who need it most at the right time, thereby optimally allocating scarce resources. Furthermore, meeting the needs of BC patients may promote better health related quality of life. **ACKNOWLEDGEMENT OF FUNDING:** Institut Cure; Ligue contre le cancer.

P1-102

Validation of the Zarit Scale for Assessment of Caregiver Burden in Mexican Primary Caregivers of Cancer Patients

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BACKGROUND: Being a caregiver of a person with a disability or chronic illness has a diversity of psychosocial consequences. Caregivers often assume the role of assistance without notice and no knowledge in care tasks. Several studies report exhaustion, fatigue, insomnia, weight loss and deterioration of health in caregivers of people with cancer. To determine the psychometric properties of the Zarit Scale on Mexican primary caregivers of patients with cancer. **METHOD PARTICIPANTS:** Participants were 261 women (72.7%) and 98 men (27.3%) with a mean age of 43.4 ± 13.0 years caregivers of cancer patients at Mexico's National Cancer Institute. **INCLUSION CRITERIA:** Family, acquaintance or friend who can read and write, that perform care activities for the patient with cancer (with any diagnosis, stage and treatment), received no financial remuneration. Exclusion criteria Family, acquaintance or friend who can't read and write who reports receiving financial remuneration for their care activities and has health care training. **INSTRUMENTS:** Zarit Scale, Beck's Depression Inventory (BDI), Beck's Anxiety Inventory and The Goldberg's General Health Questionnaire (GHQ). **RESULTS:** Using principal component analysis with varimax rotation set to three factors was determined that the factor structure was similar to the original version. The internal consistency of the overall scale was an appropriate index ($\alpha = 0.90$). Cronbach's alphas for subscale had the following values: Impact of caregiver $\alpha = 0.90$, $\alpha = 0.76$ Interpersonal Relationship Expectations of self-efficacy and $\alpha = 0.67$ explaining the 51.65% of the variance. The validity through correlations with concurrent measures showed significant (Pearson's r): BDI.54, BAI 56

and GHQ .48, ($p < 0.05$). **CONCLUSIONS:** The Zarit Scale on Mexican primary caregivers of patients with cancer has adequate construct validity, internal consistency and concurrent validity for use in cancer patients from the Mexican population. The relevance of these results is a cost effective tool to provide timely mental health care early in caregivers for those in need. **RESEARCH IMPLICATIONS:** In Mexico there was not an adapted and standardized scale for the assessment of burden in primary caregivers of patients with cancer. The results of the study propose The Zarit scale for Mexican primary caregivers of patients with cancer as an instrument with psychometric properties. **CLINICAL IMPLICATIONS:** Its use will enable an appropriate assessment of caregivers of cancer patients as a first step in developing help manuals and interventions that promote self-care, with the aim of reduce care burnout and promote optimal care of the cancer patient. **ACKNOWLEDGEMENT OF FUNDING:** Detecting of deterioration of health in caregivers of people with cancer through the Zarit Scale may benefit caregivers Mexicans overwhelm in cancer patients, is relevant because it can achieve reliable assessment validity, and thus develop counseling programs in this group of caregivers.

P1-103

Patient Competence in the Context of Cancer: A Contribution to Construct Validation

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BACKGROUND: Patient competence (PC) is a construct that has gained some attention recently as it aims at describing skills and abilities required for patients with cancer when confronting coping tasks arising from this life-threatening chronic disease and its treatment. This study attempts to comprehensively validate a new self-rating measure of PC (published in 2008) in order to further clarify this construct and provide a sound methodological basis for further research on its determinants and outcomes. **METHOD:** In a longitudinal multi-centre study, a total of 512 patients with breast, colorectal, or prostate cancer will be surveyed at the beginning and the end of their oncological rehabilitation, and 9 months afterwards. In addition to self-rated PC, fear of progression, coping with illness, self-efficacy for coping with cancer, and quality of life will be assessed at all points of measurement as validity criteria. Data analysis will employ structural equation modeling and repeated measures ANOVAs controlling for diagnosis, treatment type (curative vs. palliative), and gender. The factorial validity of the PC measure will be tested via confirmatory factor analyses (CFA). **RESULTS:** At the time of preparing this abstract,

200 patients have already been recruited into the study. At the congress, we will report on the results of a CFA for the data of the first measurement point for which we expect to have available approximately 400 patients by then. It is assumed that it will be possible to replicate the 8 dimensions of PC (5 problem- and 3 emotion-focused ones) that were found in the original publication. In addition, we will report on the relationships between the dimensions of PC and the validity criteria mentioned above. **CONCLUSIONS:** The present study will provide a comprehensive basis for determining the validity of the construct of PC as measured by the original questionnaire. If necessary in the light of empirical evidence, it will also help modify and improve its subscales and refine the underlying conceptual model. **RESEARCH IMPLICATIONS:** Since it has been claimed that PC is crucial for a variety of outcomes in the context of cancer (and other chronic conditions), a thoroughly validated instrument for measuring PC in this field is a prerequisite for testing hypotheses relating PC to, e.g. quality of life, well-being, fear of progression, or even survival of cancer patients. Therefore, this study will help build the methodological basis upon which future research on these hypotheses may proceed. **CLINICAL IMPLICATIONS:** Having available a reliable and valid measure of PC and its distinct facets will capture the whole range of inter-individual differences that exist with respect to this set of patients' coping skills and abilities. As such, it will also help develop and evaluate interventions for promoting PC that are sensitive to coping tasks that may be specific for a given type of cancer. **ACKNOWLEDGEMENT OF FUNDING:** This study is supported by the German Federal Ministry of Education and Research.

P1-104

Survivor Unmet Needs Survey (SUNS) for Hematological Cancer Survivors: A Psychometric Assessment

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BACKGROUND: Addressing the needs of cancer survivors is central to providing optimal supportive care. Relevant and psychometrically sound needs assessment tools are required to accurately assess survivor needs. There is an absence of valid and

reliable, multi-dimensional needs assessment tools for use within hematological cancer survivor populations. This study aimed to rigorously assess the relevance, reliability and validity of the Survivor Unmet Needs Survey (SUNS) for use in an adult sample of hematological cancer survivors. **METHOD:** The SUNS is an 89-item measure of cancer survivor unmet needs across five domains, including, Emotional Health, Access and Continuity of Care, Relationships, Financial Concerns and Information. The SUNS was developed and psychometrically evaluated in a heterogeneous sample of Canadian cancer survivors. In this study, the SUNS was psychometrically evaluated for use with Australian hematological cancer survivors using data collected from hematological cancer survivors, aged 18–80 years at time of study and recruited from four Australian population-based cancer registries. A second survey was completed by a subsample of survivors from 2 of the registries to assess instrument test-retest reliability. **RESULTS:** To date SUNS data from 492 hematological cancer survivors from three registries have been entered and analysed. Preliminary factor analysis using data from 368 survivors who completed all 89 items of the SUNS, illustrates initial support for use of the original five-factor structure of the SUNS in an Australian hematological cancer survivor population. Preliminary analysis also suggests satisfactory levels of internal consistency; and construct and convergent validity. Floor effects were evident for all five domains. **CONCLUSIONS:** Needs based assessment is a vital step in achieving optimal supportive care. However, no previous multi-dimensional needs assessment tool has been psychometrically evaluated for use in a population-based sample of hematological cancer survivors. Preliminary analysis demonstrates promising findings of the SUNS as a psychometrically sound measure of unmet needs in population-based samples of hematological cancer survivors. However, floor effects may impact on the responsiveness of the scale. **RESEARCH IMPLICATIONS:** Establishing the SUNS as a valid and reliable unmet needs measure for hematological cancer survivors will allow future researchers to accurately assess the unmet needs of hematological cancer survivors; as well as providing an opportunity to standardise future research practices in this area. Future research should also strive to evaluate the psychometric properties of predictive validity and responsiveness using longitudinal research designs. **CLINICAL IMPLICATIONS:** This study suggests that the SUNS could potentially be used by health care providers to routinely assess the unmet needs of hematological cancer survivors. Assessing the unmet needs of hematological cancer survivors using a psychometrically rigorous tool will ensure the needs of survivors are accurately identified and appropriate supportive care is provided in a timely

manner. **ACKNOWLEDGEMENT OF FUNDING:** This research was co-funded by beyondblue and Cancer Australia (Application ID: 569290). Alix Hall was previously supported by an Australian Postgraduate Award and is currently supported by a 2012 Prime Minister's Australia Asia Endeavour Postgraduate Award. Dr Flora Tzelepis is supported by a Leukaemia Foundation of Australia and Cure Cancer Australia Foundation Post-Doctoral Research Fellowship.

P1-105

Comparing Quality of Life Between Adult Survivors of Childhood Cancer and Siblings: The Role of Post-Traumatic Stress Symptoms

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BACKGROUND: Childhood cancer survivors report more post-traumatic stress symptoms (PTSS) and lower health-related quality of life (HRQOL) compared to siblings. Individuals with high PTSS might endorse response categories of HRQOL items differently compared to those with low PTSS given the same level of HRQOL (differential item functioning; DIF). This study aims to compare HRQOL between adult survivors of childhood cancer and siblings by accounting for mediating effects of PTSS and DIF related to PTSS. **METHOD:** 7103 cancer survivors and 390 siblings in the Childhood Cancer Survivor Study (CCSS) completed the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36) which measures eight domains of HRQOL. PTSS was measured using the Post-traumatic Stress Disorder Symptom Scale. Items with DIF related to PTSS were identified using a graded response model and HRQOL domain scores were calibrated by accounting for DIF related to PTSS. The extent to which PTSS status mediated the discrepancies in HRQOL between survivors and siblings was tested and the differences in HRQOL domain scores between survivors and siblings were estimated using regression analyses. **RESULTS:** 13 items of the SF-36 were identified with DIF related to PTSS: physical functioning (5 items), vitality (2 items), role limitations due to emotional problems (2 items), mental health (2 items), role limitations due to physical problems (1 item), and general health (1 item). Before accounting for mediating effect of PTSS, survivors reported lower DIF-calibrated HRQOL in all domains compared to siblings ($p < 0.01$), except bodily pain, vitality, and role limitations due to emotional problems. However, PTSS significantly mediated the relation between survivorship and HRQOL where survivors reported lower DIF-calibrated

HRQOL compared to siblings only in physical functioning (effect size = 0.37; $p < 0.01$). **CONCLUSIONS:** More than one-third of the SF-36 items demonstrate DIF related to PTSS status in childhood cancer survivors and siblings. Although childhood cancer survivors often report impaired HRQOL compared to siblings, the observed differences may be in part due to DIF related to PTSS that influences perceptions and report of HRQOL items, and the mediating role of PTSS on HRQOL. Without careful consideration of DIF effects related to psychological state such as PTSS and the mediating effects of PTSS on HRQOL, the comparison of HRQOL between cancer survivors and siblings can be misleading. **RESEARCH IMPLICATIONS:** DIF findings provide insights for psycho-oncology research. If DIF reflects psychosocial adjustment for HRQOL items by cancer survivors, calibrating DIF item scores between survivors and siblings would be a reasonable strategy. Calibration allows item parameters to be separately estimated for the subgroups and these different parameter estimates can be used to estimate HRQOL scores. Further research also is encouraged to use cognitive interviewing techniques to investigate the psychological mechanisms behind the DIF findings. **CLINICAL IMPLICATIONS:** The significant mediating effects of PTSS on the relation between survivorship and HRQOL provide useful implications for clinical practice. Given that impaired HRQOL between cancer survivors and siblings is chiefly explained by the presence of PTSS, evaluating PTSS status alongside other psychosomatic symptoms such as pain and fatigue in cancer survivors is an important component in survivorship care. Improving survivors' HRQOL through appropriate psychosocial interventions to treat PTSS is a reasonable strategy. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by the National Cancer Institute (NCI) Cancer Center Support (CORE) grant CA21765 (TMB, GTA, LLR, and KRK), by the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) grant U01 AR052181 (ICH), and by AL-SAC (TMB, GTA, LLR, and KRK).

P1-106

Further Validation of the Symbolic Assessment of Fatigue Extent (SAFE)

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BACKGROUND: Symbolic Assessment of Fatigue Extent (SAFE), developed in 2012, is a 12 item patient rated tool assessing both extent (4 items) and impact (8 items) of fatigue in adult cancer patients. Responses are either symbolic visual representations on a 5 point likert scale (smileys, shape

gradients or body caricatures), with items assessing impact represented pictorially. The objective of the study is to establish further validity of the SAFE specifically discriminant, concurrent and convergent validity. **METHOD:** A mixed group of cancer patients ($n = 42$) were administered the SAFE along with the Multidimensional Fatigue Inventory (MFI-20), Distress Thermometer and Cancer Institute Quality of Life (CI-QOL). Breast cancer patients ($n = 36$) attending a follow-up clinic were administered the SAFE along with the Pittsburgh Sleep Quality Index (PSQI) and the Hospital Anxiety and Depression Inventory (HADS). A separate group of CML patients ($n = 72$) were administered the SAFE, and their hemoglobin readings were gathered from routine hemogram investigations conducted during their visit to the out-patient clinic. A group of healthy controls ($n = 35$) were also administered the SAFE. **RESULTS:** SAFE had a significant negative correlation with QOL ($r = -0.704$, $p < 0.01$). Subscales physical ($r = -0.69$, $p < 0.01$) and psychological ($r = -0.64$, $p < 0.01$) wellbeing had the highest correlation. Item to item correlation (on current level of fatigue) between SAFE and QOL was ($r = 0.562$, $p < 0.01$). SAFE correlated significantly with anxiety ($r = 0.55$, $p < 0.01$) and depression ($r = 0.52$, $p < 0.01$). SAFE also had a significant positive correlation with the Pittsburgh Sleep Quality Index ($r = 0.536$, $p < 0.01$). No significant correlations were found between hemoglobin values and fatigue. Cancer patients during treatment had significantly greater fatigue extent compared to cancer survivors ($t(77) = -2.05$, $p < 0.05$) and healthy controls ($t(64) = 3.74$, $p < 0.001$). **CONCLUSIONS:** SAFE was found to have good convergent validity (significantly correlated with QOL, Sleep, depression, anxiety and distress) and Concurrent validity (correlated with another fatigue scale). Discriminant validity of the tool was also established as the tool was able to distinguish between cancer patients from survivors and healthy controls. Thus, SAFE was found to be a valid tool to assess fatigue among cancer patients in a clinical setting. **RESEARCH IMPLICATIONS:** The tool can be utilized widely by researchers for the assessment of fatigue in research studies, particularly in populations with variability in language as the tools dependency on language proficiency is less. The tool can be adopted by researchers around the world and a pool of data can be gathered to develop country and culture specific norms. **CLINICAL IMPLICATIONS:** The demonstration of the discriminant validity makes it particularly ideal for clinical practice. The tool can be administered in >5 minutes making it suitable for both in-patient and out-patient use. The tool will help raise awareness among clinicians on the extent of fatigue experienced by cancer patients and the impact of fatigue on different dimensions of life and will pave the

way for suitable interventions. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-107

Outpatient Psychiatric Clinic in a Portuguese Cancer Center, 2013

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BACKGROUND: Data concerning Psycho-Oncologic issues and needs of Portuguese cancer patients are scarce. IPOLFG is the main cancer centre in Portugal: total Outpatient Clinic = 216.500 and Psychiatry Outpatient Clinic = 2.700 pts (2012). For 7 years, Psychiatry Unit is implementing a Psycho-Oncology Program for multidisciplinary teams to improve screening of distress and early intervention upon psychiatric symptoms. This study discloses IPOLFG Psychiatry Outpatient Clinic data: lag-time, rate and accuracy of reference, patients' medical and psychiatric profile and outcome. **METHOD:** Analysis of data from 2.5 months of the IPOLFG Psychiatry Outpatient Clinic (1 Feb-16 April 2013), where 3 senior psychiatrists are part time working. From information system database and patients' medical files, we obtained: Socio-demographic (gender, age) and scheduled Appointment data (lag-time between request and 1st appointment, type of appointment (First/ Follow-up; Emergency/ General Psychiatry/ OncoSexology/ Tobacco/ Family/ Staff; follow-up period); Oncologic (site and stage of disease, present treatment) and Psychiatric data (diagnosis at 1st evaluation, type of intervention, outcome, referral). Psychiatric diagnosis followed non-structured interviews, DSM-IV-TR and ICD-10 criteria. Statistical procedures included descriptive statistics, frequency accounts and correlations. **RESULTS:** Socio-demographic, appointment data 809 scheduled appointments, 604 attended (75%). 73% female; average age: 55 years old (3–96 yo). 1st appointment = 27%, follow-up = 73%; General Psychiatry = 71.8%, Emergency = 16.7%. Mean follow-up time: 20 months. Oncological profile site: breast (29.6%), hematological (24.4%), head & neck (16.9%); no cancer (16.1%); stage: remission (61.5%), metastatic (14.2%), locally advanced (8%); not applied (16.6%); treatment: none (56.9%), chemotherapy (17.1%), hormonal therapy (13.3%). Psychiatric profile (cancer pts) initial diagnosis: Adjustment Disorders (37%), Major Depression (23%), multiple diagnosis (10%); none (3%); Psychiatric treatment: psychotropic drugs (49%), drugs plus psychotherapy (38%); none (2%). Referral: IPOLFG Psychiatry Outpatient Clinic (89.3%), discharged (6.3%). **CONCLUSIONS:** The typical profile of the cancer patient at 1st appointment of IPOLFG Psychiatry Outpatient Clinic is a female, 57 years old, with breast or head & neck cancer,

actually under remission and free of anti cancer active treatment. Prevalent psychiatric diagnosis is Adjustment Disorders. Intervention bases on psychotropic drugs often conjugated with supportive psychotherapy; psychiatric follow-up continues at IPOLFG. Further data will be launched: (1) lag-time between request and 1st appointment; (2) correlations between individual oncologic and psychiatric data at 1st appointment; (3) evolution of psychiatric profile throughout time. **RESEARCH IMPLICATIONS:** In a few years we would like to re-evaluate IPOLFG Psychiatry Outpatient Clinic data looking for positive trends that might validate the ongoing Psycho-Oncology Program. Main variables to control would be: rate and accuracy of psychiatric referral, evolution of diagnosis and patients' outcome. **CLINICAL IMPLICATIONS:** The present characterization is fundamental to understand the standard of Psycho-Oncology care in IPOLFG and to improve its quality in the future, namely to adjust the Psychiatric intervention to the needs and profile of our patients. Upgrading the quality of psychiatric care will eventually increase patients' coping skills and quality of life. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-108

Cancer and Non-Cancer Pain – Assessment and Consequences

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BACKGROUND: Lately, studying the psychosocial factors of pain has been a topic of interest from researchers. Many investigators suggesting that regardless of its origin pain is perceived the same way by everyone. Still others claim that pain is perceived differently depending on different factors. The purpose of this study is to compare pain intensity, frequency and its impact on daily functioning in two groups of pain patients - colorectal cancer patients and non-cancer patients. **METHOD:** Thirty two (32) patients were examined (first group). The mean age of patients was 64.1 years (SD = 10.6), 56% were male, 52% did not know their cancer diagnosis which was related to colon (42%) and rectum (58%). The second research group consisted of twenty eight (28) patients with chronic low back pain. All patients were assessed based on clinical standards (physical examination, laboratory results, histological diagnosis and analysis of medical records). Semi structured interview was conducted with questions about coping strategies, frequency of pain episodes, emotional problems and daily activities. Pain intensity was assessed with VAS (Visual Analog Scale). **RESULTS:** There were no significant differences in subjective perception of pain between the two

groups. This result confirms the predominant researchers' idea that there is a similarity in subjective experience of pain in patients with different conditions including cancer. We found significant differences in the preferable coping strategies between the two groups of patients. The cancer patient group shows greater preference for using passive coping strategies, but non-cancer patient group displays mixed coping strategies – passive and active. Coping strategies had been explored considering coping to be a reflecting of motivation for different goals (e.g., pain relief vs. improved function). **CONCLUSIONS:** The data suggests that regardless of the similarity in experience of pain in different groups of patients, cancer shows greater negative effects on daily functioning than non-cancer chronic pain conditions. Non-cancer patients use variety of coping strategies including active but cancer patients prefer passive coping with pain. In addition, our results suggest that the use of active coping strategies may, through their association with acceptance, result in a better physical, psychological and emotional functioning. The use of passive coping strategies like avoidance, pain-contingent rest, and defensive behavior may result in an increased pain and disability over time. **RESEARCH IMPLICATIONS:** Future research should investigate a wider range of affective and behavioral consequences of chronic cancer pain. It is possible that arousing emotions are more effective inhibitors of pain than calm states of relaxation because active coping strategies are adaptive nevertheless intensity of pain. The differences in functional consequences of pain between cancer and non-cancer patients support the view that a cancer diagnosis is a uniquely traumatizing event, producing broad negative impact on survivor's psychosocial functioning. **CLINICAL IMPLICATIONS:** Clinically, the results of this study support the continued use of interventions that encourage adaptive coping (e.g., maintaining activity despite pain and acceptance) and that discourage maladaptive coping (e.g., defensive behavior) should be provided to patients who have not yet learned to adequately manage pain. Pain intensity and its behavioral and emotional consequences should be consistently assessed, and, when there are significant findings they have to be clinically elevated and treated appropriately. **ACKNOWLEDGEMENT OF FUNDING:** We thank the Trakia University, Faculty of Medicine for the financial support of this project. This study was supported by a scientific grant 7/2009.

P1-109**Depression as a Possible Risk Factor for Cancer:
A Systematic Review of Prospective Studies**Deepa Damodaran¹, Varghese Paul²¹*Department of Psychology, Bharathiar University, Coimbatore, Tamilnadu, India,* ²*Department of Psychology, Prajyoti Niketan College, Thrissur, Kerala, India*

BACKGROUND: Depression has been proposed as a predisposing factor for cancer as findings of various studies reveal a tendency among patients with depression toward a marginally significant association with the subsequent cancer risk. But results of prospective epidemiological studies have been inconsistent and inconclusive. Through this paper authors evaluated the evidence of depression as a possible factor influencing the development of cancer by reviewing prospective cohort studies. **METHOD:** Studies were identified by computerized searches of Medline and Embase with a sensitive search strategy using the keywords as well as manual searches of reference lists of selected publications. As per the protocol and the PRISMA 2009 recommendations articles were retrieved. After the relevance screen, further selection process was conducted based on inclusion criteria: prospective cohort design, population-based sample, structured measurement of depression, focus on depression as a potential risk factor for cancer and report of empirical data. Methodological quality was assessed with a validated checklist. Double-data extraction ensured accuracy. Analysis was by narrative synthesis. **RESULTS:** Out of 9 articles assessed for eligibility, 3 studies provided evidence of a relationship between depression and cancer risk. This overview of the evidence suggests a causal relationship between depression and cancer risk. Although chronic and severe depression is found to be associated with elevated cancer risk, results of studies investigating association between less severe depressive episodes and cancer risk were not conclusive of causal association, but suggestive due partly to methodological heterogeneity. **CONCLUSIONS:** Having mood disorders been prevalent and disabling in nature, these studies provide support to hypotheses about a common biological pathway between depression and cancer and highlight the need to identify the mechanisms to regulate it. It also emphasizes the deleterious effect that depression can have on lifestyle factors which in turn may predispose the individual to develop cancer. **RESEARCH IMPLICATIONS:** Depression may either have a long delayed effect on cancer risk, or it may play a role in combination with known risk factors to increase cancer risk. Future studies can focus on empirical studies to further examine the mechanisms through which emotions and psychological well-being affect our health.

CLINICAL IMPLICATIONS: As depression affects the immune and hormonal system clinicians must be aware about the psychobiological mechanisms under which it operates. Depression may increase the probability that the individual will engage in behaviors that indirectly increase the risk of developing cancer. This awareness should encourage better identification of those at risk and the development of effective interventions to protect them from developing cancer. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-110**Pain and Social Activity in Colorectal Cancer Patients**Miroslava Petkova, Valeri Nikolov, Maya Galabova*Trakia University, Stara Zagora, Bulgaria*

BACKGROUND: Colorectal cancer is among the leading causes of cancer related deaths in men and women across the world. This investigation was carried out to examine whether pain is positively correlated to decreased social activity, anxiety and depression in colorectal cancer patients. The purpose of this study is to also compare pain intensity, anxiety, depression and social activity in two groups of pain patients - colorectal cancer patients and non-cancer patients. **METHOD:** Thirty two (32) patients were examined. The mean age of patients was 64.1 years (SD = 10.6), 56% were male, 52% did not know their cancer diagnosis which was related to colon (42%) and rectum (58%). The second research group consisted of twenty eight (28) patients with chronic low back pain. All patients were assessed based on clinical standards (physical examination, laboratory results, histological diagnosis and analysis of medical records). The methods used were Visual Analogue Scales (VAS), standardized interviews and self-questionnaires – Back Depression Inventory and State-Trait Anxiety Inventory for Adults. **RESULTS:** Twenty nine patients experienced pronounced anxiety because of their pain and 23 patients expressed depressive pain-associated symptoms. Anxiety and depression show significant correlation with pain intensity. There were no significant differences in pain-anxiety and pain-depression correlations between the 2 groups. Most patients reported a decreased activity because of pain. The patients' functioning was examined in the following areas: physical functioning, social functioning, emotional problems and their impact on accomplishments at work or other usual activities and mental functioning. We found significant differences between cancer and non-cancer groups in level of functional activity decreasing especially mental functioning and social activities. **CONCLUSIONS:** The results suggest that experience of pain produced marked levels of anxiety and depression in

both cancer and non-cancer groups. Nevertheless, these patients who had not been diagnosed with cancer had statistically significant higher activity in most areas of life. In the cancer group we found decreased and impaired functioning in every social activity listed in the structured interview (hobbies, seeing friends) and in most cases the decrease correlated significantly with the intensity of the pain. In non-cancer group functional impairment is significant only in respect of physical functioning; nevertheless, there were similar levels of pain intensity in both groups. **RESEARCH IMPLICATIONS:** Future research should investigate the correlation between chronic cancer pain, social support and coping mechanisms. Creation of reliable scales with good psychometric properties and involving more patients in similar research will improve the accuracy and dependability of the obtained results. **CLINICAL IMPLICATIONS:** Research on psychosocial factors related to cancer pain would serve as improved assessment of the subjective nature of pain. In addition research on correlations between cancer, pain and social functioning connected to cultural and economic factors as parts of quality of life will provide new insights into the bigger socio-economic scope. **ACKNOWLEDGEMENT OF FUNDING:** We thank the Trakia University, Faculty of Medicine for the financial support of this project. This study was supported by a scientific grant 7/2009.

P1-111

Cognitive Control Dificit and Distress in Patients With Lymphoma

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BACKGROUND: It is known that effortful cognitive control is necessary for coping with emotional distress. It's obvious that a new diagnosis of cancer and aggressive treatment contribute to the development of depressive and anxious feelings. The aim of this study was to identify the cognitive activity disturbances in association with analysis of the development of affective disorders in lymphoma patients. **METHOD:** Participants were asked to detect grammatical errors in neutral and stressful text fragments. Stressors fragments contained information on emerging lymphoma symptoms and side effects of chemotherapy, as well as related to cancer experience feelings of helplessness and hopelessness. If patients heard a sound signal, they should have reacted to it by pressing a certain button. The average time of the sensorimotor response to sound, the average time of errors searching time in the text was calculated. 20 healthy controls and 32 newly diagnosed patients with different forms of lymphoma participated in this study. **RESULTS:** Patient's search time of errors in stressful fragments was sig-

nificantly longer than in neutral fragments. The reaction time of patients with lymphoma to acoustical signal was also significantly longer than in healthy controls. Correlation analyses revealed an association of lower patient's distress and less fixation time on the stressor fragments. The level of mental rumination in patients and the number of occurred errors during the test "Signal" detected to be positively linked. **CONCLUSIONS:** Patients with lymphoma were found to experience the cognitive activity disturbances when had been exposed stressful information related to the disease. Thus, fixing the attention on the topic of disease is a predictor of the development of affective disorders, including clinical level. These findings suggest that the psychophysiological methods can be used in psychooncology as fast and reliable tools to identify patients with the highest risk of distress after the diagnosis of cancer. More detailed studies of the mechanisms of depression and anxiety in cancer patients are required. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-112

Assessment of Psychiatric and Psychosocial Problems Among Newly Diagnosed Cancer Patients at the National Cancer Institute - Cairo University

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BACKGROUND: This study aimed to assess psychiatric and psychosocial problems secondary to newly diagnosed cancer patients admitted to at the National Cancer Institute, Cairo University, Egypt. A randomized sample of 280 patients newly diagnosed of cancer in the Oncology Inpatient departments was selected. **METHOD:** A descriptive cross-sectional design was used for this study as a research methodology. Quantitative methods were used in this study through using three tools of data collection. The researcher developed the first two tools, while the last one was a ready standardized tool. These were: (1) the Patient Medical Psychosocial Demographic profile, (2) the Developed Mental Status Examination Inventory, and (3) Anxiety /Depression Scale. **RESULTS:** This study revealed that more than half of sample were males (58.7%), the highest percentage of the research sample aged (36–40) years and more than 55 years and the highest percentage of them between illiterate and secondary school graduated. Less than two thirds of the research sample were married (62.3%). Two fifths (41%) had psychiatric and psychosocial problems in different levels. In subscale result, 28.9% had mild depression, 8.2% had moderate condition of depression, 26.2% had mild anxiety, while for 14.7% it was moderate, and for only 7.5 it was sever. **CONCLUSIONS:** This study concluded that nearly two fifths of the study sample had psychiat-

ric and psychosocial problems related to their diagnosis of cancer, the highest percentage of them had mild anxiety/depressive disorder and a few had severe anxiety/depressive disorder. This study recommends integration and rationing psychiatric and psychosocial assessment as an essential element for care of cancer patients to identify their problems and their response to diagnose in order to prevent complications of psychiatric and psychosocial problems. **RESEARCH IMPLICATIONS:** This study used comprehensive bio-psychosocial assessment tool to explore and emphasize the positive and negative effect of every variables around cancer patient; as culture, family component, work, lifestyle etc, on patient's psychosocial status. This directs to study each variables in-depth and its impact on psychosocial status of cancer patients. Also this study consider as the first in Middle East. **CLINICAL IMPLICATIONS:** The use of such tools leads to prevention and early detection of psychosocial problems, emotional problems, and Social Commission, Therefore, the conduct of this study helps to identification and Evaluation of patients strength and need which helping cancer patients to deal with, and prevention of Behavioral complication during the treatment process. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-113

Exploring the Emotional Impact of Research on the Researcher

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BACKGROUND: In recent years, qualitative methodologies have become very popular and represent a new research paradigm in health care. However, the unique set of demands on people involved in these studies such as building a rapport or witnessing emotional stories have been largely neglected, especially in the context of self-care strategies. They pose a challenge for both practitioners as well as novice researchers who may find themselves in a semi-therapeutic relationship without necessary experience. **METHOD:** In this presentation, I will reflect on the emotional impact of doing research in relation to my PhD study which focuses on the experiences of cancer patients and their partners when their bowel cancer recurs. First I will explore the potential challenges of conducting research on sensitive topic. Then, drawing on the current literature and ethical guidelines I will provide a framework which allows thinking about the challenges associated with conducting research on sensitive topics. **RESULTS:** Regardless of previous research experience in cancer care, conducting semi-structured interviews over a period of time with a vulnerable patient group and their partners can be an emotionally difficult task. Challenges

such as establishing a rapport with the participant, dealing with physical and emotional suffering while maintaining professional boundaries will be explored. A number of self-care strategies for researchers at individual, managerial and organisational level will be considered such as a reflective diary, peer support and supervision and how they could be incorporated in the practice. **CONCLUSIONS:** Emotional impact of research on the researcher is an important issue, especially in qualitative research, yet has been largely neglected and needs further attention. Professional guidelines are important in ensuring that research is being conducted in ethical manner, however, they may not be sufficient in dealing with the demands of the work on day to day basis. These are also important to consider when applying for ethical approvals as these issues are being picked up in the ethics committees more and more. Planning and on-going monitoring of the impact on the researcher is vital in ensuring researcher emotional safety. **RESEARCH IMPLICATIONS:** Reflecting on the role of the researcher and emotions is important as it may also have an impact on the quality of data obtained. The presence of emotions in the interview context whether coming from participants or researcher can tell us a lot of the nature of the phenomena itself. Research training should include aspects related to self-care and the ethical guidelines related to managing difficult situations in the interview context. **CLINICAL IMPLICATIONS:** There is a need to acknowledge the potential emotional impact of research on researchers. The well-being of the participant and the researcher are inter-linked and one cannot be considered without the other. Self-care might be a useful concept in thinking about the well-being of researchers in cancer care yet relatively few studies addressed it. Self-care strategies are important to consider and can be easily incorporated into practice. **ACKNOWLEDGEMENT OF FUNDING:** Oxford Brookes University.

P1-114

Health Literacy in Cancer Patients: State of the Art and Future Directions

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BACKGROUND: Adequate health literacy (HL) is important for cancer patients to actively participate in their health care. However, little research has been conducted regarding HL among cancer patients. The objectives of this study were to provide a systematic literature review of instruments used to assess HL in cancer patients and an overview of research questions studied. Furthermore, we propose a framework to measure functional, interactive, critical HL in cancer communication in the process of cancer care. **METHOD:** A systematic literature search using PubMed was independently performed by 2 authors on 8 April 2013. The search string included literacy, specific HL instruments and cancer. The search resulted in 1869 hits. Studies were excluded if they focused on cancer screening, used qualitative interviews instead of a HL instrument to evaluate HL, did not include cancer patients or were only focused on knowledge. After screening of titles and abstract by two authors, 65 full-text papers were reviewed. Reference lists of selected papers were screened for relevant studies. In total, 17 articles were included in this review. **RESULTS:** 6 different instruments (REALM, REALM-R, S-TOFHLA, HeLMS, SBSQ, FCCHL) were used to assess HL, mainly among prostate and breast cancer patients. Three instruments measured objective HL and three measured perceived HL. Four instruments could only be administered by a health care provider or researcher, while two could be self-assessed. Of those 2 instruments, one assessed only functional HL and one appeared to have too difficult items for people with low HL. A diverse set of topics in relation to HL was studied, such as effects on disease stage at diagnosis (2 studies) and differential effects of educational interventions (3 studies). **CONCLUSIONS:** A range of HL measures was used to assess HL among cancer patients. Among these measures was no cancer-specific measure, which might be useful since along the cancer continuum patients may need HL related skills that are specific for cancer patients. Furthermore, no single instrument was currently available that can be used as a self-administered questionnaire assessing objectively all three aspects of HL (functional, interactive and critical). A broad range of research questions was studied, not allowing drawing conclusions on any topic. **RESEARCH IMPLICATIONS:** A cancer-specific self-administered HL questionnaire might be a valuable enhancement on existing more generic HL instruments. To develop such an instrument we have developed a conceptual framework with on one axis the communication needs along the cancer-continuum and on the other axis the functional, interactive and critical HL requirements. For instance, communication needs might include aspects of accessing care, skills to judge treatment options and communicate about the prognosis with the health care provider. **CLINI-**

CAL IMPLICATIONS: We showed that the study of HL in cancer research is still in its infancy. No one single instrument is used which decreases the possibility to compare results. However, the HL of patients is likely to be of great importance in the communication between patients and health care providers, which warrants the need for more research. For this, we need a cancer-specific self-report instrument that is sensitive and valid. **ACKNOWLEDGEMENT OF FUNDING:** NE was funded with grant no. UVT 2010-4743 from the Dutch Cancer Society, The Netherlands.

P1-115

Intellectual Disabilities and Cancer: A review of the Current Literature

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BACKGROUND: As the life expectancy of those with an intellectual disability increases, the likelihood of receiving a cancer diagnosis (or, indeed, that of other chronic illnesses) is raised. An evidence base on the psychosocial, informational and supportive care needs of this specific patient group is emerging, though it is still in its infancy. This review aims to synthesise the literature published to date, and to make suggestions regarding the future direction of research in this area. **METHOD:** A non-systematic, scoping review of the literature exploring the psychosocial, informational and supportive care needs of people with an intellectual disability and cancer was conducted with the view to determining whether a full systematic review was required. A predefined inclusion criteria aided study selection. Databases were hand searched with the view to identifying relevant literature, reference lists were also hand searched to ensure that all relevant literature was included. A total of 24 papers were identified as being relevant to the review. **RESULTS:** This small literature reports some pertinent findings. Pre-diagnosis, people with an intellectual disability may not report their cancer symptoms to their caregivers, thus potentially delaying diagnosis. Suggested causal reasons for this in women later diagnosed with breast cancer include embarrassment at discussion of intimate and sexual topics. Pictorial aids can enable patients to indicate the location and intensity of pain, though other communication deficits remain. Post-diagnosis, the lack of accessible cancer information explaining symptoms and treatment options for those with an intellectual disability has been shown to increase anxiety and uncertainty. **CONCLUSIONS:** This study raises important questions about how cancer care is provided to those with an intellectual disability, both prior to, and after

receiving a diagnosis. Although the results have significant implications, they are based on a small literature base; much of the reported data has been gathered either using proxy reporting or by interviewing people with an intellectual disability who do not have cancer. Psychosocial oncology places high value on talking directly to cancer patients and listening to their needs to inform service provision and policy setting (Macmillan, 2007); similar strategies should be adopted for patients with an intellectual disability. **RESEARCH IMPLICATIONS:** Studies identified in this review tend to focus on a few single aspects of the cancer experience, for instance communication with healthcare professionals, and there are a number of research gaps relating to cancer experiences in those with an intellectual disability. Future research should collect data directly from the person with an intellectual disability. We would also recommend adopting a more multifaceted approach collecting data from caregivers, family members, and a broader range of clinicians. **CLINICAL IMPLICATIONS:** As there has been little research in this area, we have little knowledge about how to best support people with an intellectual disability who have cancer symptoms, or later receive a diagnosis; it is a fair assumption, however, that their needs may not be the same as other cancer populations and need discussing with patients in a sensitive manner. Effective communication between oncology and intellectual disability care teams is essential for best practice care. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-116

Psychosocial Screening Program: Decreased of Distress and Increased Quality of Life

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BACKGROUND: Based on scientific evidence, it is undeniable the importance to recognize distress in cancer patients. The routine screening for distress can orient the clinical care to provide adequate support, providing feedback to oncologists on the quality of their psychosocial care, being helpful to identify the need for improvement efforts. We investigate the course and prevalence of distress over the treatment, verifying the correlation with quality of life (QoL), and examine the effectiveness of psychosocial program. **METHOD:** Two hundred patients answered: (1) Distress Thermometer (DT) and Problem-List (PL) and (2) Functional Assessment of Chronic Illness Therapy-General (FACT-G) at baseline (T1), halfway time point

(T2) and at completion of chemotherapy (T3). After each assessment, all results were discussed with the patients' physician, to establish the best conduct. The conducts ranged from psycho-education, manage the side effects, to referrals. Descriptive analyses were calculated for socio-demographic, illness-related variables, DT, PL and FACT-G prevalence; chi-square and correlation were conducted to explore the effect of the distress course on PL and QoL. **RESULTS:** Proportion of patients experiencing moderate to severe distress (MSD) decreased (T1. 41.5%; T2. 9.1%; T3. 4.4%), being emotional and physical the most problems reported. The QoL mean scores slightly increased (T1. 85.6; T2. 90.4; T3. 92). There were a main effect of distress decreasing overtime ($p = 0.000$), of drop in problems reported ($p < 0.05$), and of QoL increase ($p = 0.000$). MSD were significant related ($p = 0.000$) to PL (T1. $\chi^2 = 77.5$; T2. $\chi^2 = 79.1$; T3. $\chi^2 = 158.5$) and poor QoL (T1. $\chi^2 = 93.4$; T2. $\chi^2 = 311.6$; T3. $\chi^2 = 278.4$). **CONCLUSIONS:** Routine screening for distress followed by personalized discussion between psychologist and oncologist (psychosocial program) resulted in reduction of MSD incidence and of problems-related distress reported, as well as, QoL increased, even under chemotherapy side effects. We observed that this kind of supportive feedback helps not only in identifying problems contributing to MSD, as offering appropriate practical and psychological assistance. This routine offers a viable strategy for ensuring that distress is identified and managed in a timely way. Moreover, we could provide more opportunities for connecting patients to adequate support, resulting in more appropriate referrals. **RESEARCH IMPLICATIONS:** Systematic screening for distress and multidisciplinary discussion was a good way to improve uptake of resources, rather than simplify focusing on screening alone. This routine maybe a key to reduce distress and to improve quality of life, providing equal access to psychological services. Future studies should be conducted to replicate and extend the current finding. As this study recruited patients just from a single cancer center, the study's generalizability to other settings can be reduced. **CLINICAL IMPLICATIONS:** Understanding an individual's level of distress related to their symptoms and illness-related concerns was fundamental to screening, referral, assessment and treatment. Moreover, this routine helped to determine the severity of distress and the appropriate intervention; let patients know more about the psychosocial services and the program available to take care of them, and mainly to encouraged those distressed patients without sufficient motivation for seek help and adequate active treatment. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-117

How is Psycho-Oncological Care Delivered in France: A Nationwide Survey Part 1 - Institutional CareSarah Dauchy^{1,2}, Françoise Ellien^{1,3}, Bénédicte Isquin¹, Cécile Charles²¹*French Society of Psycho-Oncology (SFPO), Paris, France,* ²*Gustave Roussy - Cancer Campus - Grand Paris, Villejuif, France,* ³*Réseau SPES, Champcueil, France*

BACKGROUND: Despite an increasing attention paid to psycho-oncology, little is known in France about the actual institutional or non-institutional care offering. The over 30 year-old French society of Psycho-oncology (SFPO) has conducted a nationwide survey to identify the psychologists and psychiatrists working with cancer patients and describe their organisation and their missions, including training and research. We present here the findings of this survey for the hospital psycho-oncological care offering, for in and outpatients. **METHOD:** The target population is the professionals of psycho-oncology (POP), psychologists and psychiatrists, of all the cancer care hospitals and clinics accredited by the National Cancer Care Organisation. In a two-stage approach, organisations were asked to provide a list of the professionals, who then have been sent the survey by post. The questionnaire includes 50 questions, exploring the following fields: number of POP, experience, duration of work, workload, initial and continuous training, links between professionals, traceability, transmission procedures, care offering, training and research activities, funding. **RESULTS:** 783 care structures answered. 21% had no POP and 41% less than a FTE. 320 of the 1118 identified POP returned the questionnaire (29% response rate). 68% of POP work part time for cancer patients. 15% are initially trained in psycho-oncology but the majority received continuous training. Average time devoted to patients is 80% (20% to families). 66% of POP perform training activity. 21% are involved in research activity, mostly without dedicated time and funding. Links within POP, between POP and supportive care or oncology teams, will be described, as far as transmission of information procedures. **CONCLUSIONS:** Psycho-oncology has been developing in France for 40 years and appears in this survey well developed and integrated in comprehensive cancer care. Standards of organisation and transmission can be identified and will support national recommendations for the organisation of psycho-oncological care. Significant progress remains to be done considering inequalities of access between the different structures and the lack of initial training in psycho-oncology. **RESEARCH IMPLICATIONS:** Time dedicated to research in psycho-oncology could be better identified and

founded in order to allow psycho-oncological research to improve its ability to be published at national or international levels. **CLINICAL IMPLICATIONS:** This survey suggests 2 main development perspectives - inequalities of access to psychological care have to be reduced; the SFPO asks for the integration in the cancer care structures accreditation process of a mandatory psychological care offering, with well defined quality criteria. - the next SFPO congress (Paris, 11–13 december 2013) will be dedicated to psycho-oncology training. **ACKNOWLEDGEMENT OF FUNDING:** This Survey has received funding from the French National Cancer Care Organisation (InCA).

P1-118

How is Psycho-Oncological Care Delivered in France: A Nationwide Survey Part 2 - Non-Institutional CareSarah Dauchy^{1,2}, Françoise Ellien^{1,3}, Bénédicte Isquin¹, Cécile Charles²¹*French Society of Psycho-Oncology (SFPO), Paris, France,* ²*Gustave Roussy - Cancer Campus - Grand Paris, Villejuif, France,* ³*Réseau SPES, Champcueil, France*

BACKGROUND: Despite an increasing attention paid to psycho-oncology, little is known in France about the actual institutional or non-institutional care offering. The over 30 year-old French society of Psycho-oncology (SFPO) has conducted a nationwide survey to identify the psychologists and psychiatrists working with cancer patients and describe their organisation and their missions, including training and research. We present here the findings of this survey for the non-institutional psycho-oncological care offering, as organised within cancer care networks. **METHOD:** The target population is the psychologists of all the French cancer care networks identified by the National Cancer Care Organisation. In a two-stage approach, networks were asked to provide a list of the professionals, who then have been sent the survey by post. The questionnaire includes 28 questions, exploring the following fields: nb of POP, experience, missions, initial and continuous training, links with other professional, traceability, transmission, training and research activities, funding. **RESULTS:** 57 of the 201 healthcare networks returned the questionnaire (response rate 28%). First part of exploration is about employed psychologist. 21/54 networks employ none, 29/54 0.5 to 1 FTE. Most of the time employed psychologists work both as network coordinators and clinicians (for patient psychological assessment and follow-up). Second part describes private psychologists network that exists in 38/54 networks. Public funding for cancer patient psychological care is available for 29/38, mostly for a limited number of

psychological interventions. Links within psychologists and with other non-institutional professionals are explored, as well as training and clinical supervision for private psychologists. **CONCLUSIONS:** In France psycho-oncology is integrated in outpatients comprehensive cancer care and can be public funded even for private professionals. However it remains unequally available, with heterogeneous organisation. Training of professionals, clinical supervision, and multidisciplinary exchanges should be developed and financially supported. The SFPO had published in 2010 guidelines for the organisation of non-institutional psycho-oncology. Significant progress remains to be done for these guidelines to be implemented in order to guarantee for patients and families an equal access to quality and integrated psycho-oncological care. **RESEARCH IMPLICATIONS:** Time dedicated to research in psycho-oncology could be better identified and founded in order to allow psycho-oncological research to improve its ability to be published at national or international levels. **CLINICAL IMPLICATIONS:** THIS SURVEY SUGGESTS 2 MAIN DEVELOPMENT PERSPECTIVES: - inequalities of access to psychological care have to be reduced; the SFPO asks for the integration in the cancer care structures accreditation process of a mandatory psychological care offering, with well defined quality criteria. - the next SFPO congress (Paris, 11-13 december 2013) will be dedicated to psycho-oncology training. **ACKNOWLEDGEMENT OF FUNDING:** This Survey has received funding from the French National Cancer Care Organisation (InCA).

P1-120

Comparison of Two Psychosocial Cancer Care Models for Rural Areas: The P-O-LAND Study

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BACKGROUND: There is some evidence that cancer survivors living in rural areas show greater emotional distress and lower utilization of psychosocial services than urban residents. Therefore, there is an urgent need to implement adequate models of care to remedy urban-rural disparities. Whereas in most states no distinct rural care model exists, in the federal state Rhineland-Palatinate/Germany an area-wide psychosocial care concept was initiated more than ten years ago, but not yet evaluated against usual care. **METHOD:** We defined 2 comparable study regions (one in Rhineland-Palatinate and one in the federal state Baden-

Württemberg) and assessed all institutions and practices which participate in rural psychosocial care of cancer survivors as well as in the care of their family members in both regions. The survey included all psychotherapists, counselling offices, clinics, hospices and peer-support groups of the study regions. Participants filled in a questionnaire regarding their offers to cancer patients, qualification, number of patients/year, and waiting time. All participants were contacted by mail and reminded up to 4 times. **RESULTS:** 208 questionnaires were sent to mental health specialists; the response rate was 80% ($n = 167$). Fifty-nine questionnaires were sent to counselling services; the response rate was 81% ($n = 48$). Sixty-five percent of the psychotherapists confirmed to be involved in the care of cancer patients with a mean number of 6 cancer patients/year/practice. While the rates of involvement were comparable between both rural areas, the number of treated cancer patients was twice as high in Rhineland-Palatinate (8 vs. 4; $p = 0.0205$). The same was true for counselling services ($p = 0.0109$). **CONCLUSIONS:** Access to comprehensive care for cancer survivors in rural communities appears to be facilitated by the community-based initiative described and investigated in this study. Area-wide regional counselling offices and timely limited trainings for health professionals may reduce barriers for adequate psychosocial care in terms of improved transition and coordination. **RESEARCH IMPLICATIONS:** The question of reducing disparities in psychosocial cancer care regarding place of residence has seldom reached scientific attention. Our study shows that it is feasible to determine and compare psychosocial care structures in rural areas. As a next step we will survey all doctors of the study regions regarding transition problems to psychosocial care. In addition, we will assess psychosocial distress and needs in a sample of cancer survivors and their family members. **CLINICAL IMPLICATIONS:** If results of the P-O-LAND study further confirm positive effects of the Rhineland-Palatinate care model, efforts such as these could be replicated in other rural communities and may impact the care and quality of life of survivors with many types of cancers. Findings from this study will inform clinicians as well as health care planners how to succeed in providing better and more comprehensive care to patients in rural areas. **ACKNOWLEDGEMENT OF FUNDING:** The study is supported by the German Ministry of Health.

P1-121

Creating a New Public Psycho-Oncology Service in a Private Hospital

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BACKGROUND: We will describe the development of psycho-oncology, as a public health service in a private hospital. The work with the staff, the initial relationship with the oncologists, nurses and patients, will be described. **METHOD:** "Assuta" hospital is a private hospital, with a large clinical and radiotherapy departments. Until 2012 no psycho-oncology service was available to meet the patients and staff needs. With the growing awareness for such a service, a preliminary psychological work was initiated. Focus groups were made available for the staff members, patients and families. **RESULTS:** After the pilot got good comments from staff and patients the service begun to work and expanded through the year to include groups for patients, group for staff, individual and family intervention and seminars for the group of psychologists. In a short time the psycho-oncology unit became an integral part of the oncology center. Other wards in the hospital are showing interest in the service, and plans for the future are being made. **CONCLUSIONS:** Creating a public service of psycho-oncology within a private hospital is not obvious and present many challenges. Describing the needs and searching for the answers are the first step. It follows by consultations, journal clubs and constant feedback to the staff uncertain of relevance of our work. **RESEARCH IMPLICATIONS:** A psycho-oncology unit is necessary for creating basis for research. One of the plans for the future is to develop a research team. It is pity that no research was done before the entrance of the unit to assess the contribution of such a change. **CLINICAL IMPLICATIONS:** Relevance of communication and evident based research of the psycho-oncology unit to all the oncology staff. Relevance of the effectiveness of care and psychological intervention for patients diagnosed with cancer and their families within the heterogeneous Israeli culture. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-122

Psychiatric Intervention for Hospitalized Patients in a Portuguese Cancer Center - Evaluation & Evolution

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BACKGROUND: The prevalence of distress and psychopathology in cancer patients is consistently estimated in 35–40%. International guidelines recommend the implementation of Psycho-Oncology Programs to achieve better screening and earlier treatment of patients' psychiatric symptoms. IPOLFG is the main Portuguese Cancer Center (285 beds). Last 7 years, Consultation-Liaison Psychiatry Service (CLP) has been working within multi-

disciplinary teams to achieve excellence in Psycho-Oncologic care. Authors analyzed CLP data from 2006 to 2011 to evaluate IPOLFG Psycho-Oncology Program. **METHOD:** This study analyses data from CLP intervention in 2 periods of 12 months with a 4 years gap: 2006/2007 = 249 patients (pts) versus 2010/2011 = 446 pts. From the information system database, CLP and pts' medical files, we collected: Socio-demographic (gender, age, marital status, residence), Oncologic (admission ward, site and stage of disease) and Psychiatric data (lag-time between request and 1st psychiatric evaluation, diagnosis, type of intervention, referral). Psychiatric diagnosis followed non-structured interview, DSM-IV-TR and ICD-10 criteria. Statistical procedures included descriptive statistics, frequency accounts and correlations. **RESULTS:** Epidemiology, lag-time answer, treatment and follow-up showed no significant variation. Psychiatric Referral Rate rose 2.5 to 4%; no. of requests/year rose from 249 to 446. 2006/07: CLP intervention was mainly within medical wards (72%); 2010/11: medical versus surgical ratio got balanced (57% vs. 43%). IPO median time of hospitalization per patient: 8.8 (2006) versus 6.6 days (2011). CLP patients' hospitalization time is consistently higher: rose from 2x, 2006 to 4x, 2011 (16.2 vs. 26.6 days). Psychiatric Diagnosis varied significantly (2006/07 vs. 2010/11): Adjustment Disorders: 32% versus 51%; Mood Disorders: 31% versus 13%, Delirium: 13% versus 17%. **CONCLUSIONS:** The Surgical Departments of Head & Neck, General Surgery and Gynecology have significantly increased their psychiatric referral rate. Wherever the site of cancer and the Service of admission, CLP team has been assessing and treating less severe psychiatric disorders. We acknowledge that we are achieving some of Psycho-Oncology Program main goals: rise of the psychiatric referral rate, accuracy in referral, earlier distress screening whether in medical or surgical Departments, CLP answer lag-time to request less than 24 h. **RESEARCH IMPLICATIONS:** To better evaluate the efficacy of the Psycho-Oncology Program in the future we will use instrumental screening and diagnosis tools, control pain and compare with a control group. **CLINICAL IMPLICATIONS:** Last 7 years, CLP has been implementing a Psycho-Oncology Program based on international guidelines although tailored for Portuguese patients' needs and adapted to professionals knowledge and tradition. The Psycho-Oncology Program bases on intensive side by side CPL work, teaching of Psycho-Oncology key themes and training skills within multidisciplinary teams. The following step will be the routine usage of the Thermometer Distress in our wards in order to assess distress as the 6th vital sign. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-123**Quality Treatment for PCa: A Patients' View**Hans Ransdorp*prostaatKankerStichting, Bussum, The Netherlands*

BACKGROUND: Every year prostate cancer (PCa) is diagnosed to thousands of men around the world. As it happens most often when cancer is diagnosed, fear of death, anxiety, and uncertainty may emerge; moreover, PCa offers several opportunities of treatment with the same level of estimated efficacy, which represents both an opportunity and a burden. The aim of this work is to discuss how the best care path can be defined for each individual and unique patient. **METHOD:** The challenge to bridge the gap between PCa patients' needs and biomedical research and clinical practices has been sustained by the advocacy activity of Europa Uomo for many years. The goals of Europa Uomo include: finding ways and means to promote quality of life for PCa patients and their families; promoting the dissemination and exchange of evidence-based and up to date information on PCa; promoting multi-professional care and appropriate medical infrastructure. The arguments here presented are the outcome of the continuous and widespread advocacy work carried on by Europa Uomo which includes discussion tables, expert panels and patients' feedback. **RESULTS:** The proposed perspective is centred on the idea that patient care should be redefined by considering the treatment options not only through the doctor's eyes, but mostly according to the profile of the patient, including: the role that partner or family want to play on his behalf, the minimal quality of life desired, wishes regarding the end of life, cultural background, psychological and social condition. The best treatment option needs to be determined not only based on clinical and physicians' decisions, but also according to the patient's profile and priorities in order for the patient to make an informed choice. **CONCLUSIONS:** Following the proposed care path, the patient dealing with a PCa will have a clear and easy-to-follow care path which starts from the availability of information about the clinical centre with high standards of care, and proceeds with an integrated, multidisciplinary patient management, involving different professionals. The focus on the patient's profile and priorities, along with good standard quality of treatments, is likely to promote patients' wellbeing in the short and long term. **RESEARCH IMPLICATIONS:** The implementation of a high quality treatment model for PCa care opens crucial questions to answer by researchers of different disciplines, mainly concerning the clinical and organizational issues that such a model brings. **CLINICAL IMPLICATIONS:** The proposed model will strongly impact on the wellbeing of patients with PCa, as it takes into

account the patient as a whole, including personal and social aspects, and not only as an individual to treat for cancer. Moreover, the care path described facilitates the patient's management also from the physicians' perspective, since it proposes a collegial discussion of each clinical file and promotes a better evaluation of pros and cons of the treatment options. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-124**The Patient Oriented Psychosomatic Model for Oncohematology**Anatoly Zhirkov, Anastasija Yakovleva*St Petersburg State University, Saint Petersburg, Russia*

BACKGROUND: In the present research we applied stress theory to elaborate a patient-oriented model of disease for use in clinical practice. Specifically, we addressed the case of leukemia which we understood as both psychological and somatic disorder. We hypothesized that psychological and hematological signs in patients are correlated and that for various forms of leukemia different indicators are interrelated. In the conclusion we described our findings using the original concept of psychosomatic harmonization. **METHOD:** We analyzed data on 78 patients of specialized Hematological Units with chronic myeloid leukemia (CML) or lymphocytic leukemia (CLL) diagnosed within 6 months prior to the study. Among the studied patients, no significant cognitive impairments or symptoms suggesting major psychopathology were found. They received standard chemotherapy and no other treatment during the study. Patients were personally invited to participate in the study, and everyone signed an informed consent. The questions battery for psychological survey consisted of DC, HADS, BDI, SCT, and SFL. Then we conducted statistical analysis using psychological survey data, standard hematological signs, and signs from the IPOS standard. **RESULTS:** Patients with CLL and CML showed different patterns of psychological symptoms. 51% of CLL patients and only 37% of CML patients were found to be distressed. 46% of CLL patients and only 24% of CML patients were characterized by the increased levels of self-concept. The depression level was higher at CLL patients than at CML. Correlation analysis revealed connections from 0.675 to 0.841 between some psychological and hematological signs. For CLL and CLM groups they were different in magnitude but remained significant. The highest correlation was found between Internality to family and the number of lymphocytes for CLL patients. **CONCLUSIONS:** Nowadays the concept of psychological stress is often used for the evaluation of psychological status of oncology patients

whereas hematological parameters of physiological stress are used less often. This situation is partly caused by the differences in approaches used by psychologists and hematologists respectively. Our results, however, show high correlations of psychological and somatic signs in oncohematology patients. Such results lend substantial support for the proposed theoretical model which combines psychological and somatic parameters to describe patient's condition. We argue that this model can help psychologists, hematologists, and nurses to design more effective plans for patient-oriented treatment. **RESEARCH IMPLICATIONS:** As a result of our study, we found empirical support for the hypothesized interrelationship between patients' psychological and somatic parameters. Therefore, we argue that psychological and somatic factors should be addressed simultaneously in order to get complex picture of the disease. For instance, stress theory can be an adequate tool for the interdisciplinary medico-psychological research in oncohematology. We also believe that found relationships between hematological and psychological signs need further research. **CLINICAL IMPLICATIONS:** Gathering from our results, we suggest that the interrelationship between psychological and somatic factors should be taken into account in clinical practice. We think that interdisciplinary medico-psychological approach can help to better understand patients' conditions. Additionally, it can lead to elaboration of patient-oriented plans combining pharmacological treatment and psychosocial support. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-125

Body Image Distress Among Breast Cancer Women on Chemotherapy

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BACKGROUND: Body image distress is common in breast cancer patients resultant from the breast cancer itself and/or the breast surgery. This study aims to explore the level of body image distress among breast cancer women on chemotherapy. **METHOD:** It is a cross-sectional study conducted in an out-patient Oncology Unit. Every consecutive post-operative breast cancer came for chemotherapy was invited into the study. The socio-demographic and clinical profiles were obtained. Each of them self-rated their level of body image distress using the Breast-Impact of Treatment Scale (BITS)

with other questionnaires Hospital Anxiety and Depression Scale (HADS) and Rosenberg Self-esteem Scale (RES). **RESULTS:** A total of 70 women with mean age of 49.5 + 8.8 years participated in the study. 10% of the women had mastectomy with reconstruction, 60% had mastectomy without reconstruction and 30% had lumpectomy. The mean duration of post-surgery was 22.0 + 33.4 months. The mean score for BITS was 22.4 + 17.1. Of all, 38.6% was categorized as "distress case" where 27.1% had moderate and 11.5% had severe distress levels. BITS was significantly correlated with HADS but not with RES. **CONCLUSIONS:** One-third of the post-operative breast cancer women on chemotherapy had body image distress. The distress was associated with anxiety and depression. **RESEARCH IMPLICATIONS:** This study can be expanded to a larger number of subjects and prospectively to follow-up the cohort for 1 to 5 years to see the trend of changes in the level of body image distress. **CLINICAL IMPLICATIONS:** The high level of body image distress cannot be overlooked. The surgeons and oncologists should be aware the risk of this psychological problem and to work closely with the mental health workers. **ACKNOWLEDGEMENT OF FUNDING:** Funding from University Malaya Research Grant (UMRG 296/2011).

P1-126

Health Related Quality of Life (HRQOL) and Side-Effects in the Course of Low-Dose Interferon-Alpha Therapy in Malignant Melanoma - in Comparison to a Control Group Without Interferon-Alpha

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BACKGROUND: In melanoma patients the reported Health Related Quality of Life (HRQOL) is generally high. A decrease in HRQOL is however often found in association with adjuvant treatment with Interferon-alpha (IFN- α). Although several studies report on IFN- α side-effects and large randomized controlled trials often accompany their effectiveness evaluation with the assessment of HRQOL, the combined analysis of the course of relevant side-effects, i.e. fatigue and depression and HRQOL under low-dose IFN- α therapy is still insufficiently studied. **METHOD:** The purpose of this study is to investigate whether patients under low-dose IFN- α therapy report an increase in side-effects accompanied with a lower HRQOL than a control group of patients with treatment indication

but without having received the treatment. For that purpose the course of HRQOL (EORTC QLQ-C30), fatigue (EORTC FA-13) and depression (HADS-D) are assessed over 6 months in consecutively recruited melanoma patients (treatment group $N = 48$, control group $N = 72$). With a generalized linear model (GLM) approach the 2 groups are compared over three assessment points with global HRQOL, fatigue and depression as dependent variables. **RESULTS:** Unexpectedly, the GLM models showed no global HRQOL deterioration after IFN- α initiation in the treatment group. A significant interaction effect between the groups over the 3 assessment points was however found due to an increase in HRQOL in the observation group. Physical fatigue increased significantly in the treatment group after IFN- α initiation and slightly decreased in the observation group over the assessment period of 6 months. The course of depression symptoms was not significantly different between the groups. **CONCLUSIONS:** Patients under low-dose IFN- α seem to primarily suffer from physical side-effects including physical fatigue, rather than psychiatric side-effects. This suggests lower psychiatric toxicity of low-dose therapy in comparison to the high-dose regimen, with higher depression rates reported in various studies. Furthermore the hypothesis of a global HRQOL deterioration in the IFN- α treatment group - as found in other studies - was not supported by our data. HRQOL differences between the groups are caused by an improvement of HRQOL over time in the observation group. **RESEARCH IMPLICATIONS:** Our findings underline the role of physical fatigue in the adjuvant treatment with IFN- α . In further research on IFN- α fatigue should be carefully assessed in distinction to depressive symptoms, which seem to be less prevalent than expected. The absence of a global HRQOL deterioration under IFN- α should be confirmed by further randomized controlled trials. More detailed insight into the association of specific side-effects with HRQOL would be desirable. **CLINICAL IMPLICATIONS:** Based on our data we believe fatigue to be the biggest challenge for patients' HRQOL under low-dose IFN- α treatment. Thus patient information on side-effects should educate patients on fatigue and its management and clarify the difference between fatigue and depression. The negative impact of IFN- α on patients' HRQOL reported in other trials is challenged by our findings, which might indicate that low-dose IFN- α is better tolerated than expected. **ACKNOWLEDGEMENT OF FUNDING:** We thank MSD Pharma for co-funding this research project.

P1-127

Anxiety Symptoms in Hospitalized Haematological Patients

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BACKGROUND: Haematological malignancies are life-threatening situations that could potentiate the emotional deregulation, and psychological suffering. The patients undergo invasive treatments, as chemotherapy and bone marrow transplant, and face a real threat to their lives. Our Aim is to study the prevalence of anxiety symptoms in haematological patients. We also will compare with two control groups (a healthy volunteer group and systemic lupus erythematosus patients). **METHOD:** 83 sequential haematological patients were admitted in a general university hospital, with an average age of 43.85, 51.8% were male, 55% had leukaemia diagnosis and 26% had lymphoma diagnosis. SLE patients ($n = 89$) were assessed in a specialized autoimmune consultation, and presented an average age of 40.79. The Healthy volunteer control group was constituted of 31 individuals with a mean age of 39.48. Haematological patients were observed by a psycho-oncology team (NIPSO), and were psychologically assessed by means of TAS-20, HADS and a socio-demographic and clinical questionnaire. The same instruments assessed the other groups. **RESULTS:** We found a significant prevalence of anxiety symptoms (36.2%) in haematological patients. However, we did not find a significant difference between the healthy control group. SLE patients exhibit higher levels of anxiety symptoms. For depressive symptoms, we found significant statistical differences between haematological patients and the healthy control group, but we did not find for the SLE group. Anxiety symptoms were positively correlated with alexithymia. We did not find significant statistical differences between anxiety symptoms and stage of the disease, or clinical factors. **CONCLUSIONS:** We found a prevalence of anxiety symptoms in hospitalized haematological patients that underline the feeling of threat these patients face. We did not find statistical differences with clinical factors. **RESEARCH IMPLICATIONS:** In future research we should deepen our knowledge in these field, to better understand the suffering and psychological trauma lived by these individuals. **CLINICAL IMPLICATIONS:** This study underlines the importance of specific tailored size interventions for these patients, who present several challenging problems that need to be taking in consideration when helping to deal the psychic and physical suffering. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-128

The Evidence-Practice Gap in Oncology: Are We Contributing to Implementation Science?

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BACKGROUND: The past decade has seen significant improvements in cancer survival. However, concern about disparities between best-evidence and the care provided to cancer patients persists. Given increased focus on dissemination and implementation research, it would be expected that publications focused on examining evidence practice gaps in oncology would have increased over time. Using bibliometric methods, this review examined the number and type of publications examining evidence-practice gaps in oncology in 2000, 2005 and 2010. **METHOD:** Medline was searched for the three time points of interest using MeSH headings and keywords. Eligible papers were those that examined evidence-practice gaps in oncology and were published in English. Papers meeting eligibility criteria were coded as data-based or non-data based, with all data based papers were further classified as: (i) descriptive studies documenting an evidence-practice gap or barriers to addressing an evidence-practice gap; or (ii) intervention studies examining strategies to reduce an evidence practice gap. The cancer type examined in all data-based studies and the design used in intervention studies were also coded. **RESULTS:** 166 relevant papers examining the evidence practice gap in oncology were identified. The number of publications increased over time. The majority were data based publications, however less than 10% of these were intervention studies which examined the effectiveness of strategies to reduce discrepancies between best evidence and clinical practice. Only one study was a randomised controlled trial. The majority of studies examined evidence-practice gaps in breast cancer care. **CONCLUSIONS:** Effective implementation of evidence into practice necessitates that methodologically rigorous research identifies where evidence-practice gaps exist, then develops and tests interventions to identify optimal strategies to close the gap. Despite significant investment in clinical research, little research effort has gone to measuring and intervening to close evidence practice gaps in oncology over the last decade. There is a clear need for further methodologically rigorous intervention studies, and studies focusing on high burden or under-served cancers. **RESEARCH IMPLICATIONS:** Developing and implementing research to reduce evidence practice gaps in oncology poses a number of methodological challenges. The involvement of health

behaviour scientists, healthcare providers and policy makers is imperative if high quality and relevant research is to be produced. **CLINICAL IMPLICATIONS:** Bridging the evidence practice gap represents a feasible, timely and effective method of improving important outcomes for cancer patients. Misuse, underuse and overuse of treatments will continue unless there is greater commitment to research which focuses on the translation and implementation of advances in clinical oncology science. **ACKNOWLEDGEMENT OF FUNDING:** This review was supported by a Strategic Research Partnership grant between the Cancer Council New South Wales and the Newcastle Cancer Control Collaborative (New-3C).

P1-129

Irrationality and Response Expectancies: Impact on Chemotherapy Induced Side Effects and Quality of Life in Breast Cancer Patients

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BACKGROUND: Postchemotherapy grade 2–3 gastrointestinal and fatigue side effects continue to be common and may affect compliance to cancer treatment in spite of antiemetics. The aim of the present study was to investigate the predictive value of expectancies in above cited chemotherapy side effects, catastrophizing chemotherapy side effects, irrational beliefs regarding the intensity of chemotherapy side effects, emotional distress, general wellbeing and quality of life in breast cancer patients. **METHOD:** The study was prospective, performed on 32 women receiving neoadjuvant chemotherapy for breast cancer hospitalized in MEDISPROF Oncology Day-hospital- Cluj Napoca. Chemotherapy was anthracyclines and taxane based and antiemetics used were according to recent ASCO/ESMO guidelines for these drugs. The patients completed questionnaires (QLQ-C30, QLQ-BR23, POMS, ABS II, VAS, CSSCS) for each variable described above before / after each cycle of chemotherapy and weekly home. **RESULTS:** Response expectancies about chemotherapy side effects (grade 1–3 nausea, vomiting, fatigue, emotional distress) significantly predict their presence after chemotherapy ($p < 0.05$). General irrational beliefs significantly predict the presence of emotional distress before chemotherapy ($p < 0.05$). Catastrophizing secondary symptoms significantly predict the presence of chemotherapy side effects ($p < 0.05$). **CONCLUSIONS:** Response expectancies in breast cancer patients undergoing neoadjuvant chemotherapy regarding chemotherapy grade 1–3 induced side effects (nausea, vomiting, fatigue and emotional distress) and general distress prior to chemotherapy predict levels of functionality, symptomatology and side effects.

The results suggest that psychological intervention focused on response expectation and irrational beliefs might be effective in reducing emotional distress and chemotherapy induced side effects. ACKNOWLEDGEMENT OF FUNDING: None.

P1-130

International Variation in Breast Surgeons' Attitudes Towards Prophylactic Surgeries and Intensive Screening- Comparison Between France, Germany, The Netherlands and The UK

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BACKGROUND: Different options may be discussed with a woman with a BRCA mutation to manage her increased risk for breast/ovarian cancer, consisting of either intensive surveillance or prophylactic mastectomy (PM) and/or prophylactic oophorectomy (PO). After they have learned about their high risk, women are counseled on risk reducing strategies by, amongst other professionals, breast surgeons (BS). In a study amongst BS in France, Germany, the Netherlands and the UK we investigated their attitudes towards prophylactic surgeries. **METHOD:** In order to examine differences in attitudes, we have analyzed data from a European survey of cancer risk communication (InCRisC-study). The InCRisC study was a postal survey with a self-administered questionnaire carried out in 2009–2010 amongst BS in 4 European countries (UK, France, The Netherlands and Germany). In total, 1221 BS (37%) completed the questionnaire. **RESULTS:** French and German BS reported less positive attitudes towards PM as compared to BS from the Netherlands and the UK. Similarly, approximately 47% of the German and 79% of the French BS were of opinion that PO should be an option for an unaffected BRCA1/2 mutation carrier from the age of 40 years, as compared to 98% and 92% of the BS in the Netherlands and the UK, respectively. Furthermore, French and German BS were more likely to perceive access to increased surveillance and screening and increase of life expectancy due to screening as a benefit of predictive testing. **CONCLUSIONS:** These results demonstrated international differences in breast surgeons' attitudes towards prophylactic

surgeries and screening in unaffected female BRCA1/2 mutation carriers from the age of 40 years. This finding might reflect that different policies are adopted regarding the counseling of prophylactic surgeries and screening. As the clinical evidence should be the guiding principle in care, it would be interesting to know the survival rates associated with each combination of preventive strategies. **RESEARCH IMPLICATIONS:** Although there may be cultural differences in professionals' attitude towards prophylactic surgeries, the clinical evidence should be the guiding principle. Consequently, it would be interesting to know the survival rates associated with each combination of preventive strategies, which would help to give women all the information required for their decision making to be autonomous and well informed. **CLINICAL IMPLICATIONS:** In the context of the uncertainty about the effectiveness of intensive screening, non-directive counselling and informed decision making about prophylactic surgeries and screening is essential. **ACKNOWLEDGEMENT OF FUNDING:** The international study was supported by the German Bundesministerium fuer Bildung und Forschung (BMBF, Federal Ministry of Education and Research), contract number 01GP0617.

P1-131

Factors Influencing Functioning at Work After Cancer: A Focus Group Study With Cancer Survivors and Health Care Professionals

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BACKGROUND: Due to earlier diagnosis and improved treatment, an increasing number of adult cancer survivors (CSs) are living with cancer as a chronic disease. Although 30% to 90% of those diagnosed with cancer return-to-work (RTW) following treatment, the risk of unemployment and early retirement is increased in the years after cancer treatment. To date, little is known about the factors influencing health-related work functioning (WF) over time among CSs who returned to work. **METHOD:** Four focus groups were conducted to get more insight into WF in the post-RTW phase: three with CSs who resumed work after cancer diagnosis ($n = 22$, in various stages of re-integration) and one with (occupational) health care professionals (HCP, $n = 7$). Research questions

were (1) Which factors influence functioning at work? and (2) Did the meaning of work change after cancer? **RESULTS:** Physical (e.g. fatigue), cognitive (e.g. concentration) and psychological aspects like coping style, acceptance, insecurity regarding work and health were mentioned by CSs and HCPs as factors affecting WF. Moreover, social support (from colleagues, employer, occupational physician, partner) and work-related factors (e.g. job control and work accommodations) were considered important for WF. CSs also mentioned that feelings of guilt towards colleagues influenced their WF. Although work has a different meaning in terms of changed priorities after cancer diagnosis, work still remains a very important factor for many CSs. **CONCLUSIONS:** This focus group study identified factors related to WF in employees after cancer diagnosis, both from the CSs' and the HCP perspective. Factors that were mentioned as most impairing WF were work-related, psychosocial and/or medical. Having had a cancer diagnosis influenced WF, but work remains an important aspect of life. The results provide direction for actions to improve WF and to maintain stay-at-work. **RESEARCH IMPLICATIONS:** The results can be used to elaborate a comprehensive model for "Work functioning among CSs", based on the Cancer & Work model by Feuerstein et al. 2010. Future research should aim at examining the relative importance of these factors. It is also important to investigate whether and how these factors change when CSs have returned to work for an extended period of time. **CLINICAL IMPLICATIONS:** In this study, we identified factors for clinical practice. These factors include fatigue and cognitive problems, insecurity and maintaining contact with colleagues and supervisor during treatment. As indicated above, evidence for the importance of these factors for WF at a group level should be established in future research, as are effective strategies to address these factors. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the Alpe d'HuZes Foundation, as part of the research program 'Living (together) with cancer'. The study contributes to the mission of the Dutch Cancer Society 'To enhance the quality of life in people with cancer'. The study is conducted in collaboration with 365/ArboNed, a large Occupational Health Service.

P1-132

Dispositional Optimism in Breast Cancer: Relations with Disease-Related Quality of Life

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BACKGROUND: Quality of life in cancer is influenced by many medical and psychosocial variables.

From the point of view of the positive psychology, optimism could be considered as a personality or reaction/coping variable. This study assesses the possible relationship between optimism and quality of life in breast cancer patients. Our purpose is to know which aspects of quality of life are more related to dispositional optimism, to improve, when necessary, the adaptation to the medical situations. **METHOD:** 50 women with breast cancer between 30 and 67 years (mean age 50.6 years) answered individually about their current state in 27 different quality of life aspects (with the QL-CA-Afex questionnaire) and a dispositional optimism/pessimism test (LOT-R of Craven et al.) in a non-profit cancer organization setting. All participants signed a previous agreement. Results show that 90% got chemotherapy after a mastectomy (60%) or tumorectomy (30%) procedure. In free-disease interval were 44% and 56% in a treatment phase of the disease, predominating the complementary treatment after surgery (14 patients). A trained psychologist applied the instruments. **RESULTS:** Findings revealed a negative relationship between optimism and all the 27 aspects of quality of life. Mean comparisons of quality of life and optimism taking into account socio-demographic and medical variables (T-tests), provided no significant differences between groups. Correlations (Pearson) between dispositional optimism and quality of life suggest that women with a higher total score of dispositional optimism displayed significantly ($p < 0.05$) less physical symptoms and emotional difficulties. Furthermore, pessimism significantly correlated with loss of quality of life in the family and social subscale ($p < 0.05$) and in emotional subscale ($p < 0.01$). **CONCLUSIONS:** In congruence with previous reports, optimism is significantly related to many aspects of quality of life. Women with breast cancer with high dispositional optimism feel less anger, less pain, have less difficulties in their movements, feel less tired, sleep better, go on with their home tasks, feel more illusion and less fear. But in some aspects, like social function or fatigue, it seems more important not being pessimistic than being optimistic. Moreover, objective conditions, e.g., of being or not in a certain active stage of illness and related treatment do not alter the tendency of being optimistic or pessimistic. **RESEARCH IMPLICATIONS:** The results indicate that the relationship between dispositional optimism and quality of life is complex. It appears that optimistic patients are less vulnerable to the consequences of the disease, but it is also possible that optimists perceive more opportunities to receive support and to use resources and therefore recover before the loss of quality of life associated with disease conditions. Future research needs to examine the relationship between dispositional optimism and optimism as coping strategy. **CLINICAL IMPLICATIONS:** Dispositional optimism appears to protect the

quality of life of women with breast cancer. Pessimism seems to facilitate the loss of quality of life related to health status. Since these are not always mutually exclusive aspects, in the clinical practice is necessary to evaluate both optimism and pessimism. A strategy based on evaluating both trends would facilitate to identify preventively and help patients at the different phases of the disease. **ACKNOWLEDGEMENT OF FUNDING:** None.

P1-133

Relation Between Perceived Threat and Depression Among Cancer Patients: The Moderating Role of Health Locus of Control

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BACKGROUND: Depression has been studied as a major psychological reaction to cancer. There is ambiguity in the literature concerning the relation between levels of depression among cancer patients and objective aspects of the illness (e.g. stage). The goal of the current study was to investigate the relation between levels of depression and both objective and subjective aspects of the illness and to assess the role of health locus of control and social support in these relations. **METHOD:** 59 cancer patients were recruited from a major cancer center in Israel. Participants were evaluated on standardized instruments measuring: Depression, Perceived threat of the illness, health locus of control and social support. **RESULTS:** Levels of depression were found to have positive significant correlation to perceived threat of the illness and significant negative correlation to both social support and internal health locus of control. There was no correlation between depression and objective aspects of the illness. Internal locus of control was found to be a significant moderator of the relation between perceived illness threat and depression: relation between depression and perceived threat was weaker given higher levels of internal locus of control. **CONCLUSIONS:** Subjective aspects of the disease are highly relevant in understanding psychological distress among cancer patient. These aspects are not directly correlated to objective aspects of the illness but rather to subjective psychological factors. Internal health locus of control might have negative impact upon both depression and perceived illness threat and the relation between these two variables. Patients with internal locus of control might be more able to utilize social support than patients with external locus of control even though social support might be considered as

an external resource. **RESEARCH IMPLICATIONS:** There is a need to understand the relation between personal and inter-personal aspects of the patients and perceived illness threat. Based on further research the notion of perceived threat might be incorporate into a larger model of coping. More research is needed in order to understand the relations between different aspects of health locus of control (internal, external, destiny/faith) and psychological distress. **CLINICAL IMPLICATIONS:** Both physicians and psycho-oncology teams need to consider perceived illness threat and not only objective factor of the illness while consulting patients. Encouraging patients to find social support resources might have both direct impact upon depression and indirect impact through changes in the perceived threat of the illness. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-1

Depressive Disorder in Adult Cancer Patients Referred to Psycho-Oncology Service in a Tertiary Care Cancer Institute in a Developing Country: Clinical Profile, Interventions Used and Outcome

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BACKGROUND: Studies report prevalence of major depressive disorder between 5–15% in cancer patients. There are few reports of outcome studies of depressive disorders in cancer patients in developing countries. The purpose of this study is to identify the demographic and clinical profile, severity of depressive disorder, interventions used and outcomes in those adult cancer patients diagnosed with depressive episode/disorder following referral to psycho-oncology service in a tertiary care cancer institute in a developing country. **METHOD:** A retrospective analysis of case records of all new patients referred to the in-house psycho-oncology service of a tertiary care oncology hospital from 1 January 2011 to 31 December 2012 and diagnosed with Depressive Episode or Recurrent Depressive disorder (by clinical interview for patient assessments using International Classification of Diseases Version 10 Chapter V) was undertaken. Patient characteristics, cancer diagnosis, past and family psychiatric history, severity of depression, interventions used and outcome (using Clinical Global Impression scales, CGI) were recorded. Relevant statistical analysis using Statistical Package for Social Sciences version 18 was done. **RESULTS:** Of 770 new adult cancer patients referred, 59 were diagnosed with Depressive Episode or Recurrent Depressive disorder (7.7%), including 37 females and 52 outpatients. The most frequent cancer sites were breast (19), gastrointestinal (12) and head and

neck (10). Half the patients had a past history but only 8 had a family history of psychiatric illness. Psychological interventions were used in all patients. Psychopharmacology was required for 45 patients of whom 37 were prescribed an antidepressant. Of 45 patients whose follow up data were available, there was improvement on CGI in 31 versus no change in 14 patients ($p < 0.001$). **CONCLUSIONS:** Depressive episode/disorder was seen in 7.5% of adult new cancer patients referred to our service. Breast and head and neck cancers were the common sites of cancer diagnosis, as has been seen in other studies. There were more female patients diagnosed with depressive episode in our practice, which may be a referral bias. Psychopharmacological interventions were required in most patients. There was positive outcome noted in most of our patients on follow up and this was statistically significant. **RESEARCH IMPLICATIONS:** There is a need for research to evaluate efficacy of various antidepressants used in cancer patients for positive outcome of depression. There is also need to evaluate specific psychotherapies in different groups of cancer patients diagnosed with depressive disorder. **CLINICAL IMPLICATIONS:** Development and audit of Clinical Practice Guidelines keeping in mind socio-economic challenges faced in developing countries need to be done. The burden of economic adversity adding to physical illness impacting on development, treatment and outcome of depressive disorder in cancer patients should be evaluated. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-2

The Topic Complementary Medicine Within The Doctor-Patient-Dialogue - A Qualitative Study

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BACKGROUND: In German-speaking areas around 40% of all cancer patients use complementary medicine (CM) and the number of users is increasing. Especially in the internet exists a multiplicity of information about CM and yet patients have only limited access to quality-controlled information about CM. The “Competence Network Complementary Medicine in Oncology” (COCON) aims to improve this lack of information. The evaluation of the patients’ information and consultation needs and behaviour is one research project of COCON. **METHOD:** In a qualitative cross sectional design, 87 cancer patients ($\text{♀} = 51$;

$\text{♂} = 36$) in various therapy situations agreed to participate in a semi-standardized interview. Topics of the interview were the previous and current use of CM, the information and consultation behaviour as well as the information and consultation needs. The doctor-patient-dialogue regarding CM is one aspect of the previous consultation behaviour. The interview length varied between 9:10 and 58:30 minutes. The code plan was developed inductively in exchange with 2 expert groups and was validated in 4 double coding sessions. **RESULTS:** In our sample most patients regard their physician as the main consultation partner for all medical issues and this includes CM. The mistle therapy and dietary supplements are even often recommended by physicians. Only a few patients who mentioned their CM use experienced a dismissive attitude. An advice against CM is given especially during ongoing chemo- or radiotherapy. Patients interested in CM who did not mention their CM use or interest assume that their physicians have not enough time to discuss CM, think that physicians from oncology-focused fields are not qualified in CM or expect a dismissive attitude. **CONCLUSIONS:** There is still restraint by patients to approach their physicians about CM. However, the treating physicians seem to be the desired consultation partner for CM. The advices given are somewhat various but not generally dismissive. **RESEARCH IMPLICATIONS:** In previous studies a predominant part of the patients state that they do not discuss their CM use or their interest in CM with their treating physicians. Our results contradict these findings and will be evaluated in a broader based questionnaire survey in the context of COCON. **CLINICAL IMPLICATIONS:** The results show that there is a need for information and consultation about CM. Therefore a quality-based standard of information and consultation about CM should be developed. COCON aims to satisfy these needs by implementing a CM information platform, a medical consulting expert service and CM education programs for healthcare professionals and self-help group leaders in Germany. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the German Cancer Aid (Deutsche Krebshilfe e.V.).

P2-3

Social Support and Post Traumatic Growth Among Women With Breast Cancer: Diversity of Agents and Types of Support

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BACKGROUND: In the psycho-oncology literature, the interest in such classical negative psychological outcome as depression and anxiety has been broaden to the assessment of positive outcomes such as post traumatic growth (PTG), hope and meaning. Consistent with this approach that stresses the importance of addressing possible positive outcomes for patients with cancer, the current study reports a preliminary examination of the relationships between agents and types of social support and PTG among women with breast cancer. **METHOD:** 80 married women who were diagnosed with breast cancer completed social support (CPASS; Goldzweig et al., 2010) and post traumatic growth (PTGI; Tedeschi & Calhoun, 1996) self-report measures. Correlations and regressions analyses were conducted in order to assess the relationships between various agents (spouse, family, friends, belief based) and types (emotional, cognitive, instrumental) of social support and PTG. **RESULTS:** All agent of support (family, friends, belief based) excluding spouse support, were found to be related to post traumatic growth various dimensions. Regression analysis revealed that support provided from friends and believes base support contributed significantly to the prediction of PTG over the other agents of support. With regard to types of support, all types of social support were found to be related to PTG sub-scales. Regression analysis revealed that only cognitive support, and not emotional and instrumental support, significantly predicted PTG total score over the other types of social support. **CONCLUSIONS:** Various agents of support play different role in the process of PTG. It seems that married women coping with breast cancer rely on other sources of social support than their spouse in order to promote PTG. In addition, all three types of support are related to these women' PTG, with cognitive support having a unique contribution over emotional and instrumental support. **RESEARCH IMPLICATIONS:** The current research results support the importance of addressing social support as a construct that consist both different types of support and various agents that provide these types of support. Additional longitudinal studies are needed in order to further validate the relations between agents and types of social support and PTG. **CLINICAL IMPLICATIONS:** Although preliminary, the current study findings demonstrate the importance of friends and belief system as sources of growth for women coping with breast cancer. In addition, the importance of cognitive support should also be taken into account. These may lead for tailoring interventions that aim to increase the efficient use of these sources. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-4

Myth or Reality: Are Head and Neck Cancer Patients at Increased Risk for Suicidal Thoughts and Gestures? Preliminary Results

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BACKGROUND: While head and neck cancer patients (HNC-P) are reportedly at increased risk for completed suicide (H&N-CP 50.5/100,000 vs. general cancer population 33.6/100,000 versus general population 13.8/100,000; JAMA, 2006), suicidal ideations and attempts have yet to be investigated in this population. Suicide risk factors found in a general oncologic population may not entirely correspond to those associated with HNC, since these patients face unique challenges (e.g., disfigurement, difficulties speaking, eating, and breathing). **METHOD:** This ongoing funded study aims to identify psychological QoL trajectories in H&N-CP, including investigating suicidal ideations and attempts measured pre-HNC diagnosis (lifetime), at baseline (<2 weeks post diagnosis), and at 3, 6, and 12 months post diagnosis. Patients completed the Beck Scale for Suicidal Ideation (BSSI) and questions covering suicidal ideations and attempts (lifetime and since last questionnaire). Patients also completed self-reported measures of QoL (FACT-G & HN), depression (BDI-II), body image (BIS), alcohol and drug misuse (RAPS4-QF and DAST-10), social supports (SSQ-6), sociodemographics/illness/treatment information, and past psychiatric history. Our aim is to present preliminary analyses of the frequencies and variables associated with suicidal ideations in HNC-P recruited thus far. **RESULTS:** Forty-six newly diagnosed HNC-P completed both baseline and 3 month follow-up measures. Lifetime pre-cancer and 3 months suicidal ideations were 10.8% and 8.5%, respectively; suicidal attempts were 2.4% and 0%; and 2.2% committed suicide <3 months (during the course of treatment). Suicidal thoughts at 3 months were related to: lifetime pre-HNC suicidal ideations ($p = 0.034$) or past psychiatric diagnosis ($p = 0.001$), higher levels of anxiety/depression ($p = 0.001$) and body image concerns ($p = 0.001$), lower quality of life functionally ($p = 0.0009$) and for H&N-specific issues ($p = 0.01$; especially difficulties breathing $p = 0.001$, alcohol $p = 0.002$, pain in mouth/throat/neck $p = 0.01$). Physical wellbeing

($p = 0.12$) was not significant, possibly due to a lack of statistical power. **CONCLUSIONS:** Preliminary rates of suicidal ideations found in our study were significantly higher than those found in the general population (1 year: men 1.8%; women 2%). However, they seemed stable over time (from pre-cancer to 3 months post-diagnosis). Suicidal HNC-P seem to suffer globally from a holistic point of view including physically (pain, difficulties breathing) and psychologically (anxiety, depression, body image, alcohol use). **RESEARCH IMPLICATIONS:** Further studies are needed to investigate risk and protective factors of suicidal ideations and gestures in HNC-P; distinguishing a pre-existing psychological vulnerability to one acquired through the cancer experience and its treatment. It also remains unclear to what degree suicidal HNC-P's quality of life is objectively (i.e., medically) or subjectively (i.e., negatively reporting on their experience) more compromised. **CLINICAL IMPLICATIONS:** Suicidality may be important to consider in light of the patient's broader socio-emotional and historical context including past life experiences and current HNC-related struggles. One may want to consider asking patients about their past psychiatric history during initial medical intake as a way of gauging vulnerability to upcoming HNC treatments. This can allow patients to be referred to appropriate supportive resources early-on in their cancer trajectory. **ACKNOWLEDGEMENT OF FUNDING:** This study is funded by the Fonds de recherche en santé du Quebec (FRSQ).

P2-5

Which Health-Related Quality of Life Outcomes Should be Discussed During the Initial Follow-Up Consultation After Surgery for Esophageal Cancer? Preliminary Findings of a Delphi Survey

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BACKGROUND: Esophageal cancer surgery has a detrimental and long-lasting effect on health-related quality of life (HRQL). Therefore, clinicians need to systematically inform patients about the course of important outcomes. The aim of this study is to identify outcomes deemed important by patients and health-care professionals (HCPs; surgeons, nurses, and dieticians) to address in the initial follow-up consultation. **METHOD:** A two-round Delphi survey. The initial list for the first

round contained 49 outcomes (29 HRQL). We invited patients and HCPs to rate each outcome on a scale of 1 (not important) to 9 (absolutely important) by either a postal or web-based questionnaire. Ratings were categorized as low (1–3), moderate (4–6), and high importance (7–9). We considered an outcome to be of high importance if >70% of participants rated the outcome as high AND if <15% rated the outcome as low. These outcomes will be included in the second round for which the same patients and HCPs will be resurveyed. **RESULTS:** We report the preliminary findings of round one of the Delphi survey, which was completed by 104 patients and 56 HCPs (21 surgeons, 20 dieticians, 16 nurses). A top 10 list of most important outcomes to be discussed revealed that patients and HCPs only shared 4 outcomes: removal of cancer, eating and drinking, recovery period, and swallowing problems due to scar tissue. HCPs, and not patients, considered the discussion of global quality of life, physical functioning, and weight loss to be a top 10 topic. Patients, and not HCPs, wanted to discuss survival, cancer recurrence, vitamin B12, and food supplements. **CONCLUSIONS:** Preliminary findings suggest that patients and HCPs hold different views on the topics that need to be discussed in the initial follow-up consultation after esophageal cancer surgery. Whereas clinicians focus on broader concepts of quality of life (e.g., global quality of life, physical functioning, eating and drinking), patients focus on specific issues related to prognosis (e.g., disease recurrence), and eating and drinking (e.g., supplements, vitamin B12). We expect to report the results of the completed Delphi survey at the conference. These findings will then provide the topics that need to be included in a (web-based) information package for HCPs. **RESEARCH IMPLICATIONS:** The final list provides an overview of outcomes most patients and HCPs consider important to discuss in the initial follow-up consultation. Hence, high-quality evidence-based information needs to be available to inform patients about these outcomes. As such, our list may guide the selection of outcomes for future trials and observational studies. In addition, future research also needs to focus on 'translating' the evidence-based information, derived from studies, in a manner that is understandable to patients. **CLINICAL IMPLICATIONS:** The outcomes identified in the final list need to be addressed in the initial follow-up consultation after esophageal cancer surgery. However, since time is limited, and several outcomes do not belong to the expertise of surgeons, multidisciplinary teams need to determine which HCP (surgeon, nurse, or dietician) addresses which outcome. As a result, patients receive information by the HCP most knowledgeable about the specific outcome. **ACKNOWLEDGEMENT OF FUNDING:** Rhiannon C Macefield, Natalie Blencowe, and Jane Blazeby are funded by the MRC ConDuCT Hub.

P2-6

Goal Adjustment Strategies Operationalized and Empirically Examined in Patients With Cancer

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BACKGROUND: Adolescents facing cancer are likely to experience goal disturbance. Goal disturbance is related to psychological distress, which can be alleviated by goal adjustment. Relevant theories have identified several goal adjustment strategies (GAS), but their use has not been empirically tested. Therefore, this study aims to operationalize and empirically test the use of GAS in adolescents with cancer using characteristics of goals. **METHOD:** Adolescent cancer patients listed their goals 3 and 12 months post-diagnosis. All goals were scored on goal characteristics (importance, attainability and effort by patients; life domain and level of abstraction by authors). The following 6 GAS were operationalized: (1) Continue to pursue disturbed goals, (2) Give up effort to attain the goal but remain committed, (3) Scale back goals in the same life domain, (4) Reprioritize goals, (5) Form new goals, (6) Give up goal commitment without turning to a new goal. The operationalization of all GAS was based on the scores of the goal characteristics using mathematical formulas. **RESULTS:** All GAS could be feasibly operationalized using relevant goal characteristics. Cancer patients ($N = 32$, 56.3% female) used all strategies, except for (6) Give up goal commitment without turning to a new goal. The use of an additional strategy was found from the data: (7) Scale up goals in the same life domain. **CONCLUSIONS:** Goal adjustment strategies can be feasibly determined using mathematical formulas based on goal characteristics. Over the next couple of months, we will investigate the use of these strategies in a larger sample of adults with cancer and compare their use over both samples. These results will be presented at the congress in addition to the results stated in this abstract. **RESEARCH IMPLICATIONS:** Future research could investigate which strategies are most adaptive for cancer patients. **CLINICAL IMPLICATIONS:** Once clinicians are aware which goal adjustment strategies are most adaptive for specific patients, they should be able to help patients signal goal disturbance and find appropriate ways for distressed cancer patients to adjust and alleviate their distress. **ACKNOWLEDGEMENT OF FUNDING:** Preparation of this abstract was funded by the Dutch Cancer Society (RUG 2009-4461).

P2-7

The Generic and Stoma-Specific Quality of Life of Cancer Patients With a Colostomy, Ileostomy or Urostomy

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BACKGROUND: Studies in cancer and non-cancer patients with a colostomy, ileostomy or urostomy have repeatedly reported limitations in patient-reported quality of life (QoL). However, few studies have focused on factors associated with impaired stoma-specific QoL in colorectal and bladder cancer stoma patients. In addition, it is not known whether the generic and stoma-specific QoL differs between patients with a stoma due to cancer and patients with a stoma due to other causes. **METHOD:** All patients with a colostomy, ileostomy or urostomy participating in the Stomapanel of the Dutch Ostomy Association in August 2012 were asked to complete a generic (RAND-36) and stoma-specific QoL (stoma-QoL) questionnaire. The association of different socio-demographic (gender, age, education level and employment status) and clinical variables (type of stoma and time elapsed since stoma-operation) with the stoma-QoL of cancer stoma patients were assessed using backward linear regression analyses. In addition, the domain scores of the RAND-36 and total stoma-QoL score of all cancer stoma patients were compared with all non-cancer stoma patients using linear regression analyses. **RESULTS:** In total, 379 cancer patients (81% colorectal, 18% bladder and 1% other) and 289 non-cancer patients (37% Colitis Ulcerosa, 23% Crohn's disease and 40% other) with a colostomy (55%), ileostomy (32%) and/or urostomy (16%) were included. The stoma-QoL of cancer stoma patients was significantly associated with female gender ($\beta = -3.04$), age ≥ 65 years ($\beta = 2.33$), higher education ($\beta = 2.99$) and being employed ($\beta = 2.26$) ($R^2 = 0.07$). Adjusted for gender, age, type of stoma and time elapsed since stoma-operation, cancer stoma patients scored higher on stoma-QoL ($\beta = 2.12$) and all RAND-36 domains ($8.46 < \beta \leq 19.06$) except on mental health, compared to non-cancer stoma patients. **CONCLUSIONS:** Gender, age, education level and employment status were associated with stoma-specific quality of life in cancer stoma patients. Compared to patients with a stoma due to non-cancer causes, cancer stoma patients reported a better generic and stoma-specific QoL. **RESEARCH IMPLICATIONS:** Some socio-demographic factors were associated with the stoma-specific QoL in cancer stoma patients, however, this

accounted only for a small amount of variance in QoL. In order to improve health care and QoL in stoma patients, further studies should investigate which other factors are associated with the generic and stoma-specific QoL in cancer stoma patients. In addition, further studies should analyze which factors account for the difference in QoL between cancer and non-cancer stoma patients. **CLINICAL IMPLICATIONS:** Awareness of factors associated with QoL and of differences in QoL between cancer stoma patients and non-cancer stoma patients is important. Results of this study may help to identify patients with low QoL and who may benefit from supportive care. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Dutch Ostomy Association.

P2-8

Predicting Optimal Cancer Rehabilitation and Supportive Care (POLARIS): Meta-Analyses of Individual Patient Data of Randomized Controlled Trials Evaluating the Effect of Physical Activity, Exercise and Psychosocial Interventions on Health-Related Quality of Life in Cancer Survivors

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BACKGROUND: The primary aim of Predicting Optimal Cancer Rehabilitation and Supportive care (POLARIS) is to: (1) conduct meta-analyses based on individual patient data (IPD) to evaluate the effect of physical activity, exercise and psychosocial interventions on health-related quality of life of cancer survivors; (2) identify important sociodemographic, clinical, personal, or intervention-related moderators of the effect; and (3) build and validate clinical prediction models identifying the most relevant predictors of intervention success. **METHOD:** We will invite principal investigators of randomized controlled trials evaluating the effects of physical activity, exercise or psychosocial interventions on health-related quality of life compared with a wait-list, usual care or attention control group among adult cancer survivors to join the POLARIS consortium and share their data for pooled analyses to address the proposed aims.

Eligible randomized controlled trials were identified through literature searches in four databases. **RESULTS:** To date, we have identified 132 eligible and unique trials. At the moment, eighteen principal investigators already agreed with sharing their data in the POLARIS database ($n = 5223$). **CONCLUSIONS:** The POLARIS consortium will conduct IPD meta-analyses, with the ultimate goal to effectively target physical activity, exercise or psychosocial programs to cancer survivors. Insight into the moderators of the effectiveness of physical activity, exercise or psychosocial intervention is an essential step towards personalized care for individual cancer survivors. Further, this study allows us to build a clinical decision rule supporting evidence-based decision making about which intervention would be most effective for a given outcome and a given patient group. **RESEARCH IMPLICATIONS:** We will ask study collaborators to supply raw data. We will examine these data for completeness and consistency with the original publications. To harmonize the data variables, data will be imported into a data warehouse. Subsequently, the data will be prepared for transformation of original studies, including variable checking. Finally, transformation of the data labels of the original studies into the POLARIS coding scheme and integration into the data warehouse will be performed. **CLINICAL IMPLICATIONS:** The POLARIS consortium tries to generate evidence essential to target physical activity, exercise and psychosocial interventions to the individual survivor's characteristics, capabilities, and preferences. **ACKNOWLEDGEMENT OF FUNDING:** The POLARIS study is supported by the 'Bas Mulder Award' granted to L.M. Buffart by the Alpe d'HuZes Fund, part of the Dutch Cancer Society.

P2-9

Quality of Life Trajectory and its Sub-Patterns in Newly Diagnosed Advanced Lung Cancer Patients During the First 12 months of Being Diagnosed

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BACKGROUND: Relatively few studies have examined the longitudinal QOL changes and potential QOL-sub patterns on newly diagnosed non-operable advanced lung cancer patients (Stage IIIB & IV). Factors related to the changes are also important to be identified. The aims of this study were to (1) explore the overall QOL and QOL sub-patterns in advanced lung cancer patients during the first 12 months of diagnosis, and (2) identify factors related to the changes. **METHOD:** A

prospective longitudinal study was conducted in a medical center in Taiwan. A total of 160 newly diagnosed advanced lung cancer patients were recruited and completed 5 assessments (before first treatment, and 1, 3, 6, 12 months from receiving first treatments) (T1–5, respectively). The QOL was measured by the overall QOL item in the EORTC QLQ-C30 (0–100 scoring, higher is better). The QOL sub-patterns and factors related to the patterns were analyzed by Latent Class Growth Analysis (LCGA). Factors the models (independent variables) included the changes of physical function, selected symptoms, emotion distress, and self-efficacy (on coping with cancer). **RESULTS:** Generally, patients perceived moderate levels of QOL across the 12 months. Three QOL sub-patterns were identified. In the pattern I (more than 50% subjects), patients reported moderate to good levels of QOL (scoring around 70–80) across the 12 months. In the pattern II (around 45% of subjects), patients reported moderate levels of QOL (scoring around 50–70 QOL). In the pattern III (<10% subjects), patients reported poor levels of QOL (scoring around 40 or less). Overall, factors significantly related to the changes of QOL included physical function, fatigue, emotion distress, and self-efficacy. **CONCLUSIONS:** This study provides a relatively more comprehensive evidences about the overall and sub-patterns changes of QOL in newly diagnosed advanced lung cancer patients in first 12 months of cancer diagnosis. Timing and tailoring interventions are needed to improve QOL in patients with different QOL sub-patterns. **RESEARCH IMPLICATIONS:** Brief, tailoring and clinically feasible tailoring interventions should be further developed based on the findings in sub-patterns. These interventions should be examined of their effectiveness on QOL improvements in advanced lung cancer patients. **CLINICAL IMPLICATIONS:** Clinically, systematic QOL assessments would be suggested by using brief tools to reflect patients' QOL related problems or needs. Timing and appropriate interventions are suggested to be delivered based on the assessments. For those with very poor QOL, health care professionals should be particularly cared. **ACKNOWLEDGEMENT OF FUNDING:** This study is mainly supported by National Health Research Institute (NHRI) and partly by National Health Council (NSC) in Taiwan.

P2-10

Launching a Career in Psychosocial Oncology Research: The Powerful Combination of Strong Mentorship and Timely Program of Research

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BACKGROUND: Starting a research career in psychosocial oncology is both exciting and challenging. Currently, there is a renewed interest in improving health services for cancer survivors. However, challenges include highly competitive funding with low success rates and predominant focus on fundamental research. Programs such as the Psychosocial Oncology Research Training (PORT) are conducive to propelling young researchers into productive career paths. In this presentation, key elements of this research training program will be discussed. **METHOD:** A recent workshop held on “Innovative Research in Cancer Survivorship” is a prime example of the synergy that takes place at PORT, a Strategic Training Initiative in Health Research (STIHR) funded by the Canadian Institutes of Health Research (CIHR). This workshop, developed in collaboration between 2 trainees and the program leader, aimed to raise awareness on current trends in psychosocial oncology research and spark innovative research ideas, partnerships, and projects. Activities included short interactive lectures alternating with small group discussions and a multi-step group exercise entitled “turning a bad research idea into an innovative one”. **RESULTS:** Held in April 2013 in Ottawa, Canada, this one-day face-to-face PORT workshop provided time and space for more than 20 master’s, doctoral and postdoctoral trainees to acquire the knowledge and frame of mind required to design “good” and innovative research projects. Trainees appreciated the opportunity to practice their skills at refining “bad” research ideas into exciting, relevant and fundable ones. They also particularly appreciated the small group discussions with their randomly paired mentor as it allowed them to discuss with these experienced and successful researchers about the up and down sides of conducting innovative research project. **CONCLUSIONS:** Graduate research training and junior career launching can be both rewarding and extremely challenging. Research training programs such as PORT fill an important gap by offering an

academic community uniquely positioned to foster learning, networking, collaboration, “healthy” competition, social, and financial support. Through the reliance on information technology, face-to-face exchanges, dedicated workshops and research internships, PORT’s program offers varied and innovative research skills building activities which have been throughout the years instrumental in shaping the developing career of its trainees. **RESEARCH IMPLICATIONS:** In a field as competitive as research, an excellent training experience is invaluable in building capacity. Research training programs such as PORT enhance the development of skills and competencies to enable fellows to design and carry-out innovative, high quality, person-centred, and feasible studies. **CLINICAL IMPLICATIONS:** Supporting aspiring young researchers to think outside the box, design timely studies, innovate in their field, and proactively disseminate their results can directly contribute to enhancing clinical practice. The knowledge gained through such training programs set the conditions and contexts that most favorably launch junior researchers into an exciting career. **ACKNOWLEDGEMENT OF FUNDING:** Julie Lapointe is currently a postdoctorate CIHR Fellow in PORT a Strategic Training Initiative in Health Research (STIHR) funded by the Canadian Institutes of Health Research (CIHR). Fay Strohschein has received funding from the FRQ-S; the Quebec Network for Research on Aging, the PORT Program; the McGill University Faculty of Medicine; and the Jewish General Hospital Department of Nursing. Shannon Groff is funded through the Alberta Cancer Foundation, the PORT Program, Knowledge Translation Canada and the CIHR.

P2-11

Coping Profiles of Patients With Different Functional and Psychosocial Status: A Person-Oriented Approach

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BACKGROUND: Due to medical-technical progress, cancer became a treatable, even curable disease and cancer patients have to deal with their disease and its consequences sometimes over many years. Hence, psychosocial support of cancer patients becomes more and more essential. To understand the growing need for psychosocial care of cancer patients, assessment of patients’ coping behavior is necessary. The present study investigated coping profiles of cancer patients from France with different functional and psychosocial

status. **METHOD:** The study followed a quantitative cross-sectional design. We assessed 99 non-hospitalized cancer patients attending ambulant radio- and/or chemotherapy with different health status and age (15–82). The patients filled out a questionnaire assessing sociodemographic and disease-related variables, illness perception (using the French version of the IPQ-R-Brief), subjective well-being (using the French version of the FACT-GP) and coping styles (using the French version of the Brief-COPE). Five persons had to be excluded from the analysis due to too many missing values or outliers. Data of 94 persons was analyzed using hierarchical and non-hierarchical cluster analyses, ANOVAS and Chi-Squared tests. **RESULTS:** We found 4 groups with different functional and psychosocial status. The biggest group (39 persons) indicated overall well-being. One group (29 persons) showed only physical and functional burden, the third (19 persons) reported social burden and lack of support. The smallest group (7 persons) showed the highest ratings of physical, functional and emotional burden. This last group used significantly more dysfunctional coping strategies such as self-blame and less “positive” strategies as acceptance, positive reframing and humor. The groups with highest ratings of physical and functional impairments reported significantly more pain. No pronounced differences were found regarding demographics and disease-related parameters. **CONCLUSIONS:** Our study identified four clusters with different profiles of functional, physical, social and emotional well-being that interestingly did not differ with respect to disease progression indicators. The groups differed however concerning their coping behavior. Especially, persons reporting the highest emotional burden showed less “positive” but more self-blaming coping behavior as the other groups without such emotional strain. These findings thus indicate different coping profiles for patients with specific disease burden that may require different psychosocial interventions. **RESEARCH IMPLICATIONS:** The study emphasized a differential approach to well-being and coping behavior in cancer patients. In order to provide effective interdisciplinary care and treatment, it is evident to detect patients who are highly affected by their disease. Interventions should always be tuned to the differential needs of patients in a given life situation. One step in this direction clearly lies in the development and use of screening instruments in oncological settings. **CLINICAL IMPLICATIONS:** Especially the cluster with the highest burden used less so-called “positive” coping strategies such as acceptance, positive reframing and humor. If one considers these strategies as threat minimization strategies this finding may indicate that in case of heightened burden a positive appraisal of one’s situation may be difficult to achieve. The concept of “depressive realism” may

be used here to describe this phenomenon and its clinical-therapeutic implications. **ACKNOWLEDGEMENT OF FUNDING:** The study presented above took place within the framework of the Tempus (Trans-European Mobility Program for University Studies) Program JEP-26029-2005 with funding by the European Commission and the participating universities (Luxembourg, Strasbourg, France, and Omsk, Russia). This project emphasized the development of teaching in oncology in the oblast of Omsk and was carried out from 2006 to 2009.

P2-12

Dance Movement Therapy for Patients Undergoing Radiotherapy: A Qualitative Investigation of Motivation, Needs and Benefits

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BACKGROUND: Radiotherapy often leads to a multitude of physical side effects leading to psychological distress and impaired qualities of life. Focusing on mind-body connection, dance-movement therapy (DMT) can potentially bring upon both physical and psychological healing through its creative movement processes. This presentation will comprehensively explore patient needs during radiotherapy, motivation to participate in body-mind interventions, changes as a result of DMT, and attitudes after radiotherapy, which is little known for Chinese breast cancer survivors. **METHOD:** 105 Chinese breast cancer patients who were undergoing or just completing radiotherapy were recruited from hospitals in Hong Kong. The qualitative study design complements a larger randomized-controlled trial to provide in-depth understanding on the needs and experience of patients. Upon completing the 6-session DMT (9 contact hours), participants commented (in writing) on how the intervention benefited them (or not), what helped them get through the 5 week radiotherapy and what was now most important to them. Comments were coded using content analyses. Resultant themes were verified and detailed via focus groups with 8 participants conducted once before and once after DMT. **RESULTS:** Participants agree that radiotherapy is time to resume participation in groups so as to resume normality. DMT was attractive compared with other psychosocial groups for its physical benefits. Patients were motivated to resume exercise appropriate for them and overcoming the side-effects of preceding

chemotherapy; despite painful arms and fear of sweat affecting radiotherapy sites. Patients appreciated both physical and psychosocial benefits of DMT. Physical improvements counteracted side effects of treatments, leading to better sleep and increased willingness to exercise at home. Psychosocial benefits included released emotions through movement, enhanced cancer coping particularly through radiotherapy, changed attitudes, feeling less alone, etc. **CONCLUSIONS:** For breast cancer patients, radiotherapy is typically a period when they battle with residual side-effects from chemotherapy or surgery compounded by fears of other side-effects arising from radiotherapy. Yet, seeing an impending end to frequent hospital visits, their budding desire to resume exercise renders body-mind interventions particularly appealing to patients at this stage. Understanding their needs and motivations at unique treatment periods enable the design of appropriate interventions. Nonetheless, patients' motivation is dampened by not knowing the intensity and type of exercise deemed appropriate. DMT is recommended for patients undergoing radiotherapy for its extensive mental, physical and social therapeutic elements. **ACKNOWLEDGEMENT OF FUNDING:** This study is part of a randomized controlled trial funded by the Hong Kong Research Grants Council's General Research Fund (HKU745110H). We would also like to thank the Hong Kong Cancer Fund, Queen Mary Hospital and Pamela Youde Nethersole Eastern Hospital, but most of all, participating survivors in this study.

P2-13

In the Name of God the Compassionate the Merciful – Psychodynamic of Psychiatric Problems of Head and Neck Cancers Comparing with other Cancers

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BACKGROUND: Psychological problems of cancer are affecting prognosis and therapeutic process of diseases. Different psychiatric disorders can complicate diagnosis and therapy, so to know these disorders can help the therapist and patients. Even if different types of cancers might have all types of psychiatric disorders, but some of psychiatric problems see more in some types of cancers (e.g., suicide and depression). **METHOD:** Objective: Compare psychiatric problems in cancer of head and neck and other parts of the body in psychodynamic view. Methods: Using 2 types of studies, retrospective (review 200 psychiatric consultations) and self filling questionnaire by 20 pts. with head and neck cancers and 20 pts. with other types. One of questioner was Beck, and another was suicidal ideation questionnaire. **RESULTS:** This study has proven that suicide and depression are more

common in individuals with head and neck cancer rather than in other kind of cancer. Psychodynamic interpretation of this phenomena is that because of H&NCA affects appearance and beauty and causes low self esteem, which ends in suicide, that discussed in main essay, with statics. **CONCLUSIONS:** To know having H&N cancer pt. therapist concern high risk of suicide, so consult with psychiatrist, and start psychotherapy and drug therapy as soon as possible. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-14

Patients' Perspectives on Adherence to Treatment in Chronic Myeloid Leukemia

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BACKGROUND: Medication adherence is a vital issue when treating cancer patients requiring prolonged therapy. Imatinib is an oral drug that prolongs life in patients with chronic myeloid leukemia (CML). Evidence suggests that one-third patients are non-adherent to treatment and this has adverse consequences. Non-adherence is a complex issue when treating a potentially life-threatening illness, the reasons for which are poorly understood. The present study explored psychosocial issues of adherence to treatment in CML patients prescribed Imatinib. **METHOD:** A qualitative method using a semi-structured in-depth interview was used for the study. Thirty CML- Chronic Phase (CP) patients (19 male and 11 female) receiving Imatinib (free of cost under the Glivec International Patient Assistance Program) for a minimum period of 6 months were enrolled. Patients having cancer in another site, those who had undergone bone marrow transplant were excluded. After informed consent was obtained the interview was conducted which was audio recorded. Level of distress and fatigue were assessed using the Distress Thermometer (NCCN) and the Symbolic Assessment of Fatigue Extent (SAFE) scale (validation under progress). **RESULTS:** Content analysis revealed seven major themes: individual perception about illness, interaction with healthcare provider and system, issues with side-effects of Imatinib, logistics issues, significance of social support, psychological issues and understanding of adherence to treatment. Psychological issues, side-effects and logistics affected adherence to an extent, yet individual perception about illness was a major determinant of treatment adherence. Significance of social support and interaction with healthcare provider and system was good and could be factors that improved adherence. Although majority (76.7%) reported

experiencing fatigue, 80% were found to have only mild fatigue on assessment. Mild distress was found in 50% patients. **CONCLUSIONS:** Individual perception about illness emerged as a prominent factor to understand treatment adherence in chronic myeloid leukemia. The resultant sub-themes included awareness about diagnosis and treatment, attitude towards illness, significant changes in day to day functioning and worry with regard to the future of their family. Hence, through an in-depth inquiry into the patient's perception of their illness keeping in mind their socio-economic and educational background, further adherence interventions can be implemented. **RESEARCH IMPLICATIONS:** Future research warrants for a prospective study to understand the level of adherence in this patient population using quantitative assessments. The development of a theoretical model on treatment adherence for this patient population. Psychosocial intervention studies can be undertaken to study the effect of adherence to treatment with different socio-demographic groups. Finally, conducting specific intervention studies to highlight the importance of adherence using flip charts, educational pamphlets and psychological counselling services. **CLINICAL IMPLICATIONS:** From this study, clinicians can be made aware of the specific psychosocial factors affecting adherence and thereby help to identify and address issues at the commencement of treatment. A holistic psycho-educational intervention can be implemented into the system for improving adherence. Regular documentation of patient's progress with a tool to objectively measure adherence can aid to quantify levels of adherence. Further, patients need to be consistently followed up regarding difficulties faced in adhering to treatment. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-15

Pilot Study on Diagnosis Communication and Patient's Rights in an Eastern European Country

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BACKGROUND: Current Romanian medical legislation is centered on patient's autonomy. In medical practice persists a "traditional" care model, approaching the patient as part of a family which filters medical information that reaches the patient, interferes in decision-making process, producing ethical dilemmas and diminishing patient's autonomy. Many physicians let themselves involved into "silence conspiracy" by the families and some doctors are asking the psychologists for the characteristics of patients that want their autonomy to be respected. **METHOD:** Transversal study, 40 cancer patients were administered a semi-structured interview based on: knowledge of the diagnosis,

knowledge of patient's rights, the manner of diagnosis communication, possible interference from the family in doctor-patient communication and in the decision-making process. Inclusion criteria: age of over 18, signing informed consent, malignant diagnosis. Exclusion criteria: patients that refused to participate. The subjects included were randomly chosen from the patients admitted and treated in a national cancer institute. The methodology of the study was approved by the Medical University Ethics Comitee. The data was processed both qualitatively (phenomenological approach) and quantitatively using SPSS.16. RESULTS: 90% of the patients wanted to know the diagnosis, this wish wasn't statistically associated with patient's gender, sex, age, environment, marital status, education (Fisher's Exact Test, $p > 0.05$) or age (Mann-Whiney Test, $p > 0.05$). The patient's wish to know details about disease and treatment is associated with the environment the patient came (Fisher's Exact Test, $p = 0.005$) and the level of education (Fisher's Exact Test, $p = 0.027$). Younger patients consider that the diagnosis should be disclosed, the older patient believe that silence conspiracy should be adopted (Mann-Whiney Test, $p = 0.017$). The paper presents also a phenomenologic analysis of patient's opinions about disclosing the diagnosis. CONCLUSIONS: The majority of the patients wanted to know the truth about their disease considering this fair. 10% didn't want to learn the diagnosis, but their doctors have told them without asking, infringing their rights. Some families found out medical details about their ill relative from the doctors before the patient and without patient's consent- a fact that breaks the law, but is according to the medical communication custom in our country. The patients consider this humiliating and diminishing their dignity. The patients' approach and communication manner must be individualised and adapted to patient's specific preferences. RESEARCH IMPLICATIONS: There are few studies in Romania concerning doctor-patient communication and patient's rights. We propose to extend the study, to interview more patients including ethnic minorities in order to search for their preferences in medical communication and protection of patient's rights. We also want to include in the study families to study their preference of interference in doctor-patient relationship and doctors to study the causes of persisting the paternalistic attitude, contrary to current legislation. CLINICAL IMPLICATIONS: As in other ex-communist countries, many doctors (especially older ones) don't have communication and ethics knowledge, infringing patient's rights. The majority of the patients wanted to know the truth, but their opinion could differ. On the basis of this study, there can be conceived seminars for physicians to further the knowledge and application of patient rights in practice and informational campaigns for patients

regarding their rights. ACKNOWLEDGEMENT OF FUNDING: None.

P2-16

Prevention Research in the Field of Psychosocial Oncology: A Golden Opportunity?

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BACKGROUND: Over the past 30 years, the field of psychosocial oncology has established itself as a specialized discipline that examines the psychological, behavioural, and social aspects of cancer. The field addresses two dimensions: (1) the emotional impact of cancer and its treatment by patients, families, and health care professionals, and (2) the psychological and behavioural factors that influence the disease process. Overall, mainstream psychosocial oncology research has been limited in addressing primary & secondary prevention issues. METHOD: The objective was to examine the place of cancer prevention research in the field of psychosocial oncology. We conducted a content analysis of articles related to cancer prevention published in *Psycho-Oncology*, the major journal that reflects the development of science and practice in psychosocial oncology. We examined the prevalence of prevention studies in *Psycho-Oncology*, and then determined the specific content areas of these articles. The 20-year lifespan of the journal (1992–2012) permitted a reasonable overview to study this issue. RESULTS: We identified numerous primary and secondary prevention strategies related to reduction in cancer incidence or mortality related to (1) smoking; (2) Occupational exposures; (3) Air pollution (4) Sun exposure/UV light; (5) alcohol; (6) Exercise; (7) Vaccination against viruses and infectious agents; (8) Oral contraception reduction; (9) Selective estrogen receptor modulators (SERM); (10) mastectomy/oophorectomy; and (11) screening (e.g., mammography). Using a predetermined selection criteria, we identified if the articles primary focus was on interventions, attitudes, knowledge and beliefs, theoretical analyses or factors associated to any of the aforementioned primary and secondary prevention strategies. CONCLUSIONS: Only 17/1775 (1.2%) articles focused on primary prevention, while 72/1775 (4.1%) articles focused on secondary prevention. Thirty-one articles focused on specific screening practices, 27 on genetic testing/counseling and 14 were classified as "other". The majority of primary prevention articles examined psychosocial factors influencing prevention strategies such as decrease or avoidance of sun exposure. (e.g., High-and average-risk individuals' beliefs about, and perceptions of, malignant

melanoma) **RESEARCH IMPLICATIONS:** Prevention does not occupy a predominant place within the journal *Psycho-Oncology*, and by implication, perhaps within the field. At the beginning of the new millennium, Holland (2002) restated many of the remaining questions in psycho-oncology research. But there continued to be major gaps in primary and secondary prevention, as they related to psychosocial issues. **CLINICAL IMPLICATIONS:** The burden of cancer mortality can be reduced through an increased focus on prevention, which offers the most logical/cost-effective long-term strategy for cancer control. Increased attention should focus on other modifiable risk factors such as diet, physical activity, exposure to viral/bacterial infections. Greater psychosocial oncology research needs to consider the factors affecting both primary/secondary prevention strategies, (e.g. the importance of testing interventions aimed at altering modifiable risk factors and lifestyle behaviors such as HPV vaccine uptake). **ACKNOWLEDGEMENT OF FUNDING:** Supported by an operating grant from the Canadian Institutes of Health Research to Zeev Rosberger and Fellowship support from the Fonds du Recherches en Santé du Québec to Samara Perez.

P2-17

Quality of Life in Indian Breast Cancer Patients After Breast Conservation Surgery or Modified Radical Mastectomy

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BACKGROUND: The increase in incidence of breast cancer has spawned new trends in research but the parameter of Quality of Life (QOL) remains relatively unexplored in India. With patients considering post treatment QOL as a decisive factor when opting for Breast Conservative Surgery (BCS) or Modified Radical Mastectomy (MRM), examining differences between these groups became imperative. This study assesses the differences in QOL and its sub categories across Indian patients based on BCS / MRM status. **METHOD:** These interim findings are based on the data collected from 56 breast cancer patients who have undergone either BCS ($N = 26$) or MRM ($N = 30$) with Chemotherapy and Radiation. Patients were assessed using the Functional Assessment of Cancer Therapy – Breast (FACT - B) Version 4 QOL scale. The assessment was conducted 6 months post treatment on women who had been treated for Stage I, II or III breast cancer patients. **RESULTS:** The Mann Whitney – U test showed that the patients who underwent a BCS experienced a significantly better quality of life

overall with a p -value of 0.042 on the FACT – B assessment. The Trial Outcome Index (TOI) was significantly better in the BCS group with a p -value of 0.026. The Physical Well Being (PWB) and Functional Well Being (FWB) subscales showed improved QOL for BCS patients with p -values of 0.020 and 0.016 respectively. There was no difference found across Social Well Being (SWB), Emotional Well Being (EWB), the Breast Cancer Subscale and across age at diagnosis. **CONCLUSIONS:** The study showed that overall QOL was significantly better in the case of patients who underwent BCS as compared to those who underwent MRM. The areas of physical and functional well being were significantly better in the BCS group. QOL did not vary significantly in the areas of emotional and social well being and did not show any variation with age. **RESEARCH IMPLICATIONS:** This study has the potential to drive QOL research to investigate the impact of diagnosis at different stages on QOL in the context of BCS and MRM. It could provide a basis for analysis of any temporal variation of post treatment QOL lending greater insight into patient care. These findings will also encourage intervention based studies and approaches which can target the specific difficulties faced by patients of BCS and / or MRM. **CLINICAL IMPLICATIONS:** The study lends new ground and evidence that has the potential to alter the decision making process for patients being offered a BCS or MRM. Providing credence via quantifiable proof that a BCS is favourable with regard to QOL will lend impetus to newer techniques and innovative methods focused on conservation. It would provide a basis for psycho-education and psychotherapy using a more patient centric approach as opposed to a disease focused approach. **ACKNOWLEDGEMENT OF FUNDING:** The Ruby Hall Clinic – Kamalnayan Bajaj Cancer Centre, Pune provided the infrastructure and material resources required for the study.

P2-18

Biowave Assay for Distress Interaction Between Advanced Cancer Patients

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BACKGROUND: Psychologic stress affects treatment effect for advanced cancer patients. Kendall research showed worry and emotional concerns, the most common problems with the DT, BSI, checklist, questionnaires etc. These traditional methods

may be accompanied with the newly experimental technique, Biowave Assay possessing some advantages as real-time surveillance for distress. In this paper we repost experimental data about origin of patient distress in order to explore the represents of worry and emotion variation as interaction between patients. **METHOD:** We used the experimental method called Biowave Assay can be referred to LDCC test. Determining two patients LDCC as follow procedures:

- 1 To collect specimens of 50 microliter peripheral blood.
- 2 To separate neutrophil with density gradient centrifugation.
- 3 Laying up 51°C for 0, 5, 10, 12, 14, 16, 20, 25 minutes respectively.
- 4 Added to staining solution in 37°C, the time of staining reaction based on Set Up a Criteria test.
- 5 Microscopy determined and recorded positive cells.
- 6 Basis statistical analyze on positive rate, obtained the LDCC index as LDCCI. According to the reference range of distress it used to determine the degree.

RESULTS: The 2 advanced cancer patients, Yao and Zhang received medical service of Biowave in same ward. Yao's state of illness was more severity than Zhang's, even if their LDCCI were in the range of physiology as general condition. Clearly this represent can be viewed Yao's LDCCI was stable as the Zhang's consolation effect. Through the clinical experiment for the consolation, when Zhang left the ward for some days the Yao's LDCCI would be ascending. Then Yao's state appeared exacerbation, when her symptom accompanied by LDCCI raised the Zhang's increased soon. Zhang's LDCCI won't descend until went back home for remission. **CONCLUSIONS:** The newly-developed Biowave Assay test frequently applied for evaluation of distress as LDCCI variation reflects the degree. It is regarded as efficient for evaluation of distress, as well as suitable in experiment of the cause. The LDCC test we have built seems appropriate for surveillance of the variation about advanced cancer patient distress, as excluding pain factors. This newly Biowave Assay test would be used as experimental supplement for traditions. It includes the Distress Thermometer, a self-administered scale from 0 to 10 to rate. Collecting sociodemographic characteristics from patients' clinical files completed the BSI and the PCL during outpatient registration. **RESEARCH IMPLICATIONS:** Using the Biowave Assay we made LDCC debt constraint test. The biowave dominance originated in CNS in brain makes the biowave network formation throughout the body. Their dynamic structure shows the ascendant of CNS that reflects the reactive sensitivity to environment stimulus in vitro or in vivo. So that the higher of the ratio of

the positive the lower sensitivity of CNS. In the condition the biological activity of CNS appeared not well, vice versa. **CLINICAL IMPLICATIONS:** In the LDCC test of biological abnormal variation results in the neurobiological experiment basis for a neuroses and psychoses. That is the diagnostic standard for the diseases above. The difference between all figures are smaller, it is always in physiological range calling "tending equally" as potential distress standards. The other is temporary distress, as a standard called simple distress. Severe form the highest occurs closely to the maximum regularly and along with the tending equally. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-19

Abstract withdrawn

P2-20

Fatigue in Women Treated for Various Forms of Gynecological Cancers

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BACKGROUND: Fatigue is one of the most common symptoms following treatment for gynecological cancer. The aim of the study was to examine cancer-related fatigue in women treated for various forms of gynecological cancer, and to explore possible relationships in fatigued and non-fatigued according to psychological distress (anxiety, depression) and to quality of life. Analysis regarding (disease- and) treatment-related factors was also included. **METHOD:** One hundred and thirty women treated for gynecological cancers and participating in a larger intervention study were included. Fatigue, psychological distress, health-related quality of life and demographics were assessed by self-report questionnaires. Disease- and treatment characteristics were extracted from medical records. **RESULTS:** Cancer-related fatigue was reported in 44% of the women treated for gynecological cancers, with a significant higher proportion in the group of cervix cancer compared to ovarian and uterine cancer. The participants with fatigue reported significant higher levels of anxiety and depression as compared to the non-fatigued. There was no relationship between fatigue and QOL domains, as measured by SF 36, except the domains "vitality" and "physical role-function." There were significant differences related to age with a higher proportion of fatigued in the younger group. **CONCLUSIONS:** The women treated for gynecological cancers reported higher cancer-related fatigue than previously reported in this population. Women

reporting fatigue had significantly higher levels of psychological distress compared to the non-fatigued and also according to role function, vitality, age and income. **RESEARCH IMPLICATIONS:** All women with a diagnosis of gynecological cancer, should be screened for fatigue and symptom management from the time of diagnosis, throughout the treatment trajectories and during aftercare. Both somatic and psychological aspects, must be focused. These findings also reveal a need for good interventions related to symptom management and patient education. **CLINICAL IMPLICATIONS:** Health personnel should pay more attention to cancer-related fatigue in their dialogue with patients. Sufficient screening instruments exploring fatigue should be used routinely in clinical settings. Furthermore, in caseness of fatigue, healthcare personnel should provide education and self-care suggestions that include the most appropriate intervention to alleviate fatigue. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-21

Music as a Therapy for Cancer Patients

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BACKGROUND: Music therapy in oncology has not a long clinical tradition in Poland. The purpose of this presentation is to show the music therapy techniques in the context of cancer care and to present the integration of music therapy program into continuum supportive cancer care for inpatients at a leading oncology hospital in Poland - the Greater Poland Cancer Centre in Poznan. **METHOD:** Music therapy can be a part of the complementary medicine program in cancer care - it can accompany medical treatment. There are many benefits of music therapy for cancer patients. Interactive/active - as well as receptive/passive music therapy techniques can be easily introduced into clinical situation. Techniques are selected from a variety of options based on patients' needs, preferences and music therapist's assessment. They include listening to the live and recorded music, playing the instruments, relaxation techniques with music, movement with music. **RESULTS:** Music therapy is an effective form in supporting cancer patients during the treatment process. Music therapy can be used to promote relaxation, reduce anxiety and stress, relieve discomfort, reduce patients experience of pain, and offset some of treatment related symptoms. Music therapy offers opportunities for self-expression and brings positive experiences. **CONCLUSIONS:** Experience of cancer generates a number of physical, emotional and social and existential needs. The music therapy program is applied to meet patients needs during diagnosis and treatment proces, and it can be practiced with both

- individual and patients group. Music can address many of them by offering a wide range of benefits - promote wellness, improve physical and emotional well-being, to improve the quality of life. **RESEARCH IMPLICATIONS:** Many studies presented in the literature indicate that music therapy is applied to relieve symptoms such as anxiety and pain, difficulty in breathing, high level of stress, fear or loneliness. Music therapy in cancer should be focus on the needs of patients arising from the experience of disease as well as from side effects of treatment. **CLINICAL IMPLICATIONS:** Music therapy may be an effective method of support for cancer patients at various stages of cancer disease. Music therapy interventions may be applied in conjunction with other standard medical treatment such as surgery, chemotherapy and radiation. A wide variety of of music therapy activities can take a place in cancer care settings. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-22

Social Connotations of Prostate-Cancer: Work in Progress

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BACKGROUND: Prostate cancer is the most common cancer of the man, with currently about 60,000 new cases per year in Germany. Despite this fact, little is known about the social connotations of the disease and about patients' subjective perceptions of their illness. Patients' concepts about aetiology, prevention, treatment and prognosis of their cancer as well as their notion of the controllability of the disease have decisive impact on the individual's health behaviour and disease management. **METHOD:** Patients' subjective concepts about prostate cancer are assessed in this cross-sectional study. 89 prostate-cancer patients of the University Hospital Münster (primary disease or relapse) aged 48–80 years (mean = 65, 35; median = 67) were included. The following instruments were used for assessment: Brief Illness Perception Questionnaire (B-IPQ), Hospital Anxiety and Depression Scale (HADS), General Self-Efficacy Scale (SWE), European Quality of Life Questionnaire (EQ-5D with EQ-VAS). The study was approved by the Ethics Committee; all patients gave their informed consent prior to inclusion into the study. **RESULTS:** Data of the study will be presented at the meeting. The sample will be divided into subgroups, comparing the outcome scores. Associations between the patients' subjective perception of disease, anxiety/depression, general self-efficacy and health-related quality of life will be assessed by correlation analysis (Spearman's rho), univariate and multivariate

linear regression (see abstract of Anna Katharina Wulfert "Social connotations of breast cancer"). **CONCLUSIONS:** Medical advances in the treatment of prostate cancer have led to prolonged life expectancy but survivors might have to face additional medical and psychosocial problems. Social connotations connected with prostate cancer and subjective theories about the illness affect patients' perception of their disease and can thus indirectly affect the coping process. Up till now, social connotations of prostate cancer have been insufficiently researched. A deeper understanding of the social connotations of prostate cancer will provide information on how to improve care and treatment for this group of patients. **RESEARCH IMPLICATIONS:** Over the last years a lot of effort was put into educating cancer patients about their disease. Despite all the efforts, many patients with prostate cancer feel stigmatized by their disease. A deeper understanding of the social connotations of prostate cancer will help to optimize health education and preventive measures. This study might provide an insight if health education concerning prostate cancer has been successful so far and how it could be modified more effectively. **CLINICAL IMPLICATIONS:** The diagnosis prostate cancer is associated with distinct emotional pressure for the patient. A better understanding of his subjective illness perceptions and the emotional implications of the disease may help to improve patient's compliance, coping strategies and the general doctor-patient-relationship in cancer treatment. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-23

Barriers to Help-Seeking Amongst Obese Women With Symptoms of Gynaecological Cancers: A Healthcare Professionals' Perspective

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BACKGROUND: Obese women are reported at higher risk of developing some gynaecological cancers (i.e. endometrial and ovarian) than non-obese women. Weight-related barriers contribute to delay in general healthcare utilization; however, specific factors that contribute to late presentation for gynaecological cancers have not been examined. The aim of this study was to explore healthcare professionals' perspectives of the potential barriers, to prompt help-seeking amongst obese women presenting with symptoms of gynaecological cancers. **METHOD:** Qualitative interviews were undertaken with 15 UK based healthcare professionals specialising in gynaecological cancer services (gynaecologists, radiographers, oncologists, psychologists and specialist nurses). Semi-structured interviews explored healthcare professionals'

perceptions of obese women with symptoms of gynaecological cancers, barriers to help-seeking amongst these women (including potential weight and ethnicity related barriers) and potential interventions to improve help-seeking behaviour amongst obese women. Interviews were transcribed verbatim and data was analysed using the "framework" method. **RESULTS:** Three main themes emerged as barriers to help-seeking for obese women presenting with symptoms of gynaecological cancers: (a) embarrassment of the examination process, (b) lack of awareness of gynaecological cancer symptoms, and (c) sociocultural barriers (i.e. accessibility, language, discomfort in discussing sex-related topics). Community education interventions were suggested to build public knowledge of gynaecological cancer symptoms (e.g. through media broadcast and dissemination of information in primary care settings) and the importance of effective general practitioner patient communication in addressing the increased risks associated with obesity and the possible emotional and socio-cultural barriers which may affect help-seeking for gynaecological cancers. **CONCLUSIONS:** This study utilized an innovative approach informed by help-seeking literature, to explore barriers for women who may be at higher risk of presenting with more advanced stage gynaecological cancers due to delays in help-seeking. The study highlighted a mix of individual and cultural factors (i.e. emotional barriers, symptoms and risk-factor knowledge, and sociocultural influences) that may influence help-seeking for symptoms of gynaecological cancer. Future research should investigate barriers to help-seeking from the patient perspective to develop an informed intervention aimed at improving time to help-seeking for diverse populations. **RESEARCH IMPLICATIONS:** This research is timely given the current obesity public health concern and its association with increased risk, morbidity and mortality for some cancers. Although reducing levels of obesity is preferable, the current situation demands a focus on improving help-seeking behaviour amongst obese women to improve survival outcomes. This study builds foundation for larger patient focused research to explore socio-cultural factors in more depth (i.e. across ethnicities/cultures) and develop predictors of delay in this population. **CLINICAL IMPLICATIONS:** Findings from this study provide a first step in a plan of work to inform the development of a culturally sensitive intervention to improve help-seeking amongst obese women. Interventions have been suggested by healthcare professionals to target community and primary care settings and will be further explored in future research investigation the patient perspective of help-seeking amongst obese and overweight women with symptoms of gynaecological cancers. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-24

A Large Cohort Study Evaluating Quality of Life in Patients With Head and Neck Cancer, is it Feasible?

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BACKGROUND: To evaluate the feasibility of a comprehensive baseline assessment of a cohort study evaluating the course of quality of life (QoL) and its association with survival, taking into account cancer-related, personal, biological, psychobehavioural, and lifestyle-related factors. **METHOD:** Newly diagnosed head and neck cancer (HNC) patients were asked to participate. Assessments consisted of questionnaires (635 items), home visit (interview, physical tests, blood and saliva collection), and tissue collection. Feasibility was evaluated by representativeness of the study sample and achievability of the assessments. Representativeness of the study sample was evaluated by comparing demographics, clinical factors, depression, anxiety, and QoL between responders and non-responders using independent t-tests or Chi-Square tests. Achievability was evaluated using 4-point Likert scales covering the number of questions, time investment, intimacy and physical burden. **RESULTS:** During the inclusion period (4 months), 15 out of 26 (60%) patients agreed to participate. Less women participated, 13% in the responders group versus 63% in the non-responders group ($p = 0.008$). Furthermore, no differences were found in demographic and clinical characteristics, emotional distress and QoL between participants and non-participants. Responders completed more than 95% of the questionnaires items, and rated the number of questions, time investment and intimacy as feasible, and the physical and psychological burden as low. It took on average 3 hours to complete the questionnaires and 1.5 hours for the home visit. **CONCLUSIONS:** The comprehensive baseline assessment in patients with HNC was considered feasible and participation rates were sufficient. The study sample was representative and achievability was high. **RESEARCH IMPLICATIONS:** This study reveals that a comprehensive

assessment including various questionnaires, physical measurements and biological assessments is feasible according to patients with newly diagnosed HNC. The research infrastructure as developed in this feasibility study can be used as a framework for future large cohort studies targeting other cancer populations. A large prospective cohort study will start in 2013 aiming to include 739 HNC patients and their informal caregivers in the Netherlands. **CLINICAL IMPLICATIONS:** Results of the planned large cohort study will guide future research to improve treatment and supportive care for cancer survivors. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-25

The Perceived Severity of Chemotherapy Side Effects: A Comparative Study Between Cancer Patients and Non-Patients

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BACKGROUND: Chemotherapy treatment is often associated with its side effects. As side effects are seen not only just as physical experiences, but also as psychological and perceptual experiences, this study aims to gain a better understanding of the perceived severity of the side effects and the differences in perceptions between chemotherapy patients and non-patients (i.e. potential new patients). Also, based on the Common Sense Model, we tested if pre-existing knowledge is a determinant of perceived severity. **METHOD:** A total of 2993 respondents completed our online survey. Respondents were (1) (former) cancer patients that are or have been treated with chemotherapy ($n = 999$), (2) non-patients that are or have been highly involved with a significant other who has been treated with chemotherapy ($n = 823$), or (3) non-patients that have never been highly involved with a significant other who has been treated with chemotherapy. **RESULTS:** For 9 out of the fifteen measured side effects we found that chemotherapy patients reported a significant lower perceived severity than both groups of non-patients would expect. We found this result for the side effects "infection and fever", "nausea and vomiting", "constipation and diarrhea", "hair loss", "mouth and throat sores", "nerve and muscle effects", "bleeding", "concentration and short term memory changes", and "anxiety and depression". Chemotherapy knowledge significantly predicted the perceived severity of chemotherapy side effects for non-patients, but we did not find this effect for chemotherapy patients. **CONCLUSIONS:** The result that for most side effects non-patients have a higher perceived severity than chemotherapy patients can

be explained by the Social-Cognitive Transitions of Adjustment theory, which holds that patients learn to adapt on the basis of changes that are associated with the illness and its treatment. Also, we found evidence for the Common Sense Model: non-patients form their perception on the basis of their pre-existing knowledge, where chemotherapy patients base their perceptions on their own experience. **RESEARCH IMPLICATIONS:** Previous research shows that the perceived severity of chemotherapy side effects may change in the course of decades. This study builds upon these previous studies by giving insight into the present perceptions of the side effect of chemotherapy. Furthermore, this study gives a theoretical foundation, which was still missing in this area of research. Future studies should consider other possible determinants of perceived severity and possible outcomes that can be predicted by perceived severity. **CLINICAL IMPLICATIONS:** The results of this study can be used to improve provider-patient communication. By understanding how patients form perceptions of the side effects of chemotherapy, clinicians can give realistic expectations to new chemotherapy patients. Clinicians should tailor their communication differently to new and experienced patients. Especially for new patients, effective information provision is very important as new patients have no previous experience to base their perceptions on and rely on their knowledge. **ACKNOWLEDGEMENT OF FUNDING:** This study is commissioned by Public eyes and was supported with an unrestricted grant from AMGEN and the Dutch Cancer Society (KWF).

P2-26

Current Status of Psycho-Oncology Services in India: A Survey Study

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BACKGROUND: In India, every year 1 million people are diagnosed with cancer and the trend is increasing. There are 26 Regional Cancer Centers (RCC) and more than 300 tertiary cancer treatment centers in India. Though psycho-Oncology is an essential service in the oncology team, it remains an isolated field in India. This study aims to understand the current status of Psycho-oncological services in India. **METHOD:** Survey method was adopted for the study. Through an online search, RCCs (26) in India were identified. All the RCCs were contacted over telephone and they were briefed about the study. Among the twenty six RCCs sixteen RCCs consented to provide information as requested by the researcher. A telephonic interview was carried out by using a semi-structured

interview schedule. The interview focused on the availability and accessibility of psycho - oncology services, referral systems and support groups. The responses were documented and analyzed using descriptive statistics. **RESULTS:** Of the RCCs interviewed 43% (7) reported having Psycho-oncology services whereas 56% (9) do not have such services. Psychiatrist (1), Psychologist (7), Social Workers (2) and volunteers (1) are offering Psycho-oncology services. While 18% of the RCCs refer patients to other hospitals, 54% refer them to psychiatric departments of the same hospital. Service providers reported that more than half of the cancer patients experience moderate to severe psychological distress. Of the RCCs interviewed only 38% have support group and 50% do not have any support group. **CONCLUSIONS:** More than half of RCCs in India do not have any form of Psycho-oncology Services. Psychiatrist, Psychologist, and Social Workers are providing such services to cancer patients. The number of professionals available in the RCCs is not adequate to meet the psychosocial needs of cancer patients. The Psychological burden of cancer is huge as reported by service providers. Half of the RCCs in India do not have any support groups for patients and family members. **RESEARCH IMPLICATIONS:** Further research can explore the psychological or Psycho-oncological services in other tertiary level cancer treatment centers or hospitals. Research in the quality of psychological interventions rendered in these RCCs and other tertiary cancer treatment centers also need to be undertaken. The oncologist perspective about the need for Psycho-oncological services can also be explored. **CLINICAL IMPLICATIONS:** There is a clear need for more professionally trained Psycho-Oncologists who can identify and address the Psycho-Social problems experienced by the Cancer Patients and their family members during their cancer journey. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-27

Living With Untreated Prostate Cancer: A Longitudinal Study on the Impact of Active Surveillance on Anxiety and Distress Levels

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BACKGROUND: Patients with potentially indolent prostate cancer (PC) can be managed with

active surveillance (AS) in the Prostate cancer Research International: Active Surveillance study (PRIAS). The goal of our study was to analyze anxiety and distress in men living with “untreated” PC while being on AS. **METHOD:** Prospective, longitudinal cohort study including 129 Dutch patients on AS. Treatment was chosen in discussion by patient and physician. Participants completed questionnaires with validated measures on anxiety and distress at inclusion ($t = 0$), 9 and 18 months after diagnosis ($t = 9$ and $t = 18$, respectively). Changes in scores on depression (CES-D), generic anxiety (STAI-6), PC specific anxiety (MAX-PC), self-estimated risk of progression and decisional conflict (DCS) about patients treatment choice were assessed between $t = 0$, $t = 9$ and $t = 18$ using repeated measures analysis (SAS). Changes in physical health (SF-12 PCS) between $t = 0$ and $t = 18$ were assessed using a paired t-test. **RESULTS:** Nine patients (9/129) between $t = 0$ and $t = 9$, and 33 patients (33/108) between $t = 9$ and $t = 18$ stopped AS; 86% on protocol basis. Response rates for patients still on AS at $t = 0$, $t = 9$ and $t = 18$ questionnaire were 86%, 90% and 96%, respectively. CES-D, total MAX-PC, self estimated risk of progression and DCS scores did not change significantly ($p > 0.05$) when comparing $t = 18$, $t = 9$ and $t = 0$ scores, but generic anxiety (STAI-6) ($p = 0.033$) and fear of disease progression (sub-score of the MAX-PC) ($p = 0.007$) did decrease significantly. Men who switched to active treatment were not invited to fill-out quality-of-life questionnaires after they received treatment. **CONCLUSIONS:** After 18 months on AS, average levels of anxiety and distress remained favourably low for men who remained on AS; generic anxiety and fear of disease progression decreased. **RESEARCH IMPLICATIONS:** Our study was one of the first initiatives to assess anxiety and distress among AS participants during a period with 18 months of follow-up. Our results need to be validated by future research. Furthermore, we recommend the comparison of our outcomes on quality-of-life of AS participants to outcomes of alternative treatment options for low risk PC. **CLINICAL IMPLICATIONS:** Urologists should take into account when discussing treatment options with patients the potential psychological discomfort men may experience from living with “untreated” prostate cancer. Our study has shown positive results, however, that may not be the case for all men choosing AS. **ACKNOWLEDGEMENT OF FUNDING:** Prostate Cancer Research Foundation (SWOP), Rotterdam, The Netherlands.

P2-28**Understanding Health and Health Behaviors Among People who are Confronted With Cancer**

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BACKGROUND: The mentality of modern man (mentality of the right thumb) is based on rationalism, individualism and hedonism. It follows that the pursuit of clear purposes: fast, easy and often enjoyable. Meanwhile, the disease is not part of this specification. In addition, distress associated with the situation of the cancer makes that the implementation of health behavior becomes difficult and ambiguous. **METHOD:** The aim of the study was to determine the relationship between the understanding of health, distress, and health behaviors among people confronting the cancer. The study included 50 cancer survivors, 50 family members of cancer patients and 50 of people who belong to the personnel working in oncology and palliative medicine wards. There used 4 questionnaires: Understanding Health Questionnaire, The Distress Thermometer, HADS and Health Behaviors Questionnaire. **RESULTS:** The study has shown significant relationships between subjective understanding of health and distress, and the implementation of health behaviors. People with a severe tendency to select the purpose of easy, clear and quick exhibited higher levels of distress and anxiety, and less likely to take health behaviors. **CONCLUSIONS:** The mentality of the right thumb (fast, clear, easily) in a situation of confrontation with cancer leads to making temporary behaviors aimed at reducing emergency stress. This means a greater tendency to engage in non-healthy behavior (for example: smoking, overeating) and less frequent engagement in health behaviors. **RESEARCH IMPLICATIONS:** It is important to take further longitudinal studies on different health behavior models with regard to the mentality. **CLINICAL IMPLICATIONS:** During the clinical practice focused on lifestyle changes, pay attention to the goals that are associated with the satisfaction of hedonistic needs and assimilation methods of dealing with distress. Also important is implementation of new health behaviors in a simple and unambiguous way (for example by action in different stages). **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-29

Social Connotations of Breast Cancer-Work in Progress

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BACKGROUND: A high number of tumour patients experience their disease as stigmatizing. Social connotations and subjective theories about the illness affect patients' perception of their disease and can thus indirectly affect the coping process. The study assessed in a sample of breast cancer patients, social connotations about the disease as well as anxiety, distress and self-perceived personal control over the illness. **METHOD:** 94 breast cancer (primary or secondary disease) patients took part in the cross-sectional study at the University Hospital Münster, Germany. The age range was 32–86 years (mean: 53; median: 52.5). The following instruments were used for assessment: Brief Illness Perception Questionnaire (B-IPQ), Hospital Anxiety and Depression Scale (HADS), general self-efficacy scale (SWE), European Quality of Life Questionnaire (EQ-5D with EQ-VAS). The extent of disease control was measured by the item 3 of the Brief-IPQ. The study was approved by the Ethics Committee; all patients gave their informed consent prior to inclusion into the study. **RESULTS:** Patients' perceived controllability of their disease has significant influence on the outcome-scores. Patients with perceived disease control ($n = 23$) scored lower in the B-IPQ ($p = 0.001$) and the HADS-anxiety-scale ($p = 0.043$) compared to patients without disease control ($n = 70$). Participants with perceived disease control scored higher in the EQ-5D ($p = 0.010$) and the EQ-VAS ($p = 0.033$) than participants without perceived disease control. Univariate linear regression analysis confirms the effect of perceived disease control on the B-IPQ outcome-scores ($B = 10.86$, $p = 0.001$), EQ-5D (exp.B = 0.89, $p = 0.016$) and EQ-VAS (exp.B = 0.78, $p = 0.025$). **CONCLUSIONS:** Medical advances in cancer therapy lead to prolonged life expectancy, but might also cause additional medical and psychosocial problems. Understanding social connotations of cancer may offer new approaches to improve patient's quality of life and coping. Until now, social connotations of breast cancer have been insufficiently researched. The first analysis of our data shows that self-perceived control over the disease has high impact on patients' disease-management and their subjective quality of life. **RESEARCH IMPLICATIONS:** The results of our study show breast cancer patients with perceived personal control over their disease have a better quality of life and a better state of health. These findings can help to optimize health

education and prevention for this group of patients. The study can also provide information about the effectiveness of health education in breast cancer patients in the past and how it could be modified more effectively in the future. **CLINICAL IMPLICATIONS:** Patients with carcinoma are exposed to a lot of psychological strain during their illness. This psychological strain is often underestimated. A better understanding of the subjective illness perceptions and the emotional implications of the disease may help to improve patients' compliance, coping strategies and the general doctor-patient-relationship in cancer treatment. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-30

Oncologists' Recognition of Depressive Symptoms in Advanced Cancer Patients: What Symptoms do they Accurately Detect and How?

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BACKGROUND: Research suggests that oncologists may be inaccurate in their ability to recognize distress in cancer patients and that depression often goes undetected. The aim of this study was to examine oncologist-patient agreement on specific depressive symptoms, and to identify potential predictors of this accuracy. These included sadness, pessimism, sense of failure, dissatisfaction, guilt, self-dislike, suicidal ideation, and holding a negative body image. **METHOD:** 201 adult advanced cancer patients self-reported depressive symptoms with an 8-item version of the BDI which has been validated for use amongst the somatically ill. Their oncologists ($n = 28$) answered the same questionnaire in a perspective-taking task. **RESULTS:** Intra-class correlations for individual BDI-8 items varied around a median of 0.30 (Min–Max = 0.14–0.52). Sensitivity varied around a median of 41.6% (Min–Max = 20.6–73.5%) and was highest for pessimism, negative body image, and sadness, while specificity varied around a median of 71.5% (Min–Max = 40.0–94.6%) and was highest for suicidal ideation, self-dislike, and guilt. When controlling for prevalence, detection was most accurate for sadness, pessimism, guilt and suicidal ideation. Linear regression analyses identified similarity in gender, physician compassion, and quality of the patient-physician relationship as predictors of accuracy on various symptoms. Additional analyses concerning the recognition of symptoms are discussed. **CONCLUSIONS:** The findings suggest that oncologists have difficulty discriminating between patients who

experience depressive symptoms and those who do not. This is especially true for symptoms that are less visible. Moreover, relational variables may play an especially important role as facilitators of patient-physician agreement on less visible symptoms. **RESEARCH IMPLICATIONS:** Future longitudinal or experimental research is needed to better understand the skills that allow for accurate detection. **CLINICAL IMPLICATIONS:** Considering that oncologists are an important source of referral to psychosocial services, additional training is needed. This could focus on key depressive symptoms in this population and on the development of rapport with patients. **ACKNOWLEDGEMENT OF FUNDING:** Institut National du Cancer SHS SPE 2010 (France); Fondation du CHU Sainte-Justine (Montreal, Canada).

P2-31

Medical End-of-Life Decisions at the University Hospital of Brussels (UZ Brussel, Belgium)

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BACKGROUND: This descriptive research explored which medical end-of-life decisions were taken in every event of death at UZ Brussel (Belgium). The incidence of medical end-of-life decisions, the characteristics of this decision process, the characteristics of the doctors involved in this process and the patient demographics were prospected. This research was carried out in the specific context of a university hospital. The sample was drawn between 1 September 2011 and 30 November 2011. **METHOD:** Using the death certificate method, the doctor (participant) whose patient was deceased was traced. Participants were asked to cooperate by reporting the end-of-life decisions they made, with their patient, through a standardized face-to-face post-mortem questionnaire. Inclusion criteria were that a patient had died at UZ Brussel and that the doctor knew the patient before dying. Exclusion criteria were that the doctor who signed the death certificate simply took note of the death or the interview couldn't take place within 14 days after a patient's death and cases of perinatal death. The Ethical Review Boards of UZ Brussel granted permission. **RESULTS:** Medical end-of-life decisions were common practice (92.3%) but most of the time this was without explicit request/knowledge of the patient. In most of the cases only family of the patient was consulted. Penultimate end-of-life decisions were in 51.9% of the cases decisions that concerned withholding or withdrawing potentially life-prolonging treatment. Last end-of-life decisions were rather decisions of adapting or alleviating pain by using opioids (48.1%). Cases

of euthanasia were more frequent compared with general numbers of the Belgium population. It was also more common to take medical end-of-life decisions in cancer patients. Doctor-doctor consultation was the most common interdisciplinary communication. **CONCLUSIONS:** These findings conclude that the process of medical end-of-life decisions is a difficult task that requires attention. Timely and realistic communication with patients, their family and a multidisciplinary team were a crucial element in end-of-life care. **RESEARCH IMPLICATIONS:** Follow-up studies are useful and necessary to compare these results with other hospital contexts (and hospital cultures). Further qualitative research can be important to explore potential needs and perceptions of doctors, patients and relatives in end-of-life situations. However practical, ethical, deontological and methodological difficulties may complicate this research. **CLINICAL IMPLICATIONS:** Medical end-of-life decisions are common practice, but communication with patients, family and colleagues about this topic is not so simple and can elevate emotional pressure. In the future an increase in importance of medical end-of-life decisions due to different social evolutions can be expected. Training in communication with patients, family and other care takers will be a point of interest for doctors who opt for qualitative end-of-life care. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-32

Psychological Distress and Quality of Life of Cancer Patients and Their Caring Relatives

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BACKGROUND: While an increasing number of palliative cancer patients receives home care with family caregivers providing a high level of care and support, there is little psychological support for both patients and family caregivers. One reason for this shortcoming is the lack of knowledge about the level of psychological distress and quality of life in palliative patients and their family caregivers. **METHOD:** In order to assess psychological distress and quality of life, interviews were conducted with palliative cancer patients and their family caregivers. Quality of life was assessed using the EORTC QLQ-C15-PAL (cancer patients) and the SF-8 questionnaire (family care givers). The level of psychological distress was evaluated using the Hospital Anxiety and Depression Scale (HADS) and the extent of social support with the Oslo Social Support scale (OSS). **RESULTS:** 120 palliative patients (42.5% female, age: $M = 69$ years) and 106 family caregivers (67.9% female, age:

M = 64 years) answered the questionnaire. 75% of caregivers were the partner of the patient. One in four patients showed high level of anxiety and every second patient had high level of depression. The main symptoms were fatigue, loss of appetite, shortness of breath and pain. 33% of family caregivers had high level of anxiety and 28% had high level of depression. Caring partners had higher psychological distress and poorer quality of life than other caregivers, high financial burden and dissatisfaction with partnership had also a significant impact. **CONCLUSIONS:** Family caregivers manage multiple care giving demands while facing the emotional task of preparing for the loss of their loved one. They are highly psychologically distressed and show a reduced quality of life. However, there is no professional outpatient psychological support offered to these people. **RESEARCH IMPLICATIONS:** Research findings about the level of anxiety and depression in palliative cancer patients and family care givers are rather inconsistent. Furthermore, there is a lack of knowledge regarding potentially moderating effects of socio-demographic factors on psychological distress and quality of life. Future research should, therefore, assess the impact of such factors (gender, age etc.) in order to adapt professional support to the needs of family caregivers. **CLINICAL IMPLICATIONS:** Outpatient palliative care should also provide professional psychotherapeutic and psychological support. The need for psychological support is highest in caring partners and caregivers with problematic relationship with the patient. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the German Cancer Aid ("Deutsche Krebshilfe e. V.", grant number 109309).

P2-33

Early Palliative Care for Improving Quality of Life and Survival Time in Adult Patients With Advanced Cancer: Protocol of a Cochrane Review

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BACKGROUND: Early palliative care has reached high international attention since the seminal work of Temel (2010). She showed in lung

cancer patients that starting with palliative care (PC) already at the time a person is diagnosed with metastatic cancer, can be favourable to improve quality of life and survival. As a consequence, further trials on early PC in different cancer groups have been initiated recently. However, currently there exists now systematic quantitative overview of these trials. **METHOD:** We will conduct a systematic review within the Cochrane Pain, Palliative and Supportive Care (PaPaS) Review Group. The goal of the review is to assess and summarize all randomized controlled trials and controlled trials on early PC. All types of PC will be included, if interventions were aiming at at least two components of quality of life (e. g. bodily symptoms and depression). Interventions evaluating the impact of only one component of PC (e.g. medication on pain or psychological interventions) will be excluded. Outcomes of interest are quality of life, symptom intensity, distress, and survival time. **RESULTS:** After title registration with the Cochrane Collaboration two reviewers independently drafted a highly sensitive search strategy in close cooperation with the group's Trial Search Coordinator. The consecutive search in MEDLINE yielded 5.244 potentially relevant records. Our database search is still ongoing with EMBASE, PsycINFO, Cochrane Central Register of Controlled Trials, CINAHL, LILACS, SIGLE, and clinical trial registries being searched for completion. So far, we have found eight randomized controlled trials meeting inclusion criteria. Final results will be presented in the upcoming Cochrane Review. **CONCLUSIONS:** Early PC has been increasingly subject to efficacy research with quality of life being the most important primary outcome. Several primary studies now allow for compilation and integration within a meta-analysis. The Cochrane Collaboration has endorsed early PC to be an important clinical issue and will further support our work to prepare a review based on the highest levels of quality. **RESEARCH IMPLICATIONS:** Besides results on efficacy of early palliative care the systematic review will also provide information on methodological quality of trials (risk of bias) and research deficits. This can be used to set standards for further studies on this topic and to highlight areas in need for future research. **CLINICAL IMPLICATIONS:** The aim of this Cochrane review is to summarize all trials on early PC and help people to understand the evidence. The results will guide people (clinicians as well as patients) to make practical decisions about using early palliative care in cancer. As a Cochrane review the evidence will be regularly updated. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-34

Using Ritalin & Ketamine in Depressed Cancer PatientsJamal Khatib*King Hussein Cancer Center-KHCC, Amman, Jordan*

BACKGROUND: Advanced cancer is a depressing life limiting situation, depression in turn worsen or even destroys the quality of already limited life. Since almost all antidepressants take no <3 weeks to act, finding rapid acting antidepressants is of crucial importance. The aim of this review is to look into randomized controlled trials that used Ketamine and Ritalin in treating depression to draw a conclusion/evidence. **METHOD:** Two separate retrospective PubMed searches using A-Ritalin-Ketamine together with the words depression were done. The retrieved publications were filtered by "Randomized Controlled Trials" for Ketamine and Ritalin. Randomized clinical trials that looked into the antidepressant effect of Ketamine and Ritalin were identified and separated, then analyzed. **RESULTS:** Filtered by "clinical tails" search, retrieved 100 clinical trial for Ritalin, and 107 for Ketamine. Most of the trial showed significant antidepressant effect within 4 hours–1 day. **CONCLUSIONS:** Both Ritalin and Ketamine are safe and effective "Antidepressants" with rapid onset of action, however there are controversies about duration of improvement. **RESEARCH IMPLICATIONS:** A randomized clinical trial comparing methylphenidate and Ketamine for depression in cancer inpatients King Hussein Cancer Center has been processed. **CLINICAL IMPLICATIONS:** Using Ketamine and /or Ritalin as antidepressant is justified in certain groups of patients especially suicidal, and patients with limited time and terminal cancer or other end of life situations, however long term use needs further evaluation. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-35

Current-Situation Survey Regarding the Way of Presenting Information for End-Of-Life Care in Japan After Enactment of Basic Anticancer LawMika Kobayashi¹, Kanako Ichikura², Ayako Matsuda³, Wataru Noguchi⁴, Toshiko Matsushita⁵, Eisuke Matsushima²

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BACKGROUND: In Japan, a Basic Anticancer Law was legislated in 2007, and The Ministry of

Health, Labor and Welfare then released the Anti-cancer Measure Promotion Plan based on this law. The plan advocates the improvement of physicians' communication skills, as they require special sensitivity for patients in disclosing unfavorable diagnoses and prognoses to them. The aim of this study was to survey the current situation of the way of presenting information for end-of-life care in Japan. **METHOD:** A mail survey was conducted in 5376 hospitals of 8843 hospitals throughout Japan, where cancer patients at the end of life likely to get inpatient or outpatient treatments. The questionnaire consisted of 7 major categories. The results were compared with data from a previous survey conducted in 4911 hospitals in 2006, before the Basic Anticancer Law. In this report, questions were focused on confirmations of treatment courses among patients in end-of-life care. The bioethics research center at Tokyo Medical and Dental University formally stated that the present study could be conducted without official approval of the ethics committee. **RESULTS:** The response rate was 22.8% compared to 30.5% in the previous survey. The cancer diagnosis disclosure rate was $73.5 \pm 29.0\%$, confirmation of changing therapeutic measures from curative to only palliative treatment was $68.6 \pm 32.3\%$, confirming requests of life-prolonging treatment was $60.2 \pm 35.9\%$, and disclosure of life expectancy was $32.5 \pm 28.0\%$. Regarding confirmation of treatment courses at end-of-life care, results of the two studies were compared. The rates of "confirming wills of patients and their family members" increased from 48.6% to 60.9% ($p < 0.0001$). The rates of "discussing the situation with patients' families first, and confirming the will of families" decreased from 45.0% to 34.5% ($p < 0.0001$). **CONCLUSIONS:** Cancer is the leading cause of death among Japanese, and more than 300,000 people die from cancer every year. To improve the current situation, the Basic Anticancer Law was enacted in 2007. The results showed that the rate of disclosing unfavorable diagnoses and prognoses to patients themselves decreased with the increasing seriousness of the clinical situation. However, with the enactment of the Basic Anticancer Law, autonomy of the patients themselves has become more respected, although the will of family members still exerts a great influence on clinical decision-making in Japan. **RESEARCH IMPLICATIONS:** The present nationwide study was significant for revealing the current situation regarding the way of presenting information for end-of-life care. More analyses and further studies are expected to increase our understanding of the details of area differences. After the enactment of Basic Anticancer Law, the Japanese Psycho-Oncology Society has actively organized communication skill workshops for physicians in cancer practice. More individualized studies would be helpful for determining more specific

issues during daily clinical practice. **CLINICAL IMPLICATIONS:** The autonomy of patients had become more respected, as was entrusting the will of family members in the process of decision-making for end-of-life care. In the Japanese cultural context, families' preferences are respected as well as patients' own thoughts. Then, there are high expectations for physicians to have communication skills with the actual Japanese circumstances. Further strengthening and deepening of educational activity are needed to support physicians' clinical practice centered in designated cancer care hospitals. **ACKNOWLEDGEMENT OF FUNDING:** None for the study conducted in the present study. Regarding the previous survey in 2006 was supported by Health Labour Sciences Research Grant.

P2-36

Cognitive-Behavioral Therapy for Depression and Anxiety in Advanced Cancer: A Literature Review

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BACKGROUND: Anxiety and depression are the most prevalent emotional problems in patients with advanced cancer. Both have been associated with the exacerbation of physical symptoms in this population. It is still unclear the effect of cognitive-behavioral therapy on anxiety and depression in advanced cancer. The aim of this work is conduct a literature review for identifying and describing the effectiveness of CBT on depressive and anxious patients with advanced cancer. **METHOD:** The PICO system was used to identify the main elements of the research question. The search was conducted using: Cochrane Central; Pubmed; PsycInfo, and Redalyc. Synonyms of CBT, anxiety, depression and advanced cancer were found by crossing 3 terms together with the Boolean command "AND". The review was conducted both in English and Spanish. This review included experimental studies (randomized controlled trials, pure experiments; quasi-experimental studies; $N = 1$ designs) and clinical case designs. Adults of 18 years of age or older with a diagnosis of advanced cancer, and experiencing anxiety or depression were included. All patients had to undergo a CBT. **RESULTS:** From 882 papers only 12 studies met the inclusion criteria. Depression

was evaluated as the primary or secondary endpoint in 10 out of 12 articles comprised in this review. Of the 10 studies, 7 reported a decrease on the depression scores between pre- and post-evaluation, but only 4 studies deemed those changes as statistically significant. Anxiety was evaluated as the primary or secondary endpoint in the 12 studies comprised in this review. Of the 12 studies, 9 reported that there was decrease on the anxiety scores between pre- and post-evaluation; six studies were statistically significant. **CONCLUSIONS:** It can be assumed that the CBT has had positive effects for treating both problems when present in a mild or moderate range. Anxiety reported better effects than depression; however, these effects appear to remain only on the post assessment and not in the follows-ups. It should be noted that in 2 studies patients in the wait list control group decreased their depression or anxiety scores - without any intervention - which can indicate a possible regression to the mean. Therefore, the decrease in the scores should be carefully interpreted in those studies that have no comparison group. **RESEARCH IMPLICATIONS:** We need more CBT research with Randomized Control Trials in order to assess the overall effect of this therapy in anxiety and depression in patients with advanced cancer. Also we need to develop new techniques for treating depression in this population. **CLINICAL IMPLICATIONS:** Cognitive behavioral therapy is an option for treating anxiety in patients with advanced cancer. Cognitive restructuring of real and unreal thoughts different kinds of relaxation and patient's education are very useful techniques. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-37

Anxiety and Depression are Related to Physical Symptoms Burden in Mexican Patients With Terminal Cancer

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BACKGROUND: Anxiety and depression are the most prevalent emotional problems in patients with terminal cancer. Both have been associated with the presence and intensity of physical symptoms such as fatigue, pain and anorexia. It is still unclear the association of anxiety/ depression mood and physical symptoms burden in Mexican patients. The aim of this research was assess the relationship among anxiety, depression and the presence and intensity of physical symptoms burden in patients with

terminal cancer. **METHOD:** We carried out a cross-sectional analysis in patients who came for the first time to palliative care consultation. We used the Mexican adaptation of Edmonton Symptom Assess System (ESAS) and Hospital Anxiety and Depression Scale (HADS). 96 patients with terminal cancer participated in this study. Chi Square was used to assess the relationship between the variables anxiety, depression and physical symptoms. We also applied the Spearman's rho correlation coefficient for variables anxiety, depression and intensity of physical symptoms. We used a significance level of $p < 0.05$. **RESULTS:** We found a low but statistically significant relationship among depression and the presence of pain $\chi^2 = 4.704$, $p < 0.03$; anxiety $\chi^2 = 4.144$, $p < 0.04$; nausea $\chi^2 = 6.748$, $p < 0.009$; and anorexia $\chi^2 = 10.210$, $p < 0.001$. Depression and intensity of pain: $r_s = .331$, $p < 0.01$; weakness $r_s = .407$, $p < 0.001$; anxiety $r_s = .375$, $p < 0.003$; nausea $r_s = .402$, $p < 0.002$; mouth problems $r_s = .333$, $p < 0.01$; insomnia $r_s = .257$, $p < 0.04$; and anorexia $r_s = .388$, $p < 0.002$. Anxiety was statistically significant related with anorexia $\chi^2 = 5.603$, $p < 0.01$ and anxiety $\chi^2 = 5.968$, $p < 0.01$. Anxiety and intensity of pain $r_s = .310$, $p < 0.01$; depression $r_s = 0.309$, $p < 0.01$; anxiety $r_s = 0.487$, $p < 0.001$; nausea $r_s = 0.282$, $p < 0.03$; and anorexia $r_s = 0.318$. **CONCLUSIONS:** According to the data obtained it can be assumed that anxiety and depression are related to presence and intensity of physical symptoms burden in Mexican patients with terminal cancer. The physical symptoms reported by Mexican patients were similar than those reported in other international research: pain, insomnia and anorexia. Given the design used in this research we cannot talk about causality in the information obtained. **RESEARCH IMPLICATIONS:** We can improve psychological research for treating anxiety and depression and assess the effect in the control of symptoms in patients with terminal cancer. **CLINICAL IMPLICATIONS:** For a successful control of physical symptoms in palliative field it is necessary to assess whether the patient is anxious or depressed. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-38

Change of Uncertainty and Related Factors in Patients with Advanced Lung Cancer - A 12 Month Longitudinal Follow-Up Study

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BACKGROUND: Novel anticancer agents effectively prolong the length of survival for advanced lung cancer patients, but the 5-year survival rate remains at 13–16%. Thus, lung cancer patients live

with continual uncertainty that jeopardizes their quality of life. The purpose of this study was to examine changes in the level of uncertainty and its related factors during the 12-month period following a new diagnosis of advanced lung cancer. **METHOD:** For this longitudinal study we recruited advanced lung cancer patients from a leading medical center in Northern Taiwan. Patients were assessed for their levels of uncertainty, symptoms, and depression before treatment, and at 1, 3, 6, and 12 months after treatment initiation by using the Mishel uncertainty in illness scale, the symptom scales of the EORTC QLQ C30, and the depression scale of the hospital anxiety and depression scale. We used generalized estimating equations models to examine the change of uncertainty and its related factors. The inverse probability weighting method was employed to manage the non-ignorable missing data. **RESULTS:** Of the 129 patients who were recruited, 75 completed the 5 assessments. The patients reported the highest uncertainty level before treatment and remained at steady levels from treatment initiation to 6 months since treatment. The level of uncertainty significantly decreased at 1 year. Patients who perceived more uncertainty and a better Karnofsky performance scale score at the pretreatment stage had greater uncertainty during the follow-up period. Moreover, patients with high levels of depression and symptoms including pain, dyspnea, and poor appetite had significantly higher levels of uncertainty across the 12 months. **CONCLUSIONS:** Advanced lung cancer patients experienced continual uncertainty about their disease and the effects of treatment during the 12 months after treatment began. These findings show that uncertainty arises when patients experience symptom aggravation. Pain, dyspnea, and appetite loss were the most distressing symptoms, which triggered unpredictable feelings for patients. Higher levels of depression during the follow-up period led to greater reported levels of uncertainty. Moreover, the pretreatment uncertainty level and performance status were significant signals for the increase in uncertainty during the 12 months following diagnosis. **RESEARCH IMPLICATIONS:** Structuralized interventions tailored to lung cancer subgroups must be developed for uncertainty management. Based on our findings, we suggest that uncertainty reduction interventions comprise symptom management training, symptom monitoring, individualized counseling services, and cognitive process exchange training to address patient concerns. Further components of the interventions and their dose and intervening duration required for managing persistent uncertainty in lung cancer patients must be tested. **CLINICAL IMPLICATIONS:** Health care professionals should conduct systematic assessments for lung cancer patients at the pretreatment phase to identify patients with a high risk of uncertainty and pro-

vide timely interventions. Furthermore, it is imperative to continue symptom monitoring and management, counseling services, and uncertainty reduction interventions across the disease trajectories of advanced lung cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by a grant from the National Health Research Institutes (NHRI - EX98 - 9807PI).

P2-39

The Sights and Sounds of Palliative Care: Caregivers' Experiences at the Deathbed

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BACKGROUND: Within the literature on palliative care, the possible occurrence of PTSD as part of the spectrum of complications of grief seems to have gone largely unrecognised. Nonetheless our clinical experience suggests that trauma symptoms and possibly PTSD may contribute significantly to bereavement morbidity in this population. This is an exploratory paper examining responses to the death of a loved one who has had cancer, with a focus on possible trauma/PTSD responses. **METHOD:** Consecutive care-givers participating in the Australian Ovarian Cancer Quality of Life Study and who were bereaved during this study were invited to participate in a follow-up study. Approximately five months post-bereavement, caregivers were sent a letter of condolence inviting them to participate in semi structured telephone interviews. Questions were developed for the following domains: preparation for death, information and decision making, emotional and communication issues, the last weeks of life, end of life care, and the death itself. Interviews were tape recorded and transcribed verbatim. Caregivers' recollections of their end of life experiences were coded and analysed. **RESULTS:** The patients whose death was the subject of these interviews were in contact with palliative care services, yet these interview transcripts describe trauma associated with these expected deaths. Highlighting the sub-structural emotional tone within these interviews reveals that the expressions of distress and shock identified, even though some phrases are in

common usage, are repetitively present in this setting. All interviewees used language consistent with some degree of traumatisation. Whilst there was evidence suggestive of resilience and resolution, a number of interviewees describe intrusive memories associated with the physical sights and sounds that they witnessed at the deathbed. **CONCLUSIONS:** These findings are not diagnostic, nor can prevalence of PTSD be estimated from this material, nonetheless the language used is very suggestive of these interviewees having undergone a profoundly traumatic experience. Palliative care practice focuses on relief and prevention of suffering, and preparation for death - for both patients and loved ones. The skillful care of caregivers requires an understanding of the nature of their experience, especially if we are to reduce traumatisation of vulnerable individuals. Identifying the true significance of PTSD in palliative care caregivers is therefore an important future topic of research. **RESEARCH IMPLICATIONS:** Unlike deaths in ICU, or sudden deaths, traumatic experiences have not previously been considered as an important aspect of the bereavement experience for expected deaths in palliative care. As far as we are aware no information is currently available on the true prevalence or likely outcome of such problems. The extent of PTSD in this population should be further investigated with longitudinal studies using appropriate assessment tools. **CLINICAL IMPLICATIONS:** Our initial hypothesis for these findings is that expected death has an inherent trauma within it, no matter how well families are prepared, or symptoms managed. Our study demonstrates the phenomenon of the "shocked caregiver" with evidence suggestive of PTSD symptoms. If trauma symptoms are present in bereaved carers in palliative care it has implications for the provision of palliative care including preparation for the death and for the provision of bereavement counselling. **ACKNOWLEDGEMENT OF FUNDING:** The AOCS QoL study was funded by the Cancer Councils of New South Wales and Queensland (grant number RG 36/05 New South Wales). Financial support for the parent study (AOCS) was provided by the US Army Medical Research and Materiel Command (grant number DAMD17-01-1-0729), the National Health and Medical Research Council (NHMRC; grant numbers 400413, 400281) and the Cancer Councils of NSW, Queensland, South Australia, Tasmania, Victoria and Western Australia.

P2-40

Psychosocial Impact of Fungating Wounds on Cancer PatientsJoyce Marete¹, Hellena Musau²¹*Aga Khan University Hospital, Nairobi, Kenya,*²*Nairobi Hospice, Nairobi, Kenya*

BACKGROUND: Fungating malignant wounds develop when tumour cell infiltrate and erode through the skin. The term “fungating” is used to describe the development and progression of the wound which may be proliferating and / or ulcerating. They have a major psychosocial impact and negatively affect the patients quality of life (QOL)

METHOD: Patients’ QOL was evaluated using the Functional Scale, which assess the following QOL domains: Physical wellbeing, Social/family wellbeing, Emotional wellbeing, Functional wellbeing and Spiritual wellbeing.

RESULTS: Patients reported many significant needs across all QOL domains, others reported difficulties in securing financial support for disease treatment and wound management. Low mean score in physical wellbeing meant the quality of symptom management for terminally ill patients remain poor. Although participants reported finding comfort and strength in their faith and spiritual belief, they were at risk of spiritual distress. The functional wellbeing was poor and suggests that patients are particularly in need of financial support because of expensive treatment and their inability to continue working.

CONCLUSIONS: Good psychological support should be emphasized to help patients to accept their illness. The findings suggest that, once patients accept their illness, their QOL can be greatly improved. Patients who had good family support and acceptance tend to have good quality of life.

RESEARCH IMPLICATIONS: This study included patients with wound only and also patients with different type of cancer, so the results cannot be generalized to all terminally - ill patients in Kenya. Further studies should be conducted to explore wound care and QOL in other illnesses compared to cancer.

CLINICAL IMPLICATIONS: Effective evidence based management for malignant fungating wounds should be incorporated into existing wound care protocol. Development of wound clinics in hospices and palliative care units as well as in outreach/mobile palliative care units in order to reach patients and families in the remote and rural regions of the country.

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P2-41

Recognition of the Patient Before Medical Treatment Affects the Reduction of Pain in Cancer Patients (PartII)Hiromichi Matsuoka¹, Chihiro Makimura¹, Atsuko Koyama¹, Masatomo Otsuka², Kiyohiro Sakai¹, Ryo Sakamoto¹, Kazuhiko Nakagawa³¹*Department of Medical Oncology, Division of Psychosomatic Medicine, Kinki University Faculty of Medicine, OsakaSayama/Osaka, Japan,*²*Department of Palliative Care Medicine, Sakai Hospital, Kinki University Faculty of Medicine, Sakai/Osaka, Japan,* ³*Department of Medical Oncology, Kinki University Faculty of Medicine, OsakaSayama/Osaka, Japan*

BACKGROUND: Pain is among the most common symptoms of cancer. There is much research about the patient’s amount of pain using the Numerical rating scale (NRS), or in respect to emotions using the Hospital anxiety and depression scale (HADS). However, little is known about the influence of individual cognition and individual view of pain. Therefore, the objective of this study is to investigate the effect of cancer patient’s individual cognition and individual view to pain.

METHOD: We prospectively analyzed 100 patients (male 50) experiencing pain as a result of cancer. The subjects of this study were cancer patients who went to our hospital regularly or were hospitalized between 2009 and 2011. Morphine treatment was performed according to the standard method including titration (NCCN GuidelinesTM, Adult Cancer Pain). We investigated if the recognition of the patients before medical treatment affects the reduction of pain in cancer patients.

RESULTS: Patients who thought their pain would lessen in the future on Day1 had a chance of pain reduction on the NRS on Day 8 ($p = 0.001$). We also examined the relation between “the mental condition before medical treatment” and “a chance of their pain lessening”. In the correlation matrix created in advance, there were mild correlation coefficient ($r = -0.335$, $p < 0.01$) between “the recognition of getting better on Day1” and “HADS-D high score on Day 1”, and also mild correlation coefficient ($r = -0.285$, $p < 0.01$) between “the recognition of getting better on Day 1” and “the HADS-A high score on Day 1”.

CONCLUSIONS: Our results suggest that the patients who think their pain would lessen in the future could experience a reduction of pain by Day 8.

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P2-42**The Role of a Psychiatrist in a Mobile Palliative Team**

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BACKGROUND: Palliative mobile team are specialist consulting services in the field, out of hospital, aimed to support GP in whole palliative treatment. Its role is organizational, educational and professional. The team participates in creation of a network that connects the primary and secondary health care, educates patients, families and health professionals, but also takes part in the treatment itself. It has a major role in shaping a group matrix and in opening dialogues on specific issues. **METHOD:** The frame of group work was supportive, from which some important issues to consider stemmed: "You know, doctor, it is increasingly difficult for me to find gratification in a treatment when I see that patient is dying anyway, where is my medical boundary?" "I often find myself in a situation that apart from medical treatment, I am asked some other questions, about life, about death, about the meaning of all, of heaven or about the meaning of illness, so sometimes I am taken aback by such queries." How to psychodynamically approach to such emotional issues in team? **RESULTS:** Work with severely ill person opens a complex dimension for which we are poorly prepared by our medical education. The group work raised awareness of some important points:

1. Concept of gratification in a palliative approach versus conventional treatment.
2. Awareness of counter-transference issues in somatic therapies.
- 3 Taking work home and realization of an infantile desire in dreams.
4. Situations in which a paramedical part plays an important role, which becomes part of treatments.

CONCLUSIONS: A psychiatrist has the task of opening questions that involve emotional sphere of a doctor, which shows specificity compared to conventional treatment. Answers are not necessarily given, but opening of a group itself allows channeling the anxiety and finding more adequate forms of emotional response. **RESEARCH IMPLICATIONS:** The questions arise working on field on what somatic doctors could not detect as a problem on field and what limited their work. This shows how emotional level of palliative doctor has a significant role play in tretment and personal satisfaction. **CLINICAL IMPLICATIONS:** To answer the questions:

How to (medically) treat where the effect of treatment is minimal and mutual expectations are high?

How to find personal gratification in cases when we know that our role is limited?

Where is the border line between empathic capacity and our personal emotions?

How far to go in talks with patients about topics that are not medical, but are part of the overall healing process?

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P2-43**Psychiatrist in a Mobile Palliative Team**

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BACKGROUND: Palliative mobile team are specialist consulting services in the field, out of hospital, aimed to support GP in whole palliative treatment. Its role is organizational, educational and professional. The team participates in creation of a network that connects the primary and secondary health care, educates patients, families and health professionals, but also takes part in the treatment itself. It has a major role in shaping a group matrix and in opening dialogues on specific issues. **METHOD:** The frame of group work was supportive, from which some important issues to consider stemmed: "You know, doctor, it is increasingly difficult for me to find gratification in a treatment when I see that patient is dying anyway, where is my medical boundary?" "I find myself in a situation that apart from medical treatment, I am asked some other questions, about life, about death, about the meaning of all, of heaven or about the meaning of illness, so sometimes I am taken aback by such queries." How psychodynamically approach to such emotional issues in team? **RESULTS:** Work with severely ill person opens a complex dimension for which we are poorly prepared by our medical education. The group work raised awareness of some important points:

1. Concept of gratification in a palliative approach versus conventional treatment.
2. Awareness of counter-transference issues in somatic therapies.
3. Taking work home and realization of an infantile desire in dreams.
4. Situations in which a paramedical part plays an important role, which becomes part of treatments.

CONCLUSIONS: A psychiatrist has the task of opening questions that involve emotional sphere of a doctor, which shows specificity compared to conventional treatment. Answers are not necessarily given, but opening of a group itself allows channeling the anxiety and finding more adequate forms of emotional response. **RESEARCH IMPLICATIONS:** The questions arise working on field on what somatic doctors could not detect as a problem

on field and what limited their work. This shows how emotional level of palliative doctor has a significant role play in treatment and personal satisfaction. **CLINICAL IMPLICATIONS:** To answer the questions: How to (medically) treat where the effect of treatment is minimal and mutual expectations are high? How to find personal gratification in cases when we know that our role is limited? Where is the border line between empathic capacity and our personal emotions? How far to go in talks with patients about topics that are not medical, but are part of the overall healing process? **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-44

The TIRED [Treatment of Fatigue During Palliative Care for Advanced or Metastatic Disease] Study: Two Interventions for Fatigued Advanced Cancer Patients, a Randomised Controlled Trial

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BACKGROUND: Fatigue is an important symptom lowering the quality of life (QoL) in patients with advanced cancer (AC). Graded exercise therapy (GET) and cognitive behaviour therapy (CBT) have shown to be effective in reducing fatigue in cancer survivors, but the effectiveness for patients receiving systemic palliative treatment has not been demonstrated. We started a study to test the effects of both interventions in patients with AC. Mediators of the expected reduction in fatigue will be determined. **METHOD:** TIRED is a prospective randomised, controlled, multicentre intervention trial with 3 conditions (GET, CBT, and care as usual). GET consists of weekly sessions of 2 hours resistance and aerobic training with a physical therapist during 12 weeks. CBT consists of 10 individual 1 hour sessions with a cognitive behavioural therapist over a period of 12 weeks. A treatment protocol for CBT has been developed consisting of 6 modules aimed at factors that are thought to perpetuate fatigue. Both interventions are designed to reduce fatigue in patients with advanced breast or colorectal cancer. Secondary endpoints are functional impairment and QoL. **RESULTS:** Two-hundred-nineteen adult patients diagnosed with advanced breast or colorectal cancer will be recruited and randomised between one of 3 groups. All patients who have been severely fatigued for at

least 2 weeks without known and treatable somatic cause (other than cancer related), and scheduled to receive first line of palliative cancer treatment are eligible. Recruitment of participants began in January 2013. At present, four hospitals are participating. Post-treatment measures are expected to be completed in December 2015. The results of this study will provide insights in whether GET and CBT are effective in reducing severe fatigue in patients with AC. **CONCLUSIONS:** This study will evaluate the effects of two interventions designed to reduce severe fatigue and functional impairment, and improve QoL compared to care as usual. To the best of our knowledge, this is the first controlled intervention study specially designed for severely fatigued patients with AC receiving the first line of palliative cancer treatment. In addition to effectiveness, mechanisms of the expected reduction in fatigue are explored. More specifically, are (a) an increased level of physical activity and/or physical fitness; or (b) a change in fatigue related cognitions, mediators for the reduction in fatigue brought on by the 2 interventions? **RESEARCH IMPLICATIONS:** The TIRED study will provide insight in the effectiveness of GET and CBT specially designed to target severe fatigue in patients with AC. Identifying the mediating factors for both interventions will enable us to improve future interventions for fatigue in this patient group. **CLINICAL IMPLICATIONS:** Fatigue has proven to be one of the symptoms significantly lowering the quality of life. Until now there is no evidence-based or generally accepted intervention to treat fatigue during the palliative trajectory. When GET and CBT are effective, the best or if equally effective both interventions can be implemented in the care for patients with AC. **ACKNOWLEDGEMENT OF FUNDING:** The TIRED study is funded by the Dutch Cancer Society, The Netherlands.

P2-45

Unbearable Suffering Cancer Patients Dying at Home: A Dutch Study of the Relationship Between Intensity of Symptoms and Bearability

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BACKGROUND:

- 45% of all cancer patients in the Netherlands die at home.
- Euthanasia in about 1 out of 7 cancer patients dying at home in the Netherlands indicates substantial unbearable suffering.
- Physicians are trained in interventions directed at symptom control.

- Mental health professionals generally are not part of the palliative home care team.
- Research question: what is the relationship between intensity of symptoms and unbearability.

METHOD:

- 44 general practitioners during 3 years recruited cancer patients estimated to die within 6 months.
- Instrument: State-of-suffering-V (SOS-V): quantitative assessment of intensity and unbearability of 69 symptoms.
 - comprehensive design: physical, psychological, social and existential aspects.
 - 5 domains: medical signs and symptoms - loss of function - personal aspects - environment - nature and prognosis of disease.
 - assessment of overall unbearable suffering.
 - five-point rating scale, range: 1 (not at all) - 5 (hardly can be worse).
 - additional quantitative questions addressing unbearability.
- Interviews: bimonthly, sooner if condition deteriorated.
- Analysis: scores 4 and 5 indicate either high intensity or unbearability.

RESULTS:

- Participation: 76 out of 148 (51%) patients.
- Follow up until death: 64 patients.
- High intensity symptoms most frequently unbearable: pain (92%), loss of control over one's life (92%), fear of future suffering (89%).
- Low intensity symptoms most frequently unbearable: loss of control over one's life (80%), vomiting (73%), not being able to do important things (52%).
- For overall unbearably suffering patients the median number of unbearable symptoms was 16 (range 6–38), compared to 6 (range 0–24) for patients for whom the suffering overall was bearable.
- The qualitative experience included physical suffering, processes of loss and existential suffering.

CONCLUSIONS:

- Unbearable suffering is characterized by variable relationships between intensity of symptoms and unbearability, and variations in numbers of unbearable symptoms per person resulting in overall unbearable suffering.
- Symptoms may be unbearable without resulting in overall unbearable suffering.
- Overall unbearable suffering is related to higher numbers of unbearable symptoms, yet there is large overlap with overall bearable suffering.

RESEARCH IMPLICATIONS:

- The demonstrated distinction between intensity of symptoms and bearability in cancer patients dying at home indicates for research investigating also in palliative cancer home care the additional effects of psycho-oncologic interventions to provide relief of suffering additionally to interventions directed at symptom control.
- A multi-setting primary care study organization may provide patients numbers sufficiently large to evaluate effect outcomes.

CLINICAL IMPLICATIONS:

- The intensity of symptoms is an important, but not sufficient, indicator of unbearable suffering.
- Patients should be asked directly about the intensity of their symptoms and about their judgment of unbearability.
- Health professionals responsible for the care of patients dying from cancer require to be trained in assessment of the multiple dimensions of suffering.
- To understand the overall suffering of a patient requires comprehensive assessment.

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P2-46

Evaluation of Advanced Cancer Patients' Most Important Concerns: The Italian Validation of the Concerns Checklist and the Cancer Behaviour Inventory-Brief Version

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BACKGROUND: Due to the lack of specific instruments in Italian for the evaluation of concerns and the paucity of questionnaires on the coping methods in advanced cancer patients, the present study intends to translate and validate in Italian the Concerns Check-list (CCL) and the Cancer Behaviour Inventory brief version (CBI-b). **METHOD:** The research design is multicentric, observational and cross-sectional and patients will

be enrolled from December 2012 to December 2014. For the purpose of validation, the following instruments will also be used: EORT Quality of Life Questionnaire (C-30), Hospital Anxiety and Depression Scale and the Mini Mental Adjustment to Cancer Scale. The questionnaires will be administered to a minimum of 210 advanced stage cancer patients who attend the symptom control and palliative care clinic. Participants are eligible for this study if they are at least 18 years of age, diagnosed with incurable cancer and able to speak and read Italian fluently. **RESULTS:** Currently the CCL and the CBI-b questionnaires have been translated into Italian and back translated, and a pilot study has been conducted involving 5 patients representative of the target population. In the light of the information gathered from the pilot phase, we have prepared the final version of the 2 instruments to be validated in the present study. The partial results will be presented at the conference. **CONCLUSIONS:** The Italian version of the CCL and CBI-b may be useful for research and the clinical practice in the field of palliative care in Italy. **RESEARCH IMPLICATIONS:** With regard to the experimental context, it is crucial to have specific instruments with sound psychometric properties; in this way it is possible to have available appropriate measures to conduct rigorous studies focused on patients in advanced stage of cancer. **CLINICAL IMPLICATIONS:** In order to improve the clinical practice in the end of life care, it would be useful to identify the specific problems that affect patients receiving palliative care. This could be an important resource both in the identification of patients needs and in structuring specific psychosocial interventions. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-47

Abstract withdrawn

P2-48**The Experience of a Son “Cancer”: Reflections of a Study in Portugal**

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BACKGROUND: The diagnosis of malignant disease in childhood, assumes specific relations to the characteristics of the stage of life (developmental tasks, processes of socialization, education, etc.) interfering with personal and family life organization and causing intense pain and suffering in the family, redefining demands of the emotional standpoint carers / family. **METHOD:** It's a cross-sectional study that was designed primarily to

characterize how the experience of malignant disease of a child, may compromise the health and well-being of parents inquiring how attachment style interfered in this process. We used the following instruments: the WHOQOL-Bref, the EVA-Bonding Scale Adult, the 23 QVS -Vulnerability to Stress Questionnaire, and finally, the BSI-Psychopathological Symptoms Inventory. **RESULTS:** The paranoid ideation, anxiety and interpersonal sensitivity were the more present psychopathological symptomatology in these parents. The perfectionism and intolerance to frustration, the drama of existence, inhibition and functional dependence and subjugation factors contribute more to vulnerability to stress, with 58% of parents met criteria for emotional disturbance, and 47% of vulnerability to stress. Parents of children with cancer who have secure attachment experience levels of perceived quality of life and higher levels of psychopathological symptoms below those of parents of children with cancer who have insecure attachment. **CONCLUSIONS:** Parents of children with cancer who have a secure attachment style seem to have more resources to cope with all conditions of suffering that pass along the illness of their children. The way they manage emotions and stress seems to be so adjusted and then commit less your own health. **RESEARCH IMPLICATIONS:** The results suggest that secure attachment style may be a protective factor for the health of these parents, the interventions approaches with these families should have this aspect as a reference providing the possibility of a secure attachment figure throughout the disease process. **ACKNOWLEDGEMENT OF FUNDING:** We thank UNIDEP-ISMAI the support given to the execution of this work.

P2-49**Psychological Reactions of Children and Adolescents to Malignant Disease and Treatment and Their Parents' Reactions - Assessment and Support**

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BACKGROUND: Can psychological reactions such as: anxiety, depression and fatigue during the treatment be properly estimated with existing instruments and how they affect the quality of life and efficiency of the prevalence in children and adolescents aged 7 to 19 who are treated from different malignant diseases. Is it possible to construct a model for providing adequate psychological and psycho-social support. **METHOD:** Determine if there are any differences: (1) in the level of anxiety, depression, fatigue experience, perception of the quality of life and the way of prevalence depending on age, sex, diagnosis and the degree of damage to the primary illness (2) in the quality of life, fatigue and prevalence from the perspective of affected

children and adolescents and the perspective of their parents, who are present during treatment and giving the assessment (3) if there is a connection between the levels of anxiety, depression, fatigue, quality of life and prevalence on affected children and adolescents and levels of parental stress. RESULTS: Will be presented. Anxiety will be tested by The Revised Children's Manifest Anxiety Scale (RCMAS). Depression will be tested by The Children's Depression Inventory (CDI). Quality of life will be tested by The Pediatric Cancer Quality of Life Inventory (PCQOL - 32). Fatigue will be tested by The Pediatric Functional Assessment of Chronic Illness Therapy Fatigue scale (FACIT - F scale). Prevalence will be measured by KIDCOPE scale. Parental stress will be measured by PSI/SF - Parenting Stress Index short form. Cohesion and stability of the family (from the aspect of a parent present during the treatment of the child) will be tested with FACES IV. CONCLUSIONS: The Sample of this research will include all children and adolescents aged 7 to 19 who are affected by various malignant diseases during the treatment at Department for Pediatric Oncology of the Institute for Oncology and Radiology of Serbia. Since the instruments that will be used in this research have been adjusted to children and adolescents who are tested, the children patients will be allocated into two groups: The first group - children aged 7 to 12, The second group - adolescents aged 13 to 19. RESEARCH IMPLICATIONS: The main goals of research are checking different instruments, providing assessment of different psychological reactions and constructing the model of psycho-social help for children, adolescents and their parents during oncological treatment at the pediatric oncology department. CLINICAL IMPLICATIONS: Psycho-social model of help for children, adolescents and their parents during oncological treatment at the pediatric oncology department will be constructing depends of results and cultural specific of Serbian population. ACKNOWLEDGEMENT OF FUNDING: None.

P2-50

Social Support of Childhood Cancer Survivors and Healthy Children: Are There Any Differences?

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BACKGROUND: Increasing rates of survival in paediatric cancer patients focused research on the

psychosocial adaptation to this highly demanding experience, late effects of the treatment and subsequent quality of life of the survivors. Social support is assumed to be an important factor influencing outcomes of coping with the serious illness. The purpose of this study is to describe the structure of social support in childhood cancer patients in comparison with social support of healthy children. METHOD: A total of 101 childhood cancer survivors (7–19 years, $M = 13$, $SD = 3.7$) in remission for 2–5 years, who have undergone various types of treatment and 231 healthy children (8–19 years, $M = 13.4$, $SD = 3.4$) was included in the study. Childhood cancer survivors were recruited through QOLOP (Quality of Life Longitudinal Study of Oncology Paediatric Patients) project. Perceived social support was measured by the 18-item Social Support Questionnaire originally designed for the QOLOP project – based on the MOS Social support survey and adapted by the clinicians to reflect paediatric cancer conditions. Data were analysed using descriptive statistics and analysis of variance. RESULTS: Mother was the most important source of social support for both research groups, while perceived social support from mother was bigger in the childhood cancer survivors. No differences between research groups were found in social support from father. Despite lower or equal number of friends, childhood cancer survivors reported higher amount of perceived social support obtained from friends. Further analyses revealed also some gender and age differences in the structure of social support. Grandparents and siblings appear to be other relevant sources of social support for both research groups. CONCLUSIONS: This study identified important sources of social support for paediatric cancer survivors and healthy children. Although the results do not establish any essential differences in the structure (sources) of social support between this 2 research groups, the types and amount of social support provided by these sources may differ depending on the state of health, age and gender of the childhood support recipient. However, results of this study are based only on the subjective evaluation of perceived social support from the perspective of children (support recipients) and the perspective of relevant sources of social support was not included. RESEARCH IMPLICATIONS: Further research is needed to confirm possible explanations of identified differences. In this respect a qualitative methodology or study design combining measuring of perceived social support with measures of actually received support could be useful. CLINICAL IMPLICATIONS: The results of this study imply the importance of analyzing social network and social support of childhood cancer survivors in order to be able to provide appropriate care in case of atypical structure or unavailability of usual sources of support. ACKNOWLEDGEMENT OF FUNDING: This

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P2-51

Pathways Linking Childhood Cancer Late Effects to Anxiety and Depression in Adult Survivors: A Report From the St. Jude Lifetime Cohort Study

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BACKGROUND: Subgroups of adult survivors of childhood cancer are at-risk for emotional distress. Sociodemographic variables, cancer diagnosis, and cancer treatments have been associated with symptoms of anxiety and depression in survivors. Yet, the mechanisms underlying emotional distress many years after treatment completion are not fully understood. We investigated the impact of adverse late effects on long-term survivors' emotional health. **METHOD:** Participants included 1863 adult survivors of childhood cancer (median 32 years of age at follow-up) who completed a comprehensive medical evaluation at St. Jude Children's Research Hospital. Symptoms of anxiety and depression were assessed using the Brief Symptom Inventory-18 (BSI-18) with elevated distress defined as T-scores ≥ 63 . Survivors self-reported cancer-related pain and learning/memory problems. Odds ratios (OR) and 95% confidence intervals (CI) were calculated using multivariable logistic regression models to quantify risk factors for distress. Path analysis was used to examine associations among socioeconomic variables and reported late effects. **RESULTS:** Anxiety was reported by 11.7% of survivors and 15% reported elevated symptoms of depression. Cancer-related pain was associated with elevated distress (anxiety: OR 5.8, 95% CI, 3.5–9.8; depression: OR 4.5, 95% CI 2.8–7.4) as was moderate learning/memory problems (anxiety: OR 2.3, 95% CI, 1.5–3.5; depression: OR 4.0, 95% CI 2.7–5.9). Path analysis suggested that cancer-related pain has a direct effect on symptoms of distress (anxiety: $\beta = -0.22$; depression $\beta = -0.15$). Similarly, learning/ memory problems evidenced a direct effect on emotional distress (anxiety: $\beta = -0.09$; depression $\beta = -0.19$). Cancer-related pain and learning/memory problems showed an indirect effect on distress through socioeconomic status. **CONCLUSIONS:** Consistent with previous reports, the majority of survivors in our sample did not report elevated symptoms of anxiety or depression, suggesting largely positive emotional adjustment several decades following diagnosis and

treatment for childhood cancer. Our study extends previous reports by demonstrating that perceptions of cancer-related pain and learning/memory problems were directly and indirectly associated with elevated symptoms of anxiety and depression in long-term survivors. **RESEARCH IMPLICATIONS:** These data highlight the need to consider the complex interplay between cancer-related late effects and socioeconomic factors when considering survivors' emotional health. Future studies may consider a more comprehensive assessment of emotional health in adult survivors of childhood cancer as well as evaluation of interventions targeting distress symptoms. **CLINICAL IMPLICATIONS:** Screening for emotional distress in adult survivors is warranted, especially for survivors who present with pain and cognitive morbidities. Intervening on factors that contribute to emotional distress may have the potential to reduce the burden of distress symptoms in survivors, though future research will need to explore such associations. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by the Cancer Center Support (CORE) grant CA21765 at St. Jude Children's Research Hospital and by ALSAC.

P2-52

Comparisons of Fatigue Reported by Children With Brain Tumor Versus Other Forms of Childhood-Onset Cancer

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BACKGROUND: Fatigue is one of the most common complaints for cancer patients and its impact on survivors could extend even years after completion of cancer treatment. Yet, very few studies have addressed this issue in pediatric survivors of cancer, especially the differences between children with brain tumors (BT) and those with other types of cancer (non-BT). This study aims to compare fatigue reported by BT and non-BT. **METHOD:** 515 patients (53% BT; 47% non-BT) aged 7–21 (mean = 14 years; 56% males) were recruited. 34% received radiation therapy, 72% chemotherapy, 71% surgery. Years since last treatment (mean = 3.3) was divided into 3 categories: <1 year ($n = 34.3\%$), 1–2 years (12%), and >2 years (53.4%). Health-related quality of life was measured using PedsQL-generic. Fatigue was measured using PedsQL-Fatigue, which has three sub-scales: general, cognition, and sleep fatigue. T-tests and ANOVA were used to compare fatigue between BT versus non-BT and years since last treatment. Regression analysis was used to compare fatigue between cancer types adjusted by years since last treatment. **RESULTS:** There were no differences ($p > 0.01$) between BT and non-BT in physical, emotional, and school functioning; BT reported

worse social functioning. BT reported more cognition fatigue than non-BT ($t = -4.11$, $p < 0.001$) but not general ($t = -0.68$, $p = 0.497$) or sleep fatigue ($t = -0.38$, $p = 0.706$). Patients treated within 1 year reported more general ($p < 0.01$) and sleep fatigue ($p < 0.01$) than other 2 categories. No significant differences between groups were found in cognition fatigue. In regression, BT remained a significant predictor of cognition fatigue ($p < 0.001$) after adjusting for years since last treatment. Years since last treatment was only significant predictor ($p < 0.001$) of general and sleep fatigue. **CONCLUSIONS:** Using *pedsQL*, we found that children experienced more severe general and sleep fatigue within one year of their last treatment, regardless of type of cancer. However, the same conclusion could not be made for cognition fatigue, for which type of cancer (BT vs. non-BT) was the primary predictor regardless of years since the last treatment. This may be due to similarities between cognition fatigue and self-reported cognition and cognition is known to be a primary concern for children with brain tumor. General and sleep fatigue are non-specific to cancer type and their impacts seemed to diminish after completion of treatment. **RESEARCH IMPLICATIONS:** Our analysis showed BT reported more cognitive related fatigue than non-BT group regardless of years since last treatment. Yet general and sleep related fatigue seemed to lessen overtime. Literature suggest childhood cancer survivors reported fatigue and sleep disturbance even in their adulthood. In the future a longitudinal study monitoring fatigue over time more comprehensively, such as by using a fatigue item bank, is needed. **CLINICAL IMPLICATIONS:** Results showed that BT reported more cognitive fatigue, which was not a surprise due to their cognitive decrements - a primary concern for children with BT. However they also reported more problems in social functioning than non-BT, which indicated appropriate and timely intervention is needed for this group to help them adapt to their social environment better. **ACKNOWLEDGEMENT OF FUNDING:** This project was supported by National Cancer Institute of the United States (R01CA125671, PI: Jin-Shei Lai).

P2-53

Mental Disabilities in Children With Head Brain Tumors - Reality or Parents' Predisposition

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BACKGROUND: The complex psychological consequences of the brain tumor - neuropsychological and affective disorders; retardation of mental development, adjustment difficulties - need psychological help. In clinical practice of pediatric neuro-

oncology there is lack of the verification of cognitive disorders. **METHOD:** 30 children in the age 5–14 with recurrent head brain tumors and their mothers were tested For children we used Luria's method of complex psychological diagnostics, projective drawings, Children Apperceptive Test. For mothers – partly formalized interview, questionnaire of parental attitude, Spilberger anxiety scale. **RESULTS:** Parental attitude towards the children's mental disorders, their education and other developmental sources depends rather more on the cancer induced somatic effects and prognosis than on the reality of the neuropsychological status. The patient's psychological well-being depends on the type of the parental attitude and has negative correlation with the anxiety level of mother. **CONCLUSIONS:** Patients' mental development has got more impact of parent's predisposition regarding children's state than primary cognitive disorders. **RESEARCH IMPLICATIONS:** This approach let us to learn more about the psychological retardation in mental development in children with the head braintumors. **ACKNOWLEDGEMENT OF FUNDING:** The psychological diagnostics and correction is necessary in both – children with brain tumors and their families.

P2-54

Corticosteroids-Induced Neuropsychiatric Episodes in Acute Lymphoblastic Leukemia Adolescent Patients

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BACKGROUND: Systemic corticosteroids, prednisone or dexamethasone (PRED or DEX), are an important component of acute lymphoblastic leukemia (ALL) treatment protocols. Prolonged, and high dose admitting of corticosteroids can cause some neurotoxic effects, which can display some behavioral changes, especially in young children. We evaluated an incidence of acute neuropsychiatric episodes in ALL adolescent patients receiving PRED (1–28 days: $-60 \text{ mg/m}^2/\text{day}$) and DEX (1–21 days: $10 \text{ mg/m}^2/\text{day}$), according to ALL-IC 2002 Protocol. **METHOD:** 37 consecutive adolescent patients (64.9% boys) with ALL diagnosis entered the study. Patients were diagnosed between Jan, 2007 – March, 2012 in pediatric onco/hematology ward in Lublin, Poland. Mean age at the diagnosis was 14.1 years and mediana 16.2 years. During intensive treatment patients were provided with planned psychosocial support program. Additionally, within first 2–3 weeks of treatment, evaluation of FIQ, VIQ and PIQ of patients were performed. Behavioral side-effects and neuropsy-

chiatric episodes were rated using clinical interview. RESULTS: Mild intensity of behavioral side effects during corticosteroids therapy were observed in 29.7% of studied patients. The most frequently diagnosed symptoms were: anxiety, weepiness, decreased mood and withdrawal. In the study, 5.7% of patients received antidepressant treatment. Remaining patients with symptoms of behavior disorders received only hydroxyzine, that was adduced to individuals on the different level of frequency. 4/37 adolescent patients (10.8%) revealed acute neuropsychiatric episodes (with high anxiety, with seeing and hearing things, lack of consciousness) when corticosteroids were reduced. 2 boys revealed acute neuropsychiatric symptoms twice: when both PRED and DEX were reduced. CONCLUSIONS: 1. Symptoms of mild intensity behavioral corticosteroids side effects were observed in one third of adolescent cancer patients. 2. ALL adolescent patients are at risk of neuropsychiatric episodes at the moment of corticosteroids reduction. 3. Neuropsychiatric effects during active treatment of ALL in adolescence needs further studies. ACKNOWLEDGEMENT OF FUNDING: Grant DS408/13. Sponsored by Ass. for Children with Blood Disorders, Lublin, Poland.

P2-55

Abstract withdrawn

P2-56

Reliability and Utility of the Dutch Translation of the Psychosocial Assessment Tool (PAT)

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BACKGROUND: Yearly, 550 children are diagnosed with cancer in the Netherlands, which means a confrontation with several stressors. Over time most families adjust well to these stressors, but a substantial part of the families lacks adequate adaptation, which can lead to severe psychosocial problems. The use of the Psychosocial Assessment Tool (PAT) makes it possible to screen families for their risk of psychosocial problems. The current study describes the reliability and utility of the Dutch PAT. METHOD: Families of newly diagnosed children with cancer (age 0–18) from four Dutch pediatric oncology centers (AMC/RUMCN/SKZ/VUmc) participated. During a one year period 219 children were diagnosed with cancer of which 128 were eligible (excluded: language prob-

lems, relapse, palliative treatment). Of the 128 eligible families, 90 agreed to participate (response rate 70%). At diagnosis one parent completed the PAT and PAT utility scale among other questionnaires online (www.hetklikt.nu). General utility of the Dutch PAT was assessed on a 100 mm VAS-scale after completing the questionnaire. Data of 85 families (59% female caregiver $N = 50$, 31% male caregiver $N = 35$) were available for pilot analyses. RESULTS: PAT total score (possible range 0.00–7.00) is the sum of seven subscales (possible range 0.00–1.00). Total scores 0–1.0 are considered “universal”, 1–1.9 “targeted”, and ≥ 2 “clinical”. Analyses showed that distribution of PAT risk categorizations in the Netherlands was comparable to the United States (68.2% universal, 28.2% targeted, 3.5% clinical). Internal consistency of the total PAT score was satisfactory ($\alpha = 0.66$) and of most subscales acceptable, however 3 scales need further consideration. Mean of the total PAT score was $M = 0.77$ (range = 0–2.63), mean scores of the subscales ranged $M = 0.06$ –0.22. Parents rated the utility positively: comprehensibility $M = 78.25$, clarity $M = 79.68$, unpleasantness $M = 19.51$, and appropriateness $M = 62.82$. CONCLUSIONS: Reliability of the Dutch total PAT score is satisfactory, however on subscale and item level there is a need for closer examination. Parents rated the utility of the questionnaire positively. For the Dutch situation, the best applicable item distribution has to be investigated before it can be implemented in Dutch clinical pediatric oncology practice. RESEARCH IMPLICATIONS: The distribution of PAT risk scores in the Netherlands are comparable to previous research in the United States and Australia. However, internal consistency of some subscales need further examination on item level to give more insight in the applicability of the Dutch PAT. Results on this will be presented. CLINICAL IMPLICATIONS: The Dutch PAT has proven to be a feasible instrument to complete during the beginning of treatment and was rated by parents as a comprehensible, clear, and appropriate questionnaire. The distribution of the PAT risk scores in the Netherlands is comparable to the United States, however on item level further examination is needed. In the second period of our study the feasibility of the clinical use of the Dutch PAT will be investigated. ACKNOWLEDGEMENT OF FUNDING: The IMPROVE study has been funded by the Dutch Cancer Society.

P2-57

A Longitudinal Case-Control Study on Goal Adjustment in Adolescents With Cancer

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BACKGROUND: Severe illnesses may disturb the attainment of personal meaningful goals. Being able to adjust one's goals to what is possible is an adaptive way to deal with goal disturbance. The study examined whether: (1) the goals of adolescents with cancer (3 and 12 months post-diagnosis) differed from those of healthy controls with regard to value-orientation and abstraction level, (2) the value-orientation and abstraction level of the goals of adolescents with cancer changed over time. **METHOD:** Thirty-three adolescents with cancer (age median = 14 years, 55.9% girls, all types of cancer) and 66 matched controls completed the Personal Project Analysis Inventory. Participants were asked to generate their personal goals for the upcoming year and to rate them on goal-importance. All goals were coded by two independent raters on goal content and abstraction level. **RESULTS:** Significant between-group effects (at baseline and follow-up) were found for value-orientation and goal abstraction. Compared to controls, adolescents with cancer showed an intrinsic rather than extrinsic value-orientation (i.e. reporting more intrinsic than extrinsic goals, assigning higher ratings of goal-importance to intrinsic than extrinsic goals). Furthermore, adolescents with cancer reported their goals on a lower level of abstraction than controls. Despite small changes, there were no significant differences in patients' goals over time. **CONCLUSIONS:** Group differences in value-orientation and goal abstraction indicate that adolescents with cancer use the flexible structure of the goal system to deal with changing circumstances to goal pursuit. The lack of change over time suggests that goal adjustment begins early in the disease trajectory and continues over time. More research with a longer follow-up is needed to determine whether these shifts in value-orientation and goal abstraction level are permanent or not. **RESEARCH IMPLICATIONS:** This study has enhanced understanding of goal adjustment in adolescents with cancer. Not known however, is

whether the shifts in value-orientation and goal abstraction, are permanent or not. This might be addressed in future research. Other venues for future studies with a longer follow-up period include the influence of late effects of cancer treatment (which may become apparent at a later point in time) on patients' goal system, and the relationship between goal adjustment and well-being. **CLINICAL IMPLICATIONS:** Notwithstanding our results that on the average the adolescents with cancer adapt relatively well to goal disturbance, there might be individuals who are less able to adjust their goals appropriately. For those, targeted support (e.g. information about the timeline of health related constraints to goal pursuit, advice on alternative routes to goal achievement,) should be available in order to facilitate adaptive disengagement and reengagement. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-58

Neuropsychological Follow-Up of Children With Acute Lymphoblastic Leukemia

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BACKGROUND: Acute lymphoblastic leukemia (ALL) is the most common malignancy in children. Decades ago childhood ALL was a largely fatal disease. However, nowadays, thanks to improved treatments, children with ALL have a great chance to survive. The purpose of this study is to evaluate the impact of possible risk factors (gender, age at diagnosis, risk stratification and parental educational level) on the development of intellectual functioning in a group of Chemotherapy-Only-Treated children for ALL. **METHOD:** Between 1990 and 1997, a group of 94 patients (median age at first assessment: 6.4 years) treated with chemotherapy were included in a multi-center prospective-longitudinal study. All children were treated according to the EORTC 58881 protocol. CNS prophylaxis consisted of HD-Methotrexate IV ($4 \times 5 \text{ g/m}^2/24 \text{ h}$) and IT-Methotrexate, without cranial irradiation. Inclusion criteria were: age at onset <12 years, primary disease, low or standard risk, no CNS invasion. Intellectual functioning was evaluated at 3 timepoints, with a 3-year interval,

using the Dutch adaptation of the Wechsler Intelligence Scale for Children Revised. **RESULTS:** The results of the multiple regression analysis showed that IQ increased more strongly over time for PIQ than for VIQ (Increase per year is 1.2 points more for PIQ, $p = 0.0002$). Age at diagnosis and parental educational level were significantly related to intellectual functioning. Children of which at least one parent finished higher education ($p < 0.0001$). Additional, increasing age at diagnosis led to higher IQ scores ($p = 0.04$). Further, no significant differences were found between boys and girls and low or standard risk. **CONCLUSIONS:** Parental educational level and age at diagnosis are significant prognostic factors for IQ. Despite potential neurotoxic effects of chemotherapy in the treatment of children with ALL, no negative late effects on intelligence were found in this prospective longitudinal study. **RESEARCH IMPLICATIONS:** Evaluation of neuropsychological long-term effects of treatment for ALL is extremely important. The methodology of the present study encompasses some important strengths: multi-centric and longitudinal design using same cognitive assessment tool. However, a more broaden neuropsychological battery and ecological valid instruments are needed to fully understand potential risk factors on cognitive functioning in children treated for ALL. **CLINICAL IMPLICATIONS:** Despite the absence of intellectual decline in Chemotherapy-Only-Treated children for ALL it cannot be concluded that a neuropsychological follow-up of this group is not necessary. In clinical practice it is recommended to be alert for signals of neuropsychological problems in daily life of this group. When signals of neuropsychological problems are present it is crucial to assess a neuropsychological battery that encompasses more than a measure of intellectual functioning. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-59

The Use of Psychodrama in Teaching Oncology Nurses Death Awareness Through Confronting Their Own Death

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BACKGROUND: Oncology Nurses work reminds them of their own mortality, challenging their use of denial; and forces the awareness of death upon them in a way that they may be unprepared for. This study describes the use of psychodrama as a technique to help oncology nurses confront their own mortality and develop a sense of death awareness in a protected environment, outside of the clinical setting, in order to reduce stress when working with dying patients. **METHOD:** This study was conducted with a cohort of 36 oncology nurses.

Psychodrama techniques and methods were used to help nurses confront their own mortality and feelings around their own eventual deaths. The nurses were asked to estimate their life expectancy and predict their age and/or the dates of their anticipated death. Participants organized anticipated deaths in a room. The Psychodramatist made approached them step by step to anticipated death ages and asked a second life on the end day. Study assessments consisted of qualitative data analyzed by the researchers from observations of the psychodrama exercises transcriptions of nurses' statements. **RESULTS:** The majority of nurses in this study accepted their deaths, while the death of a loved-one was more likely to be denied or unacceptable. More than half of the nurses were determined to be accepting of death when the time comes (average mean 70 years). A majority of the nurses death stimated that they would live very long lives and thus death was in the very distant future. Most did not want to consider living a second life suggested by psychodramatist. This wanting was correlated with perceptions of locus of control, and perceptions of death. **CONCLUSIONS:** Nurses' attitude of denial of death, ignorance and isolation are observed. The majority of nurses acknowledge that death is inevitable, they have death awareness about themselves; they see themselves living to 70–75 years of age. However, they rarely mention the possible death of parents or spouse. Approaching death, the choice to consider living a second life after this life ended was correlated with thinking, (a) there is no chance to change, (b) they want to do something different with their lives, (c) those who felt a sense of acceptance of the life they lived and peace of mind. **RESEARCH IMPLICATIONS:** Death is a very difficult issue to be addressed. As Yalom says, "to look at the sun is to face death." The psychodrama method can more enable this confrontation. Unlike other methods of therapy, psychodrama is here and now to solve the problem and of the past as well as future concerns, including offers to work on a multi-dimensional reality. **CLINICAL IMPLICATIONS:** Although significant advances in oncology, cancer continues to evoke fears of impending death. When nurses working with oncology patients don't recognize the situation of the patient, are not aware of their own feelings about death, they often feel helplessness and aren't able help patients and their families as professionals. Nurses need to be aware of their emotions, thoughts, attitudes towards death. This study of nurses' attitudes towards death, offers a method to help enhance death awareness. **ACKNOWLEDGEMENT OF FUNDING:** This study is not supported by any institute.

P2-60

Empowerment and Related Factors in Oncology NursesAzize Atlı Özbas¹, Havva Tel²¹Hacettepe University Faculty of Nursing, Ankara, Turkey, ²Cumhuriyet University Faculty of Health Sciences, Sivas, Turkey

BACKGROUND: Oncology nurses, when compared to other nurses, are confronted with unique challenges based on the kind of treatments they apply and the group of patients they care for. The concept of power and empowerment are increasingly important in the field of oncology nursing. The purpose of this study is to determine the perception of empowerment and related factors in oncology nurses. **METHOD:** This is a descriptive study in a cohort of 135 oncology nurses from government oncology hospitals in Ankara, Turkey. Structural empowerment was measured using the Conditions of Work Effectiveness Questionnaire-II (CWEQ-II), and psychological empowerment was measured using Spreitzer's psychological empowerment scale. In addition data was collected using a personal information form, the Maslach Burnout Inventory and the Beck Depression Inventory. Pearson correlation analysis, k^2 test, and *t*-test were used in the statistical evaluation of the data. **RESULTS:** In this study, nurses average age was 30.78 ± 5.6 , average number of years working in oncology = 8.6 ± 6.6 . Nurses work place empowerment inventory average score = 3.16 ± 0.5 ; psychological empowerment average score = 5.54 ± 0.96 , effectiveness subscale of psychological empowerment ($= 4.39$) was less than the work activity subscale of work place empowerment perception Nurses' ($= 2.8$). There is a significant negative relationship between nurses workplace empowerment score and emotional burnout ($r = -0.18$; $p < 0.05$), psychological empowerment score, and depression ($r = -0.23$; $p < 0.05$). Among nurses, decrease in work place empowerment increases emotional burnout; and similarly a decrease in psychological empowerment increases depression. **CONCLUSIONS:** Psychological empowerment perception and workplace empowerment perception of oncology nurses are higher than the middle level. Effectiveness dimension of psychological empowerment and work activity dimension of workplace empowerment scores were lower than the other subscales. These 2 subscales are concerned with the decision and control over their activities. **RESEARCH IMPLICATIONS:** Empowerment perception of nurses is not related to socio-demographic variables. However, empowerment perception is related to emotional burnout their depression level. For this reason, an intervention focusing on empowerment in oncology nurses may be effective in preventing depression and emotional burnout. Studies

are needed to focus on work activities and effectiveness in order to help nurses feel more empowered. **CLINICAL IMPLICATIONS:** Empowering provide practitioners with access to information, support, resources, and opportunities to learn and grow. Empowerment is also a psychological process, which occurs when one has a sense of motivation in relation to the workplace environment. Because of their working environment oncology nurses are commonly faced with emotional fatigue and psychological problems. For this reason; individual and institutional regulations should be planned to provide awaking of nurses' power. **ACKNOWLEDGEMENT OF FUNDING:** This study is not supported any institute.

P2-61

The Cédric Hèle Institute: 10 years of Development of Expertise in Psycho-Oncology In FlandersSofie Eelen¹, Sabien Bauwens², Wim Distelmans², Eva Jacobs¹, Angelique Verzelen¹¹Cédric Hèle Instituut vzw, Mechelen, Belgium,²Universitair Ziekenhuis Brussel - Oncology Centre, Brussel, Belgium

BACKGROUND: In Belgium there was a need to bundle, expand and improve psychosocial care in oncology. A lot of caregivers wished to enhance and to improve the quality of their interventions. In order to respond to these needs, a group of expert caregivers joined their strengths and knowledge by establishing a multidisciplinary Flemish Institute for psychosocial oncology, called the Cédric Hèle instituut (CHi). All of this found place in collaboration with care providers and policy agents. **METHOD:** A focus of CHi is to organize and coordinate training in psychosocial care and to create networks of caregivers. The CHi organizes several courses and workgroups for different target groups (doctors, psychologists, social workers, [specialist] nurses). On the CHi-website, information about courses, symposia, literature and research is published. In contacts with the caregivers CHi observes needs in psychosocial care. Another focus is to indicate these needs to policy agents. CHi was involved in coordination platforms and workgroups of the National Cancerplan of the Belgian government. CHi participates in research projects in psycho-oncology in order to promote evidence based practice. **RESULTS:** In 2012 106 professionals in oncology participated in one of the CHi courses or workgroups. The workgroup of oncopologists grew from 5 to 160 members. CHi organised in association with the universities, for the fourth time a two-year training in psycho-oncology. The Belgian government finances the subscription of 35 psychologists in the psycho-oncology program and of 150 professionals in the communication trainings. CHi organized an event for 210

participants. 9 courses were organized in service of other organisations. CHI-website has 2400 visitors per month. Regularly a newsletter is composed, sent and read by 1500 professionals. CHI participated in research projects. **CONCLUSIONS:** Since its foundation the CHI has become a reference for many professionals in oncology. It's a place where networking and continuing education in psychosocial oncology takes place and is encouraged. In 2013 the CHI wants to create an internet community and forum to further improve networking and to centralize and gather knowledge and information. The government finances a project to use this community for research purposes, to further investigate the needs of professionals in oncology. Over the next few years the CHI hopes to become a reference centre for scientific research in psychosocial oncology in Flanders. **RESEARCH IMPLICATIONS:** All CHI education programs and networking activities, are evidence-based and promote the implementation of evidence based knowledge and interventions in the daily clinical practice of oncology. CHI aspires to encourage and coordinate more innovating research in psychosocial oncology. This action will stimulate practice based evidence. The close contact with onco professionals can generate interesting research partnerships. **CLINICAL IMPLICATIONS:** The Chi is a reference in psychosocial oncology in Flanders. The Chi provides professionals a large network, access to information and scientific research in psycho-oncology and a range of training in the psychosocial aspects in oncology and important skills. Since 10 years Chi promotes the importance of the psychosocial aspects in oncology and enhances expertise of onco-professionals. The facilitation and stimulation of scientific research and the distribution of publications, promotes evidence based practice in psycho-oncology. **ACKNOWLEDGEMENT OF FUNDING:** The Cédric Hèle instituut could be founded thanks to the support of the national society "Vlaamse Liga tegen Kanker" (the Flemish League against Cancer).

P2-62

To Prevent Burnout and To Promote Spiritual Well-Being in Physicians Among Cancer Care

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BACKGROUND: Previous studies found physicians among cancer care often suffering from burnout and poor well-being. The studies were to create and evaluate the continuing medical education for physicians to prevent burnout and to promote spiritual well-being. **METHOD:** After surviving the phenomenon and factors of burnout, we design the

lecture including (1) awareness and exploration, (2) stress and burnout, and (3) response and adjustment. We designed Course A (60 minutes) and Course B (180 minutes) both included all three themes. Participants decided to attend one course by themselves. We measured the satisfaction and the efficiency 3 months later. The tools of evaluation included: Michigan Organization Assessment Questionnaire (MOAQ), Maslach Burnout Inventory-Human Service Survey (MBI-HSS), Demoralization Scale-Mandarin Version (DS-MV), and Physician's Spiritual Well-Being Scale (PSpWBS). **RESULTS:** There were 57 physicians (response rate = 54.8%) completing the questionnaires. The severity of demoralization among physicians aged over 45 was decreased after the intervention ($p = 0.04$, T-test). The physicians who had not experienced their family died appeared the spiritual growth after the courses ($p < 0.001$, T-test). The severity of burnout among physicians who had experienced their family died was decreased after the intervention ($p = 0.08$, T-test). **CONCLUSIONS:** It is possible through continuing medical education to promote spiritual growth and to prevent depletion of the physicians occurred. However, according to our findings, it is necessary to design different courses for different groups. To promote psychological and spiritual health of physicians among cancer care is important. **RESEARCH IMPLICATIONS:** It needs much time to prevent burnout and promote spiritual growth; however, we try to find some efficient ways under the busy medical work and provide the evidence-based research. **CLINICAL IMPLICATIONS:** The psychological health and spiritual well-being is medical ethic for patients and family. **ACKNOWLEDGEMENT OF FUNDING:** Taiwan National Science Council (NSC 100-2511-S-195-001-).

P2-63

Mental Health of Health Care Providers in a Cancer Hospital, a Three Year Follow-Up

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BACKGROUND: Health care providers in cancer hospitals often suffer from great stress from work. Psychological disturbance and burn out are not rare in the population. Screening for psychological disturbance among health care providers enables early detection and management of minor mental illness, which leads to better employee mental health and clinical care. The stress level and psychological disturbance encountered by health care providers in cancer hospitals may vary with time. **METHOD:** This study aims to look into the varia-

tion of mental health screening results over a period of 3 years. We used a 12-item Chinese Health Questionnaire as a screening tool for psychological disturbance. A cut-off point of 3/4 was used for identifying psychological disturbance. **RESULTS:** Nurses had a significantly higher prevalence of psychological disturbance than other health professionals in the cancer hospital. Higher psychological disturbance of health care providers was observed in specific months of each year. **CONCLUSIONS:** The mental health of health care providers in cancer hospitals may differ from one professional group to the other; it may also varies at different times of the year. **RESEARCH IMPLICATIONS:** This study demonstrates a pattern of variation of psychological disturbance among health care providers in a cancer hospital over time. Possible cause of this phenomenon needs further investigation. **CLINICAL IMPLICATIONS:** This study on the mental health of health care providers in a cancer hospital calls for our attention and intervention in particular groups and at particular times of the year. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-64

Health and Wellbeing in Portuguese Health Care Providers in Women With Breast Cancer

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BACKGROUND: Oncology health care professionals are involved in the treatment and with the challenge presented by the complexity of the tasks related to diagnosis and clinical care; they face painful situations, perception of workload and demands related to the process of communication with patients and families. Literature reports high levels of stress experienced by these professionals, risk of burnout (Maslach, 1982; Schaufeli & Enzmann, 1988), emotional disorders, and poor perception of quality of life. **METHOD:** Aims: Investigate the stress vulnerability, burnout, psychopathological symptoms and quality of life in these professionals by examining whether there are differences by gender and length of service in the function. We aim to verify how vulnerability to stress, burnout, psychopathological symptoms and quality of life are intercorrelated. Instruments: 23QVS; MBI; Areas Worhlife; BSI; WhoQoL (Bref); Bref Cope R. Participants: 103 breast oncology professionals, mean age = 34.83 years, 78% nurses, 48% work in shifts; 47% work more than 12 years. **RESULTS:** 14% vulnerable to stress; 3% burnout; 12% emotional disorders; Perception of reasonable quality of life. Health professionals who care for women with breast cancer and that reveal

themselves vulnerable to stress have higher rates of psychopathological symptoms, emotional exhaustion, and a less positive perception of their quality of life. The initial stage of development of the activity in this context is associated with greater difficulties of personal fulfillment. Women doesn't not show higher levels of stress vulnerabilidade and burnout when compared to men. **CONCLUSIONS:** Participants, who are at an early stage of the development of professional activity have more difficulties of personal fulfillment and express higher levels of psychopathological symptoms which leads to rethink the support given to them at this stage. The inexistence of differences related to gender, seems to suggest that these identification is not crucial to the welfare of these professionals. However, males health professionals tend to have more difficulties in managing emotions than females. **RESEARCH IMPLICATIONS:** The results of this study appear to show the importance of prevention plans, health promotion and intervention on psychosocial risks in oncology and particularly in breast oncology. The levels of stress can directly affect the health and well being of these professionals, increasing the possibility of error in the execution of their tasks, absenteeism increase, decrease how communication takes place, increasing incivility. **CLINICAL IMPLICATIONS:** In most cases the focus of interventions in psicooncology has been directed to patients and families. Has been forgotten wellbeing and health professionals who care for them all and who strive to provide quality services. Thus, we think it is essential to look for an assertive also for those who care. Contribute to their professional achievement and health is also a way to gain an improvement in care to oncology patients. **ACKNOWLEDGEMENT OF FUNDING:** We thank UNIDEP-ISMAI the support given to the execution of this work.

P2-65

The Impact of a Clown Intervention on the Symptoms of Anxiety and Depression of Adult Patients With Advanced Cancer

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BACKGROUND: Patients with cancer frequently suffer from psychiatric disorders, namely anxiety and depression, which may result in increased costs, extended hospitalization period, reduced treatment compliance and impairment in quality of life. Recent studies show that the intervention with clowns may be an alternative to manage emotional distress in children. The main scope of this study was to investigate the impact of a clown interven-

tion on anxiety and depression symptoms of adult hospitalized patients with advanced cancer. **METHOD:** Eighty-seven adult patients with advanced cancer participated in the study: 44 of them belonged to the experimental group (EG), 43 to the control group (CG). During hospitalization, patients of the EG interacted one or two times with a couple of clowns properly trained. All participants of the EG were assessed through the Hospital Anxiety and Depression Scale (HADS) before clown intervention (baseline), and then after the first (T1) and the second (T2) intervention. Patients of the CG were also assessed through HADS. Relevant clinical and demographic data were obtained and repeated measures ANOVA was used for correlation with psychiatric morbidity. **RESULTS:** The only demographic variable that differed between groups was gender, with more women in the EG ($p = 0.007$). The HADS-A (anxiety) and HADS-D (depression) mean scores were similar between both groups at baseline (HADS-A: EG 7.68, CG 7.56; HADS-D: EG 6.86, CG 6.28; $p > 0.05$) and remained so until T2 (group \times time interaction, $p > 0.05$, for both HADS-A and HADS-D). Patients in the EG presenting with more severe symptoms at baseline (i.e. HADS-A or HADS-D scores ≥ 9) showed greater chances of decreasing HADS scores over time when compared to patients with milder symptoms at baseline in the same group ($p < 0.05$). **CONCLUSIONS:** Although we did not observe significant differences on the symptoms of anxiety and depression between both groups, the mean scores of both HADS-A and HADS-D showed a clear tendency to decrease in the EG. The patients who presented with more severe symptoms were those who have most benefited from the intervention. Due to some studies pointing out the medical benefits that clown interventions may bring to infants, we encourage more studies to be developed considering adult patients as well. Finally, the intervention with clowns may be a low-cost, easy-to-use, non-pharmacological complementary therapeutic modality, especially in the context of palliative care. **RESEARCH IMPLICATIONS:** We encourage new studies to be developed with bigger samples of adult patients with advanced cancer, longer time of intervention and evaluation of outcomes in other dimensions of health, such as the Performance Status, pain and quality of life scales. There is need to determine how long the positive impact of a clown intervention could last and, eventually, if patients with milder symptoms of anxiety and depression would also benefit from a longer intervention span. **CLINICAL IMPLICATIONS:** Therapeutic clowning is being largely used worldwide and is thought to play an important complementary role in healthcare, though there is a shortage of evidence in this field, especially when it comes to adult patients. This study addresses the benefits that adult patients with advanced cancer -

who demand special attention in mental health care -, could get from an intervention with clowns, mainly the ones presenting with more severe symptoms of anxiety and depression. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-66

The Role of Psychological Trauma and Traumatic Situation in the Pathogenesis of Cancer

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BACKGROUND: Patients with psychotrauma always require special handling in therapy. Cancer patients may be in the process of psycho traumatic or simply to experience distress of varying intensity. Understanding the psychodynamics of injury helps to build a competent plan interventions and promotes a differentiated and individualized approach to cancer patients on therapy. **METHOD:** Multi-level trauma psychotherapy proposed by Professor H. Fischer, is a recognized method of treatment of traumatized people in Germany. During the traumatic process is developing a variety of symptoms, including secondary symptoms of psychosomatic diseases. In the case of secondary cancer is, in fact, the symptoms come to the fore, making itself less conspicuous traumatic process of going deep in the psyche. That less, the patient requires travmaterapiya, along with the conventional methods of care. Professor Fisher's method maximizes carefully and effectively help these patients cope with the effects of psychological trauma. **RESULTS:** Among patients diagnosed with cancer in the history of life there is the presence of distress 1–3 years before diagnosis. However, symptoms of traumatic process at studies revealed only in some patients. **CONCLUSIONS:** We can assume that a lot of patients can be classified into the category of psychological trauma. That is, they have a history of not only a traumatic situation as such, but also develops a psycho traumatic process. Unlike traumatic situation from the process can be reduced to the subjective experience of human feelings of helplessness and total collapse of the world that accompany living a difficult life situation (psychological trauma) or absent (traumatic situation distress). **CLINICAL IMPLICATIONS:** The ability to notice the signs of the presence or absence of patient psychological trauma, further helps to build a customized plan of intervention, taking into account the psychodynamics of the injured person. For these patients is particularly important caring and respectful attitude to their experiences and suffering. Specificity tiered therapy helps restore peace injuries in and around the patient, creating additional resources as needed cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-67

U-CARE: YoungCan - Development of an Internet-Based Self-Help Program of Psychosocial Support and Psychological Treatment

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BACKGROUND: Although most persons struck by cancer during adolescence cope well with the experience an important minority report clinically relevant cancer-related emotional distress. Internet-based self-help (ISH) may represent an alternative to provide access to evidence-based psychosocial support and psychological treatment. This paper describes the development including the theoretical and empirical framework of an ISH program: U-CARE: YoungCan with the aim to reduce cancer-related emotional distress among adolescents and young adults (AYA) struck by cancer during adolescence. **METHOD:** The development of U-CARE: YoungCan was guided by previous research and clinical observations of cancer-related emotional distress and how it can be understood and conceptualized from the perspective of cognitive and behavior theory. Treatment components build upon evidence-based treatments for psychiatric conditions related to issues described by AYA struck by cancer during adolescence. **RESULTS:** U-CARE: YoungCan targets: worry and anxiety; depressive symptoms; body dissatisfaction; and mild traumatic stress and includes cognitive behavioral therapy; information; and moderated interactive support. The program is accessible via an internet platform, the U-CARE-portal, during 12 weeks. The program's feasibility e.g. its acceptability has been tested in a pilot study and in a lived experience group. The program's clinical efficacy and cost-effectiveness will be evaluated in a randomized controlled trial starting during 2013. **CONCLUSIONS:** This paper describes the development and rationale of an ISH program for survivors of cancer during adolescence. Such programs are likely the wave of the near future and may make psychosocial care and psychological treatment accessible to those who need it. Development and tests of the effects of this venue are therefore essential. **RESEARCH IMPLICATIONS:** The description of U-CARE: YoungCan make an important contribution to the body of knowledge regarding internet-based psychosocial support and psychological treatment for AYAs struck by cancer during adolescence. **CLINICAL IMPLICATIONS:** A significant minority of those struck by cancer during adolescence suffers from cancer-related emotional distress. There is a lack of evidence-based interventions for this population. Development and tests of the effectiveness of such interventions are therefore essential. U-CARE:

YoungCan may represent a promising approach to provide psychosocial support and psychological treatment to AYAs who suffer from cancer-related emotional distress. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by a strategic grant to Uppsala University Psychosocial Care Program (U-CARE); The Swedish Cancer Society (grant number CAN 2010/726 Louise von Essen); and The Swedish Childhood Cancer Foundation (grant number PROJ10/086 to Louise von Essen).

P2-68

Pre-Operative Exercise Training in Advanced Rectal Cancer Patients: Exploring Perceptions of Quality of Life During Active Treatment

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BACKGROUND: Improving quality of life (QoL) of advanced cancer patients is a foremost concern among health care practitioners. Exercise can enhance QoL in patients undergoing active treatment for cancer. Little is known about the impact of exercise on experiences of QoL during the time period after neoadjuvant therapy while awaiting surgery. The purpose of this study was to explore advanced rectal cancer patients' perceptions of quality of life during participation in a pre-surgery exercise program **METHOD:** A hermeneutic phenomenological approach was used to guide this longitudinal study to allow for the co-construction of a meaningful understanding of how QoL might be shaped by advanced rectal cancer patients' participation in a pre-operative exercise program. Patients ($n = 10$) participated in repeated semi-structured in-depth interviews which covered four broad QoL domains (i.e. physical, psychological, social, spiritual well-being). Patients' personal accounts of QoL were explored prior to (0-weeks), midway (3-weeks), and at completion (6-weeks) of the program. We analyzed the data using strategies grounded in a phenomenological approach. **RESULTS:** Participation in the program facilitated positive changes in QoL over time by: (1) fostering a greater sense of vitality; (2) cultivating a positive attitude; (3) enhancing social connections, and; (4) fostering a strong sense of purpose in life for these patients. **CONCLUSIONS:** Pre-operative exercise programs can be effective in promoting QoL among patients diagnosed and treated for locally advanced rectal cancer during a particularly

difficult time in the cancer trajectory. Additional research is needed to develop and evaluate implementation strategies to facilitate the delivery of pre-operative exercise programs as part of routine care in this population. **RESEARCH IMPLICATIONS:** This study led to a better understanding of advanced rectal cancer patients' experiences of QoL during participation in a 6-week structured exercise program after neoadjuvant therapy and prior to surgery. Large-scale studies testing the effectiveness of pre-operative exercise interventions that help advanced cancer patients positively appraise their QoL are needed. **CLINICAL IMPLICATIONS:** This study suggests that health care providers might want to counsel their patients to increase their pre-operative exercise levels as it might prevent worsening of fatigue and promote vitality, a positive attitude, social wellbeing, and a sense of purpose among advanced rectal cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-69

Effects of Qigong Practice on Salivary Cortisol in Cancer Patients and Their Caregivers: A Randomized Waitlist-Controlled Trial

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BACKGROUND: Evidence on whether the practice of qigong, a mind-body integrative exercise in traditional Chinese medicine, improves quality of life remains inconclusive. Previous studies showed cortisol changes in healthy subjects after practicing qigong, while study of breast cancer patients found no cortisol changes at the end of a qigong course. The objective of this study is to examine the effects of qigong on salivary cortisol in mixed cancer patients and their caregivers. **METHOD:** Ninety-six pairs of mixed cancer patients and their caregivers ($N = 192$) participated in a randomized waitlist-controlled trial. Fifty pairs joined a 10-session qigong training practice while 46 pairs served as controls. Dropout rate was 11% (intervention: 5, control: 6) at the end of intervention, with additional 8% at follow-up after 1 month (intervention: 8, control: 0). Assessment was conducted at baseline, the end of intervention, and follow-up. At assessment, each patient-caregiver pair collected saliva samples at home on the same day (waking, 45 minutes after waking, noon, 5pm and 9pm) and completed measures of perceived stress and sleep quality. **RESULTS:** Cortisol values were natural

log transformed before analysis. The diurnal slope and area-under-the-curve (AUC) were calculated. Among patients, cortisol levels increased significantly at noon and 5pm after intervention ($F = 6.28$ and 5.30 , all $ps < 0.05$); mean cortisol and AUC were also elevated ($F = 5.83$ and 5.36). No significant changes were observed at follow up. Among caregivers, no significant changes of salivary cortisol were observed after intervention, although a flatter diurnal slope was observed in intervention group at follow up ($F = 4.69$). Both patients and caregivers reported no significant changes in perceived stress and sleep quality. **CONCLUSIONS:** Contrary to what has been reported in the literature, the current findings showed that qigong practice led to increased daytime cortisol levels in cancer patients, and flatter diurnal slope in caregivers. Both results were indicative of higher stress. Whether qigong practice increased stress levels was unclear, as no corresponding changes in perceived stress and sleep quality were observed. Further research is needed to understand the cause of cortisol changes after qigong practice. **RESEARCH IMPLICATIONS:** The current study shows that qigong practice may result in heightened cortisol secretion. Previous studies showed that salivary cortisol increases significantly immediately after high intensity exercises. This study reveals a potential confounding problem when using salivary cortisol as a physiological marker of stress in an exercise intervention study. **CLINICAL IMPLICATIONS:** Qigong practice is increasingly integrated in supportive cancer care in Chinese communities. While it is generally safe with little side effects, more research is needed in order to understand its physiological effects on cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-70

Abstract withdrawn

P2-71

Horticultural Therapy: The Use of Gardening in a Support Group in Cancer Ward

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BACKGROUND: Horticultural therapy has used in the hospital from Ancient Egypt. Doctors let patients touch natural landscape. It improves patients mental and physical healthy (Paine & Francis, 1990; Paine, 1997). Horticultural therapy provides a nonthreatening context for the development of a therapeutic alliance between patients and medical team members. Horticultural therapy isn't limited to the form of actual gardening, including imagining nature, viewing nature, visiting a healing garden in the hospital. **METHOD:** Support groups

are a safe place for people to share the pain of grief, loss and offer emotional support. Combining the support of the group and horticultural therapy offer patients what they need most: acceptance and nonjudgmental listening. This is a 12-week horticulture program and an open group. The author designed sensorial activities including vision, touch, smell, taste and hearing. **RESULTS:** Horticultural therapy was expected to influence healing, alleviate stress, increase well-being and promote the participation in social life. It also improves patient's social skills, self-esteem. Although cancer and anti-cancer therapy menace their life, they learn "Life" from the plants. **CONCLUSIONS:** Horticultural therapy mediates emotional, cognitive and sensory motor function improvement. It increases social participation, healthy and well-being and life satisfaction. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-72

A Study of Cancer Survivors' Wellbeing and Volunteering Work

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BACKGROUND: The purpose of this study was to investigate the impact of volunteering on cancer survivors' wellbeing. Numerous studies have found a positive relationship between volunteering and wellbeing (Leventhal, 2009; Kroll, 2010; Mellor et al., 2008; Costanzo, Ryff, & Singer, 2009). However, none of these previous studies examined the impact of volunteerism on cancer survivors' wellbeing in a Chinese population. **METHOD:** Participants in this study consisted of 150 cancer patients recruited through Hong Kong Cancer Fund (HKCF), a Hong Kong psychosocial cancer service provider. The sample was evenly divided into 3 groups: 50 volunteers; 50 nonvolunteers; and 50 new cases who had not used any services at HKCF prior to the study. The Body-Mind-Spirit Wellbeing Inventory (BMSWBI; Ng et al., 2005) was adopted to assess the holistic health of participants. **RESULTS:** The results from a univariate ANOVA showed that wellbeing levels among volunteers, nonvolunteers and new cases groups were significantly different, $F(2, 147) = 36.547, p < 0.01$. The result from LSD post hoc test revealed that cancer survivors who engaged in volunteering work had a statistically significantly higher overall wellbeing level than the other groups ($p < 0.05$). However, the frequency of volunteering was not significantly correlated with wellbeing in this study, which is in contrast to findings of previous research (Morrow-Howell, 2003; Van Willigen, 2000). **CONCLUSIONS:** This is a pioneer study to explore the relationship between volunteering work and cancer survivors in Hong Kong. The results of the study indicated that there

was a positive relationship between volunteering work and wellbeing of cancer survivors. Due to the limitation of the design of the study, the causal relationship could not be drawn at this stage. **RESEARCH IMPLICATIONS:** This study had limitations in that the demographic variables were not controlled for. Future research using random selection and matched controls is needed to demonstrate a causal connection. Also a longitudinal study to examine changes in wellbeing among cancer survivors across time among volunteers is recommended. **CLINICAL IMPLICATIONS:** Nonetheless, volunteering has the potential to be a useful addition to psycho-social care planning for adult cancer survivors. Service providers and health professionals may want to improve the wellbeing of cancer survivors by encouraging and providing opportunities to do volunteering work. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-73

Risk Factors Linked to Distress in the Pre-Surgical and Pre-Chemotherapy Phases. Do They Have the Same Psychological Basis?

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BACKGROUND: The main purpose of this study was to describe the women's experiences after having received a breast cancer diagnosis in terms of anxiety, depression and distress in 2 phases along the cancer journey: the pre-surgery phase and the pre-chemotherapy phase. Moreover, we tried to model predictors of distress in the 2 phases, using a cross-sectional methodology of the following variables: age, stage of the disease, education, employment status, level of anxiety and level of depression. **METHOD:** The data were collected in the Breast Unit of the Istituto Clinico S. Anna, Brescia, Italy, via a routine psychological screening program. Of 227 consecutive patients, 196 gave consent and completed responses for the administration of three questionnaires: BDI-II (Beck et al., 1996), STAI (Spielberger et al. 1983) and PDI (Morasso et al., 1996). 106 patients were in Group-A (pre-surgery phase) and 90 patients were in Group-B (pre-chemotherapy phase). Anxiety, depression and socio-demo variables (age, education, employment status, stage of the disease) were entered in a stepwise multiple regression analysis to predict the perceived distress level. **RESULTS:** In Group-A, 48.2% of the women reported a significant level of anxiety and 38.5% reported at least a mild level of depression; in Group-B anxiety and depression were found respectively in 44.3% and 37.3% of the sample.

The mean of PDI score was 26.13 in Group-A (SD = 9.13) and 26.77 in Group-B (SD = 8.39). In Group-A, the prediction model ($F(2, 92) = 71.180$, $p < 0.001$) showed anxiety and depression as significant predictors and accounted for approximately 60% of the variance of PDI scores. In Group-B, depression and age emerged as predictors, and this model ($F(2, 86) = 71.798$, $p < 0.001$) explained 62% of the variability in the PDI scores. **CONCLUSIONS:** There were no differences between the mean of Group-A and that of Group-B in terms of anxiety, depression and distress. In both A and B groups, correlations were identified between the presence of distress and anxiety and depression, but not with socio-demographic variables. However, differences were noticed in the predictors of distress in the 2 phases: in the group-A, anxiety and depression were the components that emerged with greater strength in determining the perception of the level of distress. In the group-B the level of anxiety was excluded from the model and the predictive variables were depression and younger age. **RESEARCH IMPLICATIONS:** Many progresses highlight the differences that occur at various steps of the disease, but many are still pursued in order to understand the complexity of human experience along the cancer journey, from the beginning to the later phase, such as survivorship or end of life. For future research, we underline the importance of a longitudinal perspective, as psychological distress has been shown to vary significantly during time and stages of the disease. **CLINICAL IMPLICATIONS:** This study underlines how it is important to properly understand the psychological sufferance of a woman with breast cancer in order to provide changes in her care management during the cancer trajectory. In particular, this study demonstrates how the level of anxiety plays a different role in determining distress in the two phases studied: anxiety is more impairing right before the surgery, while in later phases seems to be more integrated and accepted by patients. **ACKNOWLEDGEMENT OF FUNDING:** Funding was provided through the Priamo Association (Brescia, Italy), Sant'Anna Clinic Institute - San Donato Group and Fondazione Edo ed Elvo Tempia (Biella, Italy). We thank Dr. Diana Lucchini and to the entire Oncology team of the Sant'Anna Clinic Institute.

P2-74

Abstract withdrawn

P2-75

Phase I Pilot of a Mindfulness-Based Stress Reduction Intervention for Head and Neck Cancer Patients Receiving Radiotherapy of Curative Intent

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BACKGROUND: Despite studies showing that Head and Neck Cancer patients experience some of the highest distress of all cancer patients, few psychological interventions exist to help these patients cope with the challenges of diagnosis and treatment. This study examines the feasibility and acceptability of an adapted Mindfulness-Based Stress Reduction (MBSR) intervention tailored for Head and Neck Cancer patients undergoing radiotherapy with curative intent. This intervention uses a novel one-on-one administration to accommodate patients' radiotherapy schedules. **METHOD:** The primary aims are to assess the feasibility of administering this intervention in a hospital setting and the acceptability of this intervention to patients. The secondary aim is to assess changes in mindfulness and how this relates to distress and quality of life. Thirty participants will be recruited from the Peter MacCallum Cancer Centre. Patients complete 7 sessions of the MBSR intervention concurrently with radiotherapy. During the intervention, patients' attendance of sessions and their adherence to mindfulness practice outside of sessions will be recorded. Patients complete questionnaires before and after the intervention that assess their distress, quality-of-life and mindfulness. **RESULTS:** The feasibility of the intervention will be assessed by recording the number of patients who completed a sufficient amount of sessions and mindfulness practice outside of sessions. The acceptability of the intervention to Head and Neck Cancer patients will be assessed by examining whether those patients who completed the intervention differed significantly from those who did not on a number of demographic variables. The secondary aims of the study will be assessed by examining the change over time in self-reported mindfulness, and the relationship of post-intervention distress and quality-of-life to self-reported mindfulness. **CONCLUSIONS:** This study will assess whether it is possible to address the needs of Head and Neck Cancer patients undergoing radiotherapy of curative intent using a one-on-one MBSR intervention. The results of this pilot will

indicate whether an adapted MBSR intervention is of interest to this population, and whether it is possible for these patients to adhere to the program during the course of radiotherapy treatment. This study will also offer some preliminary evidence as to the efficacy of such an intervention in alleviating patient distress and improving quality-of-life following radiotherapy. **RESEARCH IMPLICATIONS:** If this trial demonstrates that the adapted MBSR intervention is acceptable and feasible to Head and Neck Cancer patients, and that increasing levels of mindfulness are connected to lower psychological distress and higher quality-of-life, we intend to further assess the effectiveness of this intervention at reducing distress and increasing quality-of-life using a randomised controlled trial. **CLINICAL IMPLICATIONS:** The results of this study will provide an indication of whether a tailored, one-on-one MBSR program is a viable option to help Head and Neck Cancer patients cope with the challenges of radiotherapy. Based on this information, the feasibility of using mindfulness-based treatments to support this population will be discussed. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by beyondblue, an Australian Government funded organization that aims to provide a national focus and community leadership to increase the capacity of the broader Australian community to prevent depression and respond effectively.

P2-76

Community-Based Exercise Intervention for Oncology Patients Suffering From Fatigue: Effects on Symptoms, Psychosocial Health, Aerobic Fitness and Body Composition: A Pilot Study

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BACKGROUND: Exercise and functional rehabilitation are thought to offer significant benefits to cancer patients. Fatigue is the most common and distressing symptom experienced by cancer patients, both during and after treatment. Research has reported that supervised structured exercise programs improve quality of life and symptom management, including fatigue, as well as aerobic fitness and body composition. This study examines whether similar results could be achieved using a community-based intervention. **METHOD:** Twenty women (M_{age} : 53.05 years; M_{mass} : 81.9 kg) were recruited from the London Regional Cancer Program following curative therapy for resected breast

cancer. Patients underwent a thorough baseline assessment and were assigned a progressive aerobic exercise program (50–70% of their baseline maximum heart rate) at a community facility. The Piper Fatigue (PFS), Edmonton Symptom Assessment (ESAS), and Functional Assessment of Cancer Therapy-General (FACT-G) scales evaluated psychological and symptom prevalence. Aerobic fitness, physical activity levels, and body composition were objectively assessed using a graded treadmill protocol, accelerometers, and dual x-ray absorptiometry, respectively. Assessments were conducted at baseline and following the 16-week intervention. **RESULTS:** Significant ($p < 0.05$) improvements were found in sensory fatigue (PFS; $\eta^2 = 0.277$), patient-reported symptoms (ESAS; $\eta^2 = 0.325$), and physical ($\eta^2 = 0.454$), functional ($\eta^2 = 0.462$), and overall ($\eta^2 = 0.373$) quality of life (FACT-G). Aerobic fitness variables (heart rate, peak VO_2 , RER) did not significantly improve, except for duration ($\eta^2 = 0.460$). Non-significant ($p > 0.05$) changes were found for objectively measured body composition variables (percent fat, fat mass, fat free mass, lean mass, visceral adipose tissue volume) and physical activity levels (minutes engaged in sedentary, light, and moderate-to-vigorous activity). **CONCLUSIONS:** There is mounting evidence that exercise, in general, is beneficial for individuals along the cancer continuum. However, what is urgently needed is a more specific refinement of community-based exercise interventions and recommendations to fit an individual cancer patient's functional ability, disease status, and overall treatment goals. As a pilot study, this trial demonstrates that a 16-week community-based exercise program is sufficient to enhance fatigue and psychosocial variables, but not aerobic fitness, body composition, and physical activity patterns. **RESEARCH IMPLICATIONS:** Feasibility, acceptability (i.e. compliance to exercise), and adherence issues must be addressed prior to building on this pilot study with a series of randomized studies in specific cancer patient populations, in order to help define the optimal interventions for our patients. **CLINICAL IMPLICATIONS:** A structured and supervised community-based aerobic exercise program is safe and effective to achieve symptom and psychological benefits, but not effective at improving the aforementioned variables aerobic capacity, physical activity patterns, and body composition, possibly due to exercise compliance. Nevertheless, this pilot study highlights the synergistic, coordinated, and integrated approach between cardiac rehabilitation and secondary prevention programming to yield a beneficial impact on psycho-oncology care. **ACKNOWLEDGEMENT OF FUNDING:** London Regional Cancer Program Small Grants for Cancer Research and Training.

P2-77

The Acceptance and Commitment Therapy for Increase the Psychological Flexibility of Cancer PatientsGiuseppe Deledda¹, Magarotto Roberto², Stefania Gori²¹Service Clinical Psychology, Hospital Sacro Cuore-Don Calabria, Negrar, Verona, Italy, ²U.O. Oncology, Hospital Sacro Cuore-Don Calabria, Negrar, Verona, Italy

BACKGROUND: The Acceptance and Commitment Therapy proposes the hypothesis that psychological suffering is caused by the interaction between language, cognition and behavioural control. Rather than focus on the reduction of symptoms, the primary purpose is to help the person to accept their thoughts and emotions, and live in the present consistently with their values. The aim of this introduction is to address the ACT Hexaflex processes in order to increase the psychological flexibility of cancer patients. **METHOD:** Will be present the ACT protocol used to oncological patient and in palliative care setting in the U.O. of Oncology, Hospital Sacro Cuore Don Calabria in Negrar (VR). ACT establishes psychological flexibility by focusing on 6 core processes: acceptance of private experiences, cognitive defusion, being present, to have a perspective-taking sense of self, identification of values that are personally important. **RESULTS:** The data showed significant improvements on outcome measures from pre to post. Regression analyses showed that changes in psychological flexibility predicted changes in distress and mood. **CONCLUSIONS:** The results obtained using the ACT approach in oncology, pose a more solid basis to support the importance of a non-judgmental attitude in order to employ the energies toward what we consider most important in our lives. Acceptance allows to move more freely without being stopped by distressing feelings. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-78

“Yes, I Have Cancer, But I am Going to Beat it! Only Then Will I Become a Mother”. A Case Report From the Psychosocial Perspective: Embryo Preservation in Breast CancerOzcan Yildiz¹, Sibel Dogan¹, Seher Sen¹, Kadriye Slocum²¹Istanbul Medipol University, Istanbul, Turkey,²Istanbul Sehir University, Istanbul, Turkey

BACKGROUND: Among health problems of our contemporary society, cancer is one of the most important, and sadly, thousands of young ladies are diagnosed with cancer annually, during their reproductive period. The chemotherapy medications and radiation therapy that are used for the

treatment of this condition harm the ovarian tissue, which in turn increases likelihood of early menopause. At present, the freezing of embryos is accepted as the most grounded of all methods for maintaining reproductive ability. **METHOD:** This study is a case report, and the case involves a 26-year old young lady. She came to our oncology unit, upon being diagnosed with breast cancer (invasive ductal carcinoma of the breast). At the time, she had just been married for 9 months, and was attempting to become pregnant, when she suddenly recognized a lump in her breast. This case addresses, in detail, her journey from this point onward: the psychological periods she went through and the positive changes that emerged in these periods, upon deciding to freeze her embryos, prior to the onset of her treatment. **RESULTS:** The in-depth interview method was used to gain a better understanding of the different psychological periods she experienced. A psychosocial support program was also provided, on a regular basis. Through this program, patient showed a decrease in the difficulties she was experiencing psychologically. Being an individual who had a great deal of desire and sensitivity to becoming a mom, once the process of freezing her embryos was complete, it was observed that she not only adapted to her radiotherapy and chemotherapy treatments with more ease and speed, but that she also continued her therapy with a great deal of motivation. **CONCLUSIONS:** We are of the opinion that, informing and as it is necessary guiding, ladies who have been diagnosed with breast cancer within reproductive age, specifically those who are young, with the options that are available in the area of protecting their reproductive ability, in correspondence with psychosocial approaches, will have a positive impact, on their ability to cope with their illness, their feelings of hope and their psychological difficulties. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-79

Effect of Relaxation Exercise on Fatigue, Depression and Level of Quality of Life in Diagnosed with Breast and Colorectal Cancer Within Patients Under Adjuvant ChemotherapySibel Dogan¹, Havva Tel², Metin Ozkan³¹Istanbul Medipol University, Istanbul, Turkey,²Cumhuriyet University, Sivas, Turkey, ³Erciyes University, Kayseri, Turkey

BACKGROUND: Cancer is a chronic phenomenon covering a lot of psychological and psychosocial problems in addition to being a medicalphysical illness. Cancer patients develop variable and different emotional, psychological and behavioral reactions in the diagnosis, treatment, relapse and palliative periods. As cancer diagnosis; cancer treatment, disease progression causes increased psychological

distress in the individual and also decreased quality of life of their. **METHOD:** Study was conducted at Oncology Hospital at Erciyes University. Study sample was composed of 70 patients diagnosed with breast cancer and colorectal cancer, who were taking adjuvant chemotherapy for the first time and who were being planned to take ambulatory adjuvant chemotherapy lasting at least 3 cures. Study group was applied relaxation exercise. Effect of exercise was evaluated by measurement instruments prior to every chemotherapy cure and on 7th day of ending cure being measured for 6 different times during 3 cures. Data were collected with questionnaire form, Piper Fatigue Scale, Beck Depression Scale and EORTCQLQ C-30 Quality of Life Scale. **RESULTS:** Fatigue level of the study group patients was high compared with controls and by measurements and inter group comparisons it was found that fatigue scores in study group decreased while increased in control group. Depression scores were found to be lower in study group and higher in control group. Quality of life increased in study group patients who were applied relaxation exercise. Depression, fatigue and scores of quality of life were positively correlated and while depression increased, fatigue increased and quality of life decreased. **CONCLUSIONS:** It was recommended to regularly evaluate fatigue, depression and quality of life levels of subjects diagnosed with cancer within general care, to conduct further clinical trials to emerge the efficiency of relaxation exercises, to use devices like I-pod for applying relaxation exercises during chemotherapy, to integrate relaxation exercises into routines at chemotherapy units, to include information on recognition and handling of depression and fatigue in patient and family symptom management educations. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-80

Quality of Life, Vulnerability to Stress and Coping Strategies in Patients With Oral Cavity Cancer: Presentation of Preliminary Results of a Study Conducted in Portugal

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BACKGROUND: Oral Cavity Cancer (OCC) is positioned in a clinical level of imposing challenges, regarding the social and psychological aspects components that arises when We look to the recent scientific production, that empirically validated innovative knowledge and effective techniques. It is necessary to develop a persistent investigation in this area, that at the moment is so little explored, and the goal of a better perception of the psychological impacts arising in the treatment of this patients. **METHOD:** The sample is constituted by

40 participants diagnosed with OCC. Measuring instruments were used to assess the vulnerability to stress, coping strategies and quality of life. **AIMS -** (1) find which factors contribute the most to vulnerability to stress in these patients, and We explore the relationship between the presence of Vulnerability to stress and perceived quality of life; (2) evaluate the differences between Smoking and Non-Smoking patients regarding the perception of quality of life and identify the Coping Strategies with higher prevalence in this context. (3) explore the relationships between all the variables in study. **RESULTS:** The outcomes seem to be congruent with some previous studies with cancer patients, since patients classified as Vulnerable to Stress showed a more negative perception of their Global Quality of Life; cancer patients who are smokers, relates inferior Global Quality of Life when compared with non-smokers, and Active Coping was one of the strategies that emerge in the relation with positive perceptions of the Global Quality of Life is also evident the relationship between coping strategy Religion and psychological well-being. **CONCLUSIONS:** This research shows how psychological variables can influence the lives of cancer patients and therefore underlines the importance of psychological support to these individuals, which may attenuate their suffering, as well as implement some missing and adaptive resources. This type of research, in Portugal, is an innovative step for the scientific community and in particular to the specific area of Psycho-Oncology. **RESEARCH IMPLICATIONS:** We are aware that is necessary to improve the responses and performance at the level of psycho-oncology. More studies that allow us to know the reality about OCC in order to develop effectiveness, and thereby stimulating the development of quality health care. Portugal remains the only country in Europe where the cause of death caused by cancer continues to rise 6% annually. **CLINICAL IMPLICATIONS:** The results suggest the importance of creating intervention programs promoting quality of life and well-being that include training on coping strategies and the active construction of meaning of life in disease. **ACKNOWLEDGEMENT OF FUNDING:** We thank UNIDEP-ISMAI the support given to the execution of this work.

P2-81

Online Mindfulness-Based Cognitive Therapy for Chronic Cancer-Related Fatigue - A Pilot Study

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BACKGROUND: Chronic cancer-related fatigue (CCRF) can persist for months or even years after completion of successful cancer treatment and has

a major impact on the quality of life of cancer outpatients. Face-to-face Mindfulness-Based Cognitive Therapy (MBCT) has shown to be effective in reducing CCRF. An online MBCT has been developed, as online interventions are easily accessible: a major advantage for this group of patients. The efficacy of online MBCT was investigated in this pilot study. **METHOD:** The main outcome measure was fatigue severity assessed with the Checklist Individual Strength (CIS). Thirty-six CCRF patients were exposed to a nine-week online MBCT intervention. Since the present study was set up in a clinical setting and there was no proper control group, data about the waiting-list control group ($n = 23$) from the face-to-face MBCT study of Van der Lee and Garssen (2010) was used for comparison of the outcome measurements over time. **RESULTS:** ANCOVA showed that fatigue at post-assessment was significantly lower in the intervention group, compared to the waiting-list comparison group, controlling for pre-treatment level of fatigue. The proportion of clinically improved participants in the intervention group (52%) was significantly larger than in the wait-list comparison group (4%). Compared to other online interventions, the dropout rate of the online MBCT was acceptable, though higher than in face-to-face MBCT (36% online and 6% face-to-face). **CONCLUSIONS:** The findings of this pilot study suggest that individual online MBCT may be effective in reducing fatigue CCRF in patients. The dropout rate for online MBCT was higher than for face-to-face MBCT, though acceptable for an online intervention. **RESEARCH IMPLICATIONS:** In this pilot study, data was collected in a clinical setting. A randomized controlled study with a larger sample and longer follow up is needed to demonstrate the efficacy of MBCT online. In addition, dropouts have to be monitored carefully. **CLINICAL IMPLICATIONS:** There is a considerable number of CCRF patients who do not have access to interventions, as they don't have the energy to travel to the treatment center. To provide a large group of cancer survivors with access to an effective online treatment, studying the efficacy of online interventions is necessary. The purpose of this pilot study is to investigate the efficacy of an online MBCT in reducing chronic fatigue in cancer survivors. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-82

Longitudinal Associations Between Illness Perceptions, Coping and Distress Among Breast Cancer Patients Attending a Psycho-Educational Intervention

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BACKGROUND: Understanding factors that contribute to emotional distress in patients is essential in the development of interventions to reduce patient distress. According to the Common Sense Model (CSM) (Leventhal et al., 1980), distress can be regarded as one of the illness outcomes influenced by patients' perceptions of their illness and coping responses. This study aimed to investigate the longitudinal associations between illness perceptions, coping and emotional distress in breast cancer patients who attended a psycho-educational intervention. **METHOD:** A total of 74 women took part in one of nine intervention groups offered since 2005 by our hospital. The standardized program consisted of 8 consecutive meetings and one follow-up session 2 months after the 8th session. Sessions were supervised by a social worker and a nurse practitioner. Study variables were assessed by questionnaires before the start of the group intervention (T1), directly after the eighth session (T2), and 12 months after T1 (T3). All questionnaires contained the 25-item Hopkins Symptom Check List (distress), the Illness Perception Questionnaire-Revised (illness representations) and the Dutch version of the COPE (coping). **RESULTS:** Cross-sectional analyses showed that distress at baseline was positively related to the IPQ-R subscales Consequences, Timeline Chronic, Timeline Cyclical and Emotional Representations, whereas an inverse association was observed between distress and Illness Coherence (all $r > 0.40$). Regarding coping, results show that greater use of Avoidance was strongly related to higher distress scores ($r = 0.47$), whereas Acceptance was inversely related to distress ($r = -0.28$). Longitudinal analyses showed that greater distress at T2 & T3 was related to an increase over time in the IPQ-R subscales Illness Identity and Timeline Cyclical. An increase in Acceptance coping was related to greater distress at T3. **CONCLUSIONS:** This study is one of the few longitudinal investigations regarding the relationship between illness perceptions, coping and distress in women with breast cancer. In accordance with assumptions from the Common Sense Model our results suggest that illness representations, coping and distress vary over time as new information and experiences are incorporated into patients' continuous process of self-regulation. The observation that changes in illness perceptions and coping are related to future distress holds promise for the design of psychological interventions. **RESEARCH IMPLICATIONS:** No objective information about patients medical characteristics and possible disease progression had been available in this study. Therefore, studies are needed to investigate what medical factors influence patients' perceptions of their ill-

ness and lead to changes in these perceptions. Secondly, the role of Acceptance coping on distress should be further clarified. Future research should unravel the mechanisms that cause some patients to increase their level of Acceptance over time and examine its relation to distress. **CLINICAL IMPLICATIONS:** Results from this study suggest it would be interesting to design an intervention targeting at patients' perceptions of breast cancer, as has previously been done in patients with myocardial infarctions (Petrie et al., 2002; Broadbent et al., 2009). Our results in particular have demonstrated the importance of patients' perceived timeline perceptions, emphasizing the relevance of preparing patients for possible long-term symptoms and teaching strategies to cope with symptoms which may appear at an irregular interval. **ACKNOWLEDGEMENT OF FUNDING:** This project was supported by a grant from Pink Ribbon, the Netherlands.

P2-83

The Use of Narrative Therapy to Manage Emotional and Existential Distress in the Oncology Setting

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BACKGROUND: Best practice in psycho-oncology to treat adjustment difficulties is short-term therapy using cognitive-behavioral or mindfulness techniques. Although research demonstrates that these techniques can be quite helpful in managing symptoms of distress, there are some patients and some situations in which the effectiveness is limited. Clinical techniques to guide the use of Narrative therapy to reduce anxiety and depression, improve adjustment and coping, and reduce existential distress will be discussed. **METHOD:** Narrative therapy is a postmodern approach defined within the social constructionist worldview that truth and reality are socially constructed or shared perspectives bound by history and context. Within a narrative therapy framework, meaning is generated through stories in different contexts and problems are manufactured within these contexts (Lambie & Milsom, 2010). Solutions, therefore, are focused on altering the stories. This, in turn, changes meaning and redefines problems (Fernandez, 1999c; 2002b). The role of the narrative therapist is to retain a level of curious optimism, always asking for clarity by using co-exploration as a tool. **RESULTS:** Narrative therapy in oncology is not new although the consistent application of its power to give meaning to life events is underutilized. Pecchioni (2012) discusses and explores the interruption of cancer to the "life script." Ragin (2013) discussed a narrative approach to communication and the honor given to

patients as they rewrite and refocus their life narrative. Active listening techniques are used to elicit and exploring the life narrative. Narratives usually reveal themes including: Victim, Victorious, Unfortunate, Thankful, Persecuted, and Hero. Techniques that serve to prematurely comfort narrator or listener are discouraged as they serve to end narrative exploration. **CONCLUSIONS:** Techniques of Cognitive-Behavioral and Mindfulness Therapy are important resources for reducing distress in the setting of oncology, but the effectiveness is sometimes limited. Use of Narrative Therapy is a technique that can be used to get at core issues underlying symptoms of distress including interpretation and meaning in the cancer experience. Working to refocus the life narrative on themes suggesting positive coping and meaning rather than powerlessness or victimization can result in improvements in adjustment and coping, reductions in anxiety and depression, and resolution of existential distress. **RESEARCH IMPLICATIONS:** Research into theories regarding themes present in life narratives and their impact upon coping and systems of distress in the oncology setting is needed. **CLINICAL IMPLICATIONS:** Abstract provides a theoretical framework for utilizing Narrative Therapy in psycho-oncology to reduce distress and enhance coping and adjustment. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-84

An Evaluation of a Reflexology Service for Cancer Patients and Their Relatives

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BACKGROUND: Previous research demonstrated the effectiveness of reflexology and scalp massage for improving the quality of life (QoL) of early breast cancer women (Sharp et al, 2010). Through the use of charitable funds the Oncology Health Centre has continued to offer reflexology and scalp massage sessions, but has widened this availability to all types of cancer patients and relatives. The centre has continued to evaluate the psychological effectiveness of these interventions and now presents the results. **METHOD:** Between April 2012 and March 2013, seventy cancer patients and relatives were referred for 6 hourly sessions of reflexology, scalp massage or a combination of both. Participants completed the Functional Assessment of Cancer Therapy (FACT-G), Hospital Anxiety and Depression Scale (HADS) and Mood Rating Scale (MRS) during the first and last sessions. Participants also completed a satisfaction survey at the final session, which enabled comments on the service they had received. **RESULTS:** Fifty-eight participants completed pre and post measures.

Wilcoxon Signed Rank Tests were used to analyse the data. An improvement in scores between pre and post treatment was found on all measures. This improvement was significant for the FACT-G physical, emotional and functional well-being, HADS anxiety and depression and MRS relaxation, happiness, clear-headedness, easy-goingness and confidence subscales. The FACT-G social/family well-being and MRS energy subscales were not significant. Qualitative comments highlighted various benefits of the sessions, including relaxation, distraction, a pleasant treatment to associate with hospital and providing something to look forward to. **CONCLUSIONS:** The current study demonstrates that reflexology and scalp massage complementary intervention sessions within an Oncology Health Centre can lead to significant improvements in QoL and mood. This supports previous research in early breast cancer women (Sharp, 2010) and extends the benefits to a wider range of cancer patients and relatives. **RESEARCH IMPLICATIONS:** The study highlights a need to further investigate the impact of complementary therapies on psychosocial outcomes, such as QoL and mood. This could be completed through multi-centre studies, or extending and comparing the options of complementary therapies, such as acupuncture and aromatherapy massage in other specific cancer populations. The study has also highlighted the value of combining quantitative and qualitative data to produce rich data. **CLINICAL IMPLICATIONS:** Reflexology and scalp massage are complementary interventions that can lead to significant improvements in QoL and mood across a wide range of cancer patients and relatives. These interventions could be incorporated more frequently into cancer care services to develop a 'holistic' approach to cancer care services, which has been emphasised by recent research (Ben-Arye et al, 2013). **ACKNOWLEDGEMENT OF FUNDING:** Charitable funds financed the reflexology service during this period of time.

P2-85

Psychosocial Interventions to Improve Quality of Life and Emotional Wellbeing for Recently Diagnosed Cancer Patients

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BACKGROUND: UK government policy and emerging international guidelines recommend that all individuals who are diagnosed with cancer should be assessed for emotional problems and given access to appropriate psychological support

services. However, the ideal timing, nature, content and method for delivery of services require substantiation. This review examines the effectiveness of individual psychosocial interventions to improve Quality of Life (QoL) and emotional wellbeing delivered in the first 12 months after a diagnosis of cancer. **METHOD:** We searched the Cochrane Library (including CENTRAL), MEDLINE, EMBASE, and PsycINFO up to January 2011. No language restrictions were imposed. Randomised controlled trials of psychosocial interventions involving interpersonal dialogue between a "trained helper" and individual newly diagnosed cancer patients were selected. Only trials measuring QoL and general psychological distress were included. Where possible, outcome data were extracted for combining in meta-analyses. Continuous outcomes were compared using standardised mean differences and 95% confidence intervals, using a random-effects model. The primary outcome, was examined by outcome measurement, cancer site, theoretical basis for intervention, mode of delivery and discipline of trained helper. **RESULTS:** 3309 records were identified; 30 trials were included in the review. No significant effects were observed for QoL at 6-month follow up (SMD0.11; 95%CI-0.00 to 0.22); however, a small improvement in QoL was observed with cancer-specific measures (SMD0.16; 95%CI 0.02 to 0.30). General psychological distress as assessed by "mood measures" improved (SMD-0.81; 95%CI-1.44 to -0.18), but no significant effect was observed when measures of depression or anxiety were used (depression SMD0.12; 95% CI-0.07 to 0.31; anxiety SMD0.05; 95%CI-0.13 to 0.22). Psycho-educational and nurse-delivered interventions administered face to face and by telephone produced small positive significant effects (SMD0.23; 95%CI 0.04 to 0.43). **CONCLUSIONS:** The significant variation observed across participants, mode of delivery, discipline of 'trained helper' and intervention makes it difficult to arrive at firm conclusions regarding the effectiveness of psychosocial interventions for cancer patients. It can be tentatively concluded that nurse-delivered interventions comprising information combined with supportive attention may have a beneficial impact in an undifferentiated population of newly diagnosed cancer patients. The review revealed a lack of acknowledgement for assessing need in this population. **RESEARCH IMPLICATIONS:** Future research should address assessment of need, to identify patients likely to benefit from psychosocial interventions, such as those at risk of emotional problems. Where patients are at psychological risk, the correct psychometrics must be employed to ensure the measures are sensitive to the sub-clinical changes that might be expected. Accurate power calculations should take this into account. It would also be useful to examine the relationships between patient characteristics and expectations of psycho-

social support. **CLINICAL IMPLICATIONS:** It is important to ascertain which type of “trained helper” is the most appropriate health or allied health professional to deliver various types of psychosocial interventions for cancer patients, ideally according to need. For example, can a stepped care approach employ a variety of multi-disciplinary professionals? Commissioning bodies would benefit from an effort to conduct economic appraisals of the cost-effectiveness of interventions. **ACKNOWLEDGEMENT OF FUNDING:** The authors would like to thank the Research and Development Office, Public Health Agency, Department of Health, Social Services and Public Safety for support through a Cochrane Collaboration Fellowship Award.

P2-86

Physical Activity Intervention for Cognitive & Emotional Functioning in Breast Cancer Patients Receiving Chemotherapy

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BACKGROUND: High levels of emotional distress prior to chemotherapy are associated with poorer cognitive performance post-chemotherapy. Current interventions fail to assess if cognitive functioning can be maintained through improving patients' emotional well-being. Physical activity is known to enhance emotional well-being in cancer patients and improve cognitive functioning in those with dementia. This physical activity intervention aimed to reduce cognitive impairment in breast cancer patients and investigate if this is mediated by improvements in emotional distress. **METHOD:** Forty-two breast cancer patients receiving chemotherapy were recruited from Leicester Royal Infirmary breast cancer clinic. Participants were randomised into the intervention group ($n = 13$) or control group ($n = 16$). The intervention consists of 12 weeks of home-based, moderate intensity walking. The intervention group were provided with guidance and motivation to incorporate moderate levels of walking around their treatment schedules. All patients wore an accelerometer for seven days to gain an insight into walking practices at baseline and post-chemotherapy. Cognitive and emotional functioning was assessed by neuropsychological measures and questionnaires at 3 time points. Data collection is on-going (target $n = 62$). **RESULTS:** To date there has been a good uptake of patients who are adhering to the intervention. Thirteen ladies have completed the study so far, 6 in the intervention group and 7 in the control group. Data will be analysed towards the end of summer 2013,

complete results will be available at the time of the conference. **CONCLUSIONS:** Based upon trends in data collected to date, it is expected that those in the intervention group will show less cognitive decline compared to the control group. **RESEARCH IMPLICATIONS:** The implementation of the physical activity intervention will provide an insight into the nature of cognitive dysfunctions experienced by breast cancer patients and if they are mediated by emotional distress. **CLINICAL IMPLICATIONS:** The intervention will provide consultants and other healthcare professionals with the ability to guide patients towards self-help methods of improving their quality of life and cognitive functioning through chemotherapy. **ACKNOWLEDGEMENT OF FUNDING:** The research is funded by Loughborough University as part of a PhD project.

P2-87

Challenges of Implementing a Randomized Controlled Trial of a Psychological Intervention in Patients Newly Diagnosed With Advanced Cancer

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BACKGROUND: This pilot study is testing the feasibility and acceptability of a 3-arm RCT of the Meaning-Making Intervention (MMi; Lee, 2006) in 60 newly diagnosed advanced cancer patients (ACP), comparing the MMi to an attention-control and usual care alone. While there have been previously published reports of challenges in RCTs of palliative care patients there has been no previous study of RCT implementation barriers of a psychosocial intervention in newly diagnosed ACP. **METHOD:** Patients complete self-administered measures at baseline, and at 2, 4, and 6 months post-randomization. Thus far, we have recruited 45 participants over 6 months, meeting our recruitment goal of 7 patients/month. We kept a journal of implementation challenges and facilitators, conducted a content analysis, and have reached theoretical saturation (i.e. no new theme emerged over past 3–4 weeks of recruitment). **RESULTS:** Oncology team-based challenges were: patients not being informed of their advanced staging, suboptimal physician cooperation (i.e., busy clinics, lack of perceived value of psychosocial research, emphasizing own or biomedical studies), a lack of internal com-

munication, and gaps in continuity of care. Patient-related challenges included: reluctance to participate in a *psychological* intervention, refusal to talk about their diagnosis for fear of being emotionally re-traumatized, fluctuating health status, balancing between recruiting patients soon after diagnosis and respect for this sensitive period, geographical barriers, and family gatekeeping. We were able to find ways around the barriers; these will be discussed. **CONCLUSIONS:** Implementing a RCT with ACP can be challenging in several ways, both from an oncology team and patient/family viewpoint. The encountered barriers can particularly involve stigma when the tested intervention is psychological in nature. Success requires sensitivity, good communication, and strong problem-solving skills on the part of the RCT research staff. **RESEARCH IMPLICATIONS:** We present ways to navigate barriers and limitations as revealed through our experience of implementing a RCT in ACP. These include frequent research staff meetings and close staff supervision on clinical issues surrounding recruitment. The continuous monitoring and case by case analysis of challenges as they arise coupled with a responsive, flexible approach has been found to be effective. Establishing clear means of communication between all parties further facilitates the swift resolution of potential issues. **CLINICAL IMPLICATIONS:** Our experience implementing a RCT in ACP highlights how important it is to diligently select research staff able to tolerate the delicate context of an oncology setting for staff, patients, and their families. It also emphasizes the importance of ongoing supervision and training to address clinical concerns and minimize implementation barriers. More specifically, it underlines the importance of helping patients verbalize any concerns and correct any misconceptions about participating in a psychological intervention study. **ACKNOWLEDGEMENT OF FUNDING:** Canadian Institutes of Health Research (CIHR) Cancer Institute.

P2-88

The Effects of Body-Mind-Spirit (BMS) Group Therapy and Supportive-Expressive (SE) Group Therapy on Perceived Stress and Emotional Control in Breast Cancer Patients

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BACKGROUND: Breast cancer patients are commonly known to suffer from a variety of behavioral symptoms following diagnosis and treatment. The current study aimed to investigate the protective effects of Western and Eastern psychotherapies in improving psychological stress response for breast cancer patients. **METHOD:** A total of 157 breast

cancer patients, aged between 18 and 65, were recruited in Hong Kong and randomized into one of the three group therapies, namely, the body-mind-spirit (BMS) group, supportive-expressive (SE) group, and control group. Outcome measures, which included the Perceived Stress Scale (PSS) and Courtauld Emotional Control Scale (CECS), were assessed at baseline with 3 follow-up measurements in a 1-year span. Latent growth modeling was used to explore the growth trajectories of PSS and CECS and treatment effects of the two therapies. **RESULTS:** For the total sample, logarithmic declining trends were found for the repeated measurements of perceived stress ($\chi^2(4) = 4.6, p > 0.05$, CFI = 1.00, TLI = 1.00, RMSEA = 0.03, SRMR = 0.07) and emotional control ($\chi^2(5) = 4.5, p > 0.05$, CFI = 1.00, TLI = 1.00, RMSEA = 0.00, SRMR = 0.07). Decreases in perceived stress and emotional control were positively correlated ($r = 0.35, p < 0.05$). Significant reduction in both perceived stress and emotional control was found for the BMS group therapy, while similar favorable outcomes found in the SE group were not statistically significant. **CONCLUSIONS:** The study demonstrates significant reductions in perceived stress and emotional control and suggests potential long-term therapeutic effects for the BMS group therapy for patients with breast cancer. The effectiveness of the SE group therapy remains to be elucidated in further studies. **RESEARCH IMPLICATIONS:** Future research could attempt to elucidate the usefulness of SE group therapy by identifying patients who are more likely to benefit from the therapy with regard to the cultural adaptation. **CLINICAL IMPLICATIONS:** The beneficial effects as revealed in this study provide supportive evidence of the effectiveness and feasibility of the BMS group therapy for breast cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-89

Illness Perceptions of Cancer Patients: Relationships With Illness Characteristics and Coping

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BACKGROUND: Illness perceptions have proven to be predictive of coping and adjustment in many chronically ill patients. Insights into illness perceptions of cancer patients are however scarce. The purpose of the present study was to explore how people with cancer perceive their illness. Moreover, we examined the relationship between cancer patients' illness perceptions, their illness characteristics (type of cancer, post diagnosis time-span, and treatment) and coping strategies. **METHOD:** Participants were 325 cancer patients from a generic nationwide longitudinal panel-study among cancer

patients in the Netherlands. They completed the revised Illness Perception Questionnaire (winter 2011/2012) and the Mental Adjustment to Cancer Scale (spring 2012). Patient and illness characteristics were derived from the National Cancer Registry (NCR) and through self-registration. Descriptive statistics were used to describe the study sample, and to compute means and distributions of the IPQ-R scales. Analyses of variance were conducted to examine whether illness perceptions are related to illness characteristics. Linear regression analyses were conducted to determine the relation between illness perceptions and coping. **RESULTS:** Cancer patients generally perceive their illness as a chronic condition and have a strong belief in the effectiveness of cancer treatment. People with skin cancer experience relatively little negative consequences ($p < 0.01$). Recently treated patients experience more negative consequences ($p < 0.001$) and perceive their illness as more chronic ($p < 0.01$) than patients who were treated in the (distant) past. Perceptions of more personal control ($p < 0.01$) and immunity attributions ($p < 0.05$) are related to adaptive ways of coping, whereas beliefs about negative consequences ($p < 0.05$) and emotional representations ($p < 0.001$) are related to maladaptive ways of coping. **CONCLUSIONS:** The perception of cancer as a chronic condition is held by many cancer patients themselves. How cancer patients perceive their illness is not strongly related to the type of cancer. Cancer patients' illness perceptions are modestly related to their way of coping: perceptions of personal control and immunity attributions relate to adaptive ways of coping, whereas beliefs about negative consequences and emotional representations relate to maladaptive ways of coping. **RESEARCH IMPLICATIONS:** The current research is one of the first to focus on illness perceptions of cancer patients and to relate these to cancer patients' coping strategies. Where known research on cancer patients' focuses on relatively recently diagnosed people, the current study also covers cancer patients in the chronic phase. Moreover, we were able to demonstrate that illness characteristics may be equally or even more important when it comes to the development of illness perceptions. **CLINICAL IMPLICATIONS:** The current study provides further insight into the relationship between cancer patients' illness perceptions and their coping styles. Since illness perceptions can be changed, it may be possible for cancer patients to adopt (more) adaptive coping strategies by intervening on the way they perceive their illness. Our results might therefore contribute to the development of support programmes that pay structural attention to the way cancer patients perceive their illness and help them cope with it. **ACKNOWLEDGEMENT OF FUNDING:** This study was financially supported by the Dutch Cancer Society.

P2-90

FAMOCA: Family Online Counseling for Families With Parental Cancer

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BACKGROUND: A parental cancer diagnosis psychologically affects the whole family. As such, a third of patients, partners and children develop clinically relevant levels of psychological distress. Several evaluated family based interventions show improvements in psychological adjustment, but a face-to face contact was needed. FAMOCA is a web-based counseling program for families affected by parental cancer providing information and coping strategies age-specifically. The aim of the study is to evaluate the efficacy of this interactive intervention. **METHOD:** In this prospective, randomized-controlled study, 90 families with children between three and 18 years will be referred either to the intervention (IG) or the control group (CG) shortly after initial cancer diagnosis of a parent. The IG follows the online program during four months, where age-specific information as well as practicing of coping strategies are provided via multimedia. Families of the CG receive an information booklet for parents and children. Familial and couple adjustment, parental mental health and coping, as well as child adjustment are assessed at the beginning, at the end of the program and 12 month after diagnosis. **RESULTS:** The website goes online and thus the study starts in July 2013. Results of a first pilot study on usability and feasibility aspects of the online program will be presented. **CONCLUSIONS:** Research shows the relevance of psychooncological support for families with parental cancer. FAMOCA is an innovative, low-threshold internet program, which aims to improve the adjustment to cancer of all family members. **RESEARCH IMPLICATIONS:** Web-based, interactive interventions are the new forms of therapy. In other fields of psychological research, they have been proven as efficacious as face-to-face interactions. So far, web-based interventions for cancer patients have been provided in single, couple and group format while to our knowledge there are no studies evaluating its effectiveness for families affected by parental cancer. FAMOCA aims to show, if family counseling is effective by internet.

CLINICAL IMPLICATIONS: The online intervention can easily become part of standard psychooncologic care. For the provider, the internet is a time- and cost-effective method to deliver interventions to improve psychological adaptation. For the family, counseling in the internet overcomes some of the known barriers in attending to psychooncologic support, such as geographical distance. The results of the study will help to identify families, who benefit from a web-based counseling approach and who need further assistance. **ACKNOWLEDGEMENT OF FUNDING:** This study is supported by the Swiss Cancer Research and conducted by an interdisciplinary team of the Departments of Psychosomatics and Oncology of the University Hospital of Basel, the Department of Psychology of the University of Basel, and the Child and Adolescent Psychiatry Service of Bruderholz in Switzerland.

P2-91

Study Protocol: A Randomized Study of An Internet-Based Cognitive Behavioural Therapy Program for Sexuality and Intimacy Problems in Women Treated for Breast Cancer

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BACKGROUND: Sexual dysfunction is a prevalent, long term complication of breast cancer and its treatment. Many women consider face-to-face sexual counselling to be too confronting, and see internet-based interventions as a less threatening and more acceptable approach. Recent studies have demonstrated the efficacy of internet-based programs in improving sexual functioning in the general population. The current study will focus on an internet-based treatment program for improving sexual functioning in breast cancer survivors. **METHOD:** This multicenter, randomized controlled trial will investigate the efficacy of an internet-based cognitive behavioural therapy (CBT) program in alleviating sexuality and intimacy problems in women treated for breast cancer. Secondary outcomes include body image, menopausal symptoms, marital functioning, psychological distress and health-related quality of life. 160 breast cancer survivors with sexuality/intimacy problems will be randomized to either an intervention or control group. Questionnaires will be completed at baseline, mid-treatment, post treatment and at 3 month follow-up (or equivalent times for the control group). **RESULTS:** This is a design paper. No results are yet available. **CONCLUSIONS:** There is a need for accessible and effective interventions

for the treatment of sexuality and intimacy problems in breast cancer survivors. This study will provide evidence about the efficacy of an internet-based approach to delivering a CBT intervention targeted specifically at these sexual health issues. **RESEARCH IMPLICATIONS:** This study will provide a rigorous test of the efficacy of an internet-based CBT program for the treatment of sexuality and intimacy problems among breast cancer survivors. **CLINICAL IMPLICATIONS:** When proven to be effective, internet-based cognitive behavioural therapy for problems with sexuality and intimacy will be a welcome addition to the care offered to breast cancer survivors. Hopefully this therapy will lower the barrier to seek help for these problems, resulting in an improved quality of life after breast cancer. **ACKNOWLEDGEMENT OF FUNDING:** This study is funded by the Dutch Cancer Society and the Pink Ribbon Foundation.

P2-92

The Loneliness Predict the Function of Japanese Head and Neck Cancer Patients

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BACKGROUND: In patients with head and neck cancer, medical treatments interfere with their function of breathing, swallowing or vocalizing. It is important for patients to recover some function by the time they leave the hospital. The perceived social support might enhance their function, as the relationship between self-care behavior and their function. The purpose of this study was to investigate the loneliness predict the function of patients with head and neck cancer in Japan. **METHOD:** The study was a cross-sectional design with self-completed questionnaire. From our database of 191 patients participated in Head & Neck Cancer Inventory Validation Study at Medical Hospital of Tokyo Medical & Dental University between September 2011 and March 2013, we selected 122 patients who were received hospital treatment. The questionnaire consisted of Functional Assessment of Cancer Therapy for Head & Neck Cancer (FACT-H&N) and the revised UCLA loneliness Scale. A multiple regression analysis was performed to estimate effect of loneliness on the functional loss of head and neck after controlling

disease-related variables as potential confounders. **RESULTS:** Of all 122 participants, 87 (75 males and 12 females) completed all questions in this study. Overall, there were patients with pharynx cancer ($n = 60$), larynx cancer ($n = 5$), and oral cancer ($n = 18$). The most commonly treatment was surgical operation ($n = 50$), followed by Chemotherapy ($n = 23$) and combination of chemotherapy and radiation therapy ($n = 14$). In a multiple regression model, the loneliness predicted the functional loss of head and neck ($B = -0.19$, 95% CIs -0.31 to -0.07) in addition to the radiation therapy and the duration of hospitalization. **CONCLUSIONS:** Our results support the hypothesis that the loneliness effects on the low function of swallowing, breathing or vocalizing at the time of hospital discharge. It is suggested that the function recovery in the hospital treatment is not only influenced by burden of treatment such as radiation therapy or long hospitalization but also subjective perception about receiving support. Their self-care behavior such as mouth cleaning or taking a shower might be motivated by the thought of being not alone and enhance their function. **RESEARCH IMPLICATIONS:** To maintain the function in patients with head and neck cancer, it is not important to have stable source of support but to feel someone's help in their life. Unfortunately while many patients in head and neck cancer live alone, there are many health care support systems around them. In the future, we should develop programs for patients with head and neck cancer to improve the skills of self-care or getting someone's help. **CLINICAL IMPLICATIONS:** The final therapeutic goal is to maintain patients' Quality of Life (QOL), especially oral function. Our study suggests that pretreatment psychological care can be effective in function recovering of patients with head and neck cancer at the time of hospital discharge. Therefore health care provider should help them find and take advantage of the information about various support systems. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by Grant-in-Aid for JSPS Fellows (Grant Number: 241085-00).

P2-93

Evaluation of the Effectiveness of Telephone Counseling Intervention on Early-Stage Breast Cancer Patients

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BACKGROUND: This experimental study was conducted to evaluate the impacts of telephone counseling and advising with the booklet intervention compared to only advising with the booklet intervention on anxiety, depression, quality of life, psychosocial adjustment to illness situations of patients who have completed stage 0,I,II breast

cancer treatment. **METHOD:** The sample of this study consisted of 120 patients recruited from an oncology clinic by using simple random sampling method. Subjects were randomly assigned into three groups; telephone counseling and advising with a booklet group, advising with a booklet group and control group. The subjects in experiment-2 group were trained at the hospital about the usage of the booklet and the subjects in experiment-1 group received 8-session telephone counseling besides advising with a booklet. Data were collected before and 8 weeks after the intervention by using Personal Information Form, Hospital Anxiety Depression Scale, SF-36 and Psychosocial Adjustment to Illness Scale. **RESULTS:** Results of this study demonstrate that telephone counseling and advising with the booklet intervention has a significant impact on depression and anxiety level of patients, SF-36 mental domain and general health perception domain and PAIS-SR psychological distress domain in comparing to just advising with the booklet and control group. In addition, it was found that while 2 intervention methods had an impact on quality of life total score, vitality/fatigue, emotional role functions, physical role functions, health care orientation, sexual relationships, family environment, professional environment, they didn't have any impact on social functions, physical functions and pain levels of patients. **CONCLUSIONS:** In Turkey there is no study about early-stage breast cancer patients, comparing the effect of telephone counseling and booklet. There are researches about this topic which had used telephone counseling patients about depression, anxiety and psychological strain were found to be more effective than informing about the condition using a booklet. This result shows that regular telephone calls between a patient and a professional have positive impact on mental status of patients. **RESEARCH IMPLICATIONS:** For the future researches, telephone counseling and information booklet can be used in same and different types and stages of cancer, same and different variables, in order to determine the effect of interventions on different groups of patients can be made. **CLINICAL IMPLICATIONS:** According to the results of study "Early Stage Breast Cancer Patient Booklet" is an effective choice enhancing the quality of life, patients' psychosocial adaptation of patients to their disease is recommended. Patients with early-stage breast cancer, when evaluating anxiety, depression and psychological strain, in addition intervention with the booklet telephone counseling is also recommended. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-94

Abstract withdrawn

P2-95

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P2-96

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P2-97

Support Group for Children Whose Parent has Cancer - Implementation and Evaluation of the CLIMB[®] Program in Japan

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BACKGROUND: With the increase of cancer patients in Japan who are raising dependent children, a program to support them is critically important. We identified a need to provide support group for children whose parent has cancer. After taking the CLIMB training in the U.S., we started a program in August 2010. The purpose of this presentation is to discuss evaluation of the program in Tokyo and report our success at dissemination of the program throughout Japan. **METHOD:** In Tokyo, we provided 6 groups of CLIMB to children aged 6–12 from August 2010 to December 2012. Each program is held over 6 consecutive weeks for 2 hours. The program follows a standard training manual modified from the U.S. manual. We had concurrent parents' groups. Thirty nine children have participated (11 boys, 28 girls). Thirty two parents (28 mothers, 4 fathers, within them 3 well spouses) attended. We asked participants to fill out questionnaires before and after the group intervention and analyzed the effect. In July, 2012, we conducted a 2-day training for professionals from across Japan. **RESULTS:** Children noted high satisfaction (mean = 4.4–5.0, selected from 1–5) on 29/30 items. Fewer children felt the parents' cancer was “not their fault”, more children felt “they feel stronger through the experience”. Overall QOL of mothers significantly increased, e.g. “I am satisfied with family discussions regarding cancer”, and “I feel closer to my partner”. Spontaneous continuing reunions demonstrate strong bonding among parents and children. 37 participants (nurses, social workers, psychologists, child life specialists, and physicians) from all over Japan attended the training workshop. Due to our training, as of May, 2013, 5 additional hospitals have implemented CLIMB. **CONCLUSIONS:** Parents' QOL and child's self-esteem increased after CLIMB; satisfaction levels reported were very high. Our findings indicate increased communication within the family. Parents bonded with other parents; children

with peers. This demonstrates positive effects of CLIMB. To disseminate a program to support children of cancer patients and increase the number of programs offered, we built a system to train the leaders for CLIMB to benefit more children. We identified that oncology professionals in Japan had a high interest in implementing a CLIMB program in their institution. All the hospitals presenting CLIMB use a multidisciplinary program and further expansion is expected. **RESEARCH IMPLICATIONS:** Based on data from pre and posttest measurements on each attendee and evaluation, we found that the child's sense of guilt decreased and coping skills regarding parent's illness increased. Further, mother's QOL and communication were improved. This indicates the importance and value of the program and the need to continue. We have started multi institutional research from fall of 2012, and will continue our research on effectiveness of CLIMB in multi institutions in Japan. **CLINICAL IMPLICATIONS:** There is increased awareness on importance of support for children of cancer patients within medical professionals in Japan. Many want to attend CLIMB training workshop and this shows a need for structured support program. Satisfaction level of families participated are very high, and led to annual reunion gathering. We will continue our activity to increase hospitals presenting CLIMB through training and supporting them when launching program so that more children and patients can attend. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by a grant from the Japanese Ministry of Health, Labour and Welfare (2010–2012).

P2-98

The Characteristics of Female Patients in a Specific Psycho-Oncology Outpatient Service

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BACKGROUND: The division of psychosomatic medicine, Kinki University Faculty of Medicine and its branch hospitals opened an outpatient service for cancer patients and their families. The female to male ratio of its patients is approximately 2:1 and there are several gender-specific problems related to bio-psycho-social factors with female patients. The primary aim of this study is to discuss the characteristics of female patients in this specified outpatient service from the viewpoint of gender-based medicine. **METHOD:** The study period was from May 2010 to April 2013. The data of new patients who had symptoms related to cancer and visited the specific outpatient service for psycho-oncology were collected. All patients were at least 16 years old. All the items assessed during routine

clinical practices were extracted from the patients' medical charts. Multiple factors such as age, sex, cancer site, family background, clinical symptoms, and psychiatric diagnosis were analyzed. Psychological tests of depression and anxiety were also examined. **RESULTS:** The data of 210 new cancer patients, including 16 family members of cancer patients, were analyzed. The most common cancer site was breast cancer and the most common psychiatric disorder was adjustment disorder. Female patients had more anxiety tendencies than depressive states. Female patients were also more likely to be suffering from psycho-social issues such as cosmetic related problems, family care and/or financial issues than male patients. For example, the depressive mood of female patients was exacerbated by alopecia due to chemotherapy. The anxiety tendency was increased by a lack of family support and financial fragility. **CONCLUSIONS:** Approximately twice the number of female patients than male patients came to our specified outpatient service for psycho-oncology since the majority of patients were suffering from breast cancer. There were several characteristics related to gender-specific issues with female patients. More intensive intervention is needed based on gender-based medicine. In addition, in order to deal with these bio-psycho-social factors, a psycho-oncological approach by a multidisciplinary team including dermatologists, plastic surgeons, aestheticians, psychologists and medical social workers would be useful. **RESEARCH IMPLICATIONS:** This study showed the characteristics of female cancer patients who came to our specific outpatient service. From the results of this study, further examination of breast cancer patients might be needed since they comprise nearly half of the cancer patient population. The study showed the advantages of psychosomatic medical doctors' intervention from the viewpoint of gender-based medicine. **CLINICAL IMPLICATIONS:** This study explained the reasons why cancer patients visited our specified outpatient service and what kind of psycho-oncological intervention we can provide that is useful for them. Depending on these results, we can give more efficient support, including a multidisciplinary team approach, to both cancer patients and their families in the future. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-99

The Efficacy of a 6-Week Group Psycho-Educational Program on Mood Symptoms and Quality of Life Among Philippine Breast Cancer Patients: A Randomized, Controlled Trial

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BACKGROUND: Breast cancer is the most common form of cancer among Philippine women. The

diagnosis of cancer leads to various psychosocial stresses such as distress, fatigue, and poor quality of life. Group psychotherapy is a widely used tool to address many psychosocial needs in cancer. This study set out to determine the efficacy of a 6-week group psycho-educational program for Philippine breast cancer patients in terms of improvement of mood and quality of life. **METHOD:** This study was conducted at the University of Santo Tomas Hospital Benavides Cancer Institute in Manila, Philippines, among Stage I-III breast cancer outpatients who had completed active chemotherapy and/or radiotherapy. Twenty (20) were randomized into an Intervention Group and twenty (20) into a Wait-list Control Group. All patients were assessed at Baseline (T1), immediately post-therapy (T2), and at 3-month follow-up (T3) on the psychosocial scales of fatigue (BFI), distress (HADS), mood symptoms (POMS), quality of life (EORTC QLQC30 and BR23), social support (MOS Social Support Scale), and coping skills (Brief COPE). Data was analyzed using two-way ANOVA with repeated measures. **RESULTS:** Patients' mean age was 47 years old and 62.5% were married. 57.5% were in Stage 2. Thirty two patients (17 Intervention and 15 Control) completed the program. Compared with the control group, the intervention group showed significantly lower total mood disturbance ($p = 0.02$), lesser fatigue/inertia on the POMS subscale ($p = 0.03$), improved quality of life ($p = 0.05$), and also significantly used more active coping skills like Planning ($p = 0.03$) and Use of Instrumental Support ($p = 0.01$), and significantly had less negative coping skills like Self-blame ($p = 0.05$). Some variables immediately showed improvement at T2, while other variables had minimal effects at T2 but increased at T3. **CONCLUSIONS:** The 6-week group psycho-educational program shows promise as an effective tool for providing psychosocial support to Philippine breast cancer patients, as evidenced by its effects in lowering mood disturbance, increased use of positive coping styles and a higher quality of life. Aside from the stress directly related to diagnosis and treatment with cancer, Philippine breast cancer patients have difficulty in access to health care, which for many remains expensive. This program is a relatively inexpensive and useful psychosocial tool to help alleviate stresses brought about by the uncertainties related to cancer. **RESEARCH IMPLICATIONS:** This research first of all implies that a psychological intervention program can be conducted in a challenging environment such as the Philippines, where participation in intervention research is not very common and psychological support for cancer patients is not generally a part of overall cancer treatment regimens. Secondly, the research results further corroborate existing research on the efficacy of such a group psycho-educational program in a different country, point-

ing to its international appeal. **CLINICAL IMPLICATIONS:** Philippine institutions do not provide standard psychosocial support for cancer patients, usually because of untrained staff or low priority. Stressing the importance of the benefits gained from providing such support is one of the challenges now, as well as raising interest among cancer treatment centers in the country. This research shows that with properly trained staff, an easy to replicate psycho-educational program can be provided in the hospital setting to improve psychosocial care for patients. **ACKNOWLEDGEMENT OF FUNDING:** This research received partial funding from the University of Tokyo.

P2-100

Effect of Brief Psychoeducation Using Tablet PC on Depression and Quality of Life in Distressed Patients During Chemotherapy: A Pilot Study

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BACKGROUND: Distress management has become an important consideration for cancer patients regarding its strong association with quality of life (QoL) and possibly survival. The effect of distress screening has been studied profoundly, whereas that of psychoeducation in cancer patients still warrants further investigation. We focused on tablet PC due to its potential capability to deliver psychoeducation to cancer patients in the midst of busy clinical oncology setting. **METHOD:** Thirty six cancer patients with anxiety or depression, determined by Hospital Anxiety and Depression Scale (HADS), were enrolled among those who visited daytime chemotherapy unit in Seoul National University Cancer Hospital between May 2013 and June 2013. Participants were quasi-randomized either into psychoeducation ($n = 19$) or control ($n = 17$) group. Psychoeducation for cancer-related distress and its management including relaxation technique was provided in a 20-minute-movie clip using tablet PC during chemotherapy infusion. HADS, the SF-8, M.D. Anderson Symptom Inventory (MDASI), Insomnia Severity Index (ISI), and the Impact of Event Scale - Revised (IES-R) were administered at baseline and in 3 weeks. **RESULTS:** Nineteen par-

ticipants (100%) in psychoeducation group and 16 participants (94.1%) in control group completed the study. Compared to controls, psychoeducation group showed significant improvement after 3 weeks, in terms of depression subscale of HADS ($p = 0.001$), mental component summary score of the SF-8 ($p = 0.009$), avoidance subscale of the IES-R ($p = 0.049$), and ISI ($p = 0.021$). **CONCLUSIONS:** Brief psychoeducation delivered by tablet PC during chemotherapy infusion could be both time- and cost-effective method in improving depression, insomnia, and QoL for the cancer patients with distress. **RESEARCH IMPLICATIONS:** Further research must follow to validate the long-term efficacy of psychoeducation using tablet PC. Developing more effective psychoeducational materials and determining the optimal time period of application must be explored in the future research. **CLINICAL IMPLICATIONS:** Our study suggests that brief psychoeducation using tablet PC can be applied in chemotherapy units, and perhaps can be extended to other areas, to improve depression, insomnia, and QoL of cancer patients with distress. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-101

Efficacy of a 3-Session Psychoeducational Intervention for Cancer Patients and Their Families at the Time of Diagnosis - Preliminary Data

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BACKGROUND: Many patients had stated that information received by the oncologist at the time of diagnosis is not well understood since it is hampered by the emotional distress. Thus, additional sessions to ask questions, and to receive information in a understandable way should be needed. In order to help patients and families to achieve understanding of their situation and to reduce the emotional distress at diagnosis, a brief psychoeducational intervention has been designed. **METHOD:** Ninety two ambulatory cancer patients (55 female and 37 male), diagnosed and treated at the Institute Oncologic del Vallès (IOV), from august/2012 to february/2013, were contacted by phone and were invited to participate in 3 psychoeducative sessions. Written informed consents were signed by the participants. We evaluated sociodemographic and emotional status (anxiety, stress, anger and depression) through an adapted thermometer, pre-post intervention. **RESULTS:** 38

patients and 18 relatives agreed to participate in the study, including 18 patients and 5 relatives completed questionnaires pre-post intervention (18 women, mean age 54 years and 5 men, mean age 66 years). The most frequent diagnosis among participants was breast cancer. We found that levels of Anxiety (pre = 5.4, post = 4.1), Stress (pre = 4.6, post = 3.6), Depression (pre = 4.6, post = 3.4) and Anger (pre = 6.3, post = 4.6) decreased. **CONCLUSIONS:** The study involved more women than men. Being newly diagnosed prevents continuously attendance at meetings. The emotional distress decreases over time, but we have no control group to infer that it is due to the intervention. **RESEARCH IMPLICATIONS:** It is essential to expand the sample of subjects in order to conclude on the effectiveness of the intervention. **CLINICAL IMPLICATIONS:** If proven the efficiency of intervention raises the possibility of incorporating it into standard clinical practice. **ACKNOWLEDGEMENT OF FUNDING:** Study supported by Asociación Española Contra el Cáncer (AECC) - Junta Provincial de Barcelona.

P2-102

Connecting Cancer Care Researchers and Graduate Students Through an Innovative Research Training Initiative: The Canadian PORT (Psychosocial Oncology Research Training) Program Reaches to International Partners

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BACKGROUND: Cancer is a leading cause of physical and psychological suffering. Through its focus on key personal and contextual factors that affect people's experience with cancer, psychosocial oncology is increasingly attracting young researchers seeking rigorous training in an emergent trans-disciplinary field. Established in Canada since 2003, the Psychosocial Oncology Research Training (PORT) program described herein seeks to build research capacity in the field through enhanced mentoring, innovative research, and proactive dissemination of findings. **METHOD:** PORT includes six Canadian universities and offers training and financial support to graduate students; pairing accomplished researchers with fellows at the masters, doctoral and post-doctoral levels. Partnership with the National Institute of Mental Health and Neurosciences (NIMHANS in Bangalore, India) adds richness and cross-cultural relevance. Advanced multi-media technology is utilised to promote information exchange and networking opportunities. An annual 3-credit 13-week video-conference graduate seminar in psychosocial oncology research is a mandatory component of the curriculum. The annual face-to-face scientific

meeting is linked to a national conference. Yearly applications for PORT are encouraged from qualified international and national candidates. **RESULTS:** For a decade now, PORT continues to be highly regarded as a rigorous, cutting edge, and highly attractive research training program (nationally and internationally). To date, the program has hosted 39 mentors and 63 fellows. International graduate students represent 6 countries. Fellows' output totals 336 peer-reviewed publications and 460 scientific presentations. Research interests are diverse and include new areas such as patient experiences interacting with the health care system, the effects of early physical exercise on cancer recovery, and the role of tailored survivorship care plans and e-health cancer navigation platforms in enhancing health outcomes, patient empowerment and psychosocial adjustment. **CONCLUSIONS:** By training the next generation of psychosocial oncology researchers, PORT continues to build a critical mass of scholars in this field. The broad, trans-disciplinary model facilitates dissemination of evidence-based knowledge stemming from multi-method approaches within and across more than a dozen disciplines and settings. Additional international partners would add cross-cultural relevance, providing mutual opportunities for key contributions to the field. To this end, PORT leaders are proactively engaged in identifying potential sources of international funding to expand the reach of this important initiative. **ACKNOWLEDGEMENT OF FUNDING:** The Institute of Cancer Research (ICR) and the Institute of Health Services and Policy Research (IHSPR) fund PORT through the Canadian Institutes of Health Research (CIHR). McGill University faculties and Graduate and Post-Doctoral Studies, Hope & Cope, and ELICSR also are providing matching funds.

P2-103

Changes in Social Relations as a Result of Participation on Group Intervention in Cancer Patients (2)

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BACKGROUND: Studies on group interventions that deal with social relations in cancer patients have shown that such interventions could increase patients' social support and help build social support networks. Therefore, group interventions are expected to have beneficial effects on cancer patients' social relations. This study extracted factors concretely that contribute to changes in the social relations of Japanese cancer patients after taking part in a group intervention. **METHOD:** Seven cancer patients (mean age = 63.0; SD = 10.3) who

participated in group therapy based in problem solving therapy were interviewed. Participants were asked about changes in their social relations after being affected with cancer and taking part in group therapy. After making verbatim records from voice data, we conducted contents analysis. (Kappa coefficients = 0.89 and 0.84). **RESULTS:** We identified seven elements related to changes in social relations after experiencing cancer (e.g. decreased social network, decreased social support, absence of social support network, need of contact with patients with the same disorder). Following that, 6 elements were identified about changes in social relations after taking part in group therapy (e.g. increased social support network, receipt of social support, provision of social support, raising companionship). Especially, patients received and provided emotional and informational social support each other, and received these 2 supports from staff and satisfaction with support. **CONCLUSIONS:** The findings suggest that social support that participants need differ depending on residence form. Most participants felt decreased social networks with friends, so it suggests that companionship that patients felt decreased because people tend to feel companionship from interaction with friends. The findings suggest that participation in group therapy leads to the perception that one's social relations have changed in several ways. Particularly, participants felt companionship that have not been referred. What's more, we made it clear that patients received and provided emotional and informational social support each other, and received these two supports from staffs and satisfaction with support. **RESEARCH IMPLICATIONS:** When researchers examine the effect of group intervention for changes of social support, they should consider residence form of participants and kinds of social supports measured. Additionally, the results of group intervention studies covering loneliness in cancer patients have little consistency. The companionship and social support have effects that reduce loneliness, so we could give the suggestion for understanding the consistency. **CLINICAL IMPLICATIONS:** Medical staffs should understand not only psychological aspects but also social relations aspects of group intervention's effects, and carry out it considering these aspects. It's difficult for patients to get instrumental support in the intervention, so staffs should connect patients who need this support to another suitable staff (e.g. social workers). **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-104

Psychosocial Support Needs of Adolescent and Young Adult (AYA) Transplant Patients

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BACKGROUND: Existing evidence suggests that Adolescent and Young Adult (AYA) patients use more psychosocial support services and have greater levels of distress than do older cancer patients (Mor, Allen & Malin, 1994). Bleyer et al suggests, "the greatest difference in management of adolescents and young adult patients is psychosocial care that they require. These patients have special needs that are broader in scope and more intense than those at any other time of life" (p.19). **METHOD:** The purpose of this study is to explore the psychosocial support needs of AYA patients before, during and after transplant. We conducted a retrospective chart review of all 2011 transplant patients referred for psychiatric evaluation within 100 days of transplant, either pre-transplant for screening/evaluation or post-transplant through inpatient hospitalization. Of the twenty-two total patients, thirteen fell into the AYA group and are described here. Data on sociodemographic, disease, treatment, and personal characteristics of transplant patients who receive psychiatric evaluations were collected using a retrospective chart review tool. Analysis included simple frequencies and descriptive statistics. **RESULTS:** Thirteen young adult transplant patients were seen for psychiatric consultation (53.8% female; 46.2% male). Primary reason for referral was anxiety (23.1%), and depression (30.8%). Of those seen, 46.2% had a previous psychiatric history and 46.2% experienced pre transplant distress. High rates of substance abuse were identified with history of alcohol use 69.2%, and alcohol use within 6 months of transplant 23.1%. Prior history of marijuana use 38.5%, use within 6 months of transplant 15.4%. Psychosocial issues included: 15.4% current conflict with support systems or family members; 23.1% had caregiver issues affecting continuity of care post-transplant. **CONCLUSIONS:** Higher rates of mortality, substance abuse, pre-transplant distress and psychiatric concerns prior to transplant were found in this cancer population subset. Expected prevalence among adults in the community with regard to anxiety and substance abuse were found in similar rates. These findings further highlight the special needs of this population of cancer patients and support Bleyer, et al and others requiring more attention and research for this young adult population. **RESEARCH IMPLICATIONS:** While a sizeable

body of literature exists for young adult survivors of childhood cancer, we're just beginning to see the focus shift to issues concerning individuals that are diagnosed during stages of adolescence and young adulthood (AYA) and psychosocial issues during treatment. Transplant is challenging for most patients. The AYA population comes to transplant with exceptional and unique psychosocial needs. Further description of needs, as well as identification and testing of intervention approaches are needed. **CLINICAL IMPLICATIONS:** An AYA diagnosed with cancer must move through typical developmental processes with the burden of additional stressors including the emotional impact of a cancer diagnosis, trials and tribulations of therapy, and the emotional, social and physical late effects of the disease and its treatment (Evan & Zeltzer, 2003). Screening prior to transplant is essential in identifying potential problems early. Increased or focused psychosocial support before, during and after transplant is needed. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-105

Identifying Information Gaps and Resources Required to Support the Development of a Patient Education Toolkit for the Adolescent Young Adult (AYA) Oncology Patient Population

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BACKGROUND: Research indicates that AYAs in treatment have a desire for treatment decisions that honor their unique needs in areas of education, medical management, sexuality and survivorship. A challenge in providing AYA's with tools/resources is that little to no printed educational materials exists specifically for the AYA population. The purpose of this study was to identify educational needs of AYA patients and health professionals at cancer centers and organizations to develop an educational toolkit for AYA's. **METHOD:** The following modalities were utilized in identifying the educational needs of AYA's (1) literature review, (2) query and telephone interviews of health care professional at various cancer centers or cancer organizations; including the respondents' role at their organization, geographic location, and current use and needs of the AYA population in areas of education and information gaps ($n = 20$), (3) AYA educational needs assessment. A needs assessment was developed and included questions designed to determine patient's information needs to support the use an AYA toolkit. Responses were analyzed using descriptive statistics and thematic analysis. **RESULTS:** Data acknowledged the need of educa-

tional specific resources and tools for the AYA population from both the patients and healthcare provider's perspective. However, many of the clinicians acknowledged lack of the knowledge and skills required to use these tools, or awareness of credible sources of information. AYA informational and educational gaps were identified in the following areas: communication, medical management, symptom management, sexuality & relationships, body image, coping, managing emotions and stress, managing life, school and work and resources for support. **CONCLUSIONS:** An AYA specific toolkit was developed by a multidisciplinary team to address all educational and information gaps and needs identified. There is a small but growing body of evidence available to address most of the specific topics mentioned, however this information needs to be available in print versus on the World Wide Web and needs to be tangible to both health care providers and patients/families. Creation of a tool, informed by the literature, could address these needs. This tool could be further enhanced by incorporating additional informational and psycho-social needs identified by cancer patients. **RESEARCH IMPLICATIONS:** Understanding individual patient preferences is critical to improve health behaviors. Implications of the results will be discussed in terms of enhancing patient-centered tailoring of health information and communication for the AYA population. **CLINICAL IMPLICATIONS:** Too little research has taken the AYA's patient perspective into account, in terms of educational and psycho-social needs. Health behavior is impacted by the patient's attitudes, emotions and motivations that in turn are influenced by the social world, their thoughts about their disease and treatments and their relationships with others. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-106

Innovative Uses of Health Education Technologies can Reduce Distress and Empower Newly Diagnosed Cancer Patients to Take an Active Role in Their Care

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BACKGROUND: A cancer diagnosis can cause patients to feel anxious, overwhelmed and unprepared to meet the challenges of treatment. An electronic orientation class was piloted for new patients/families to gain insight on innovative ways to use technology to help patients/families prepare for their cancer journey. The class provided an overview of what to expect during the first appointment, taking an active role in their care, communication, advanced care planning, patient safety, navigation and psychosocial resources/ support.

METHOD: In order to reach more patients the physical one hour orientation class was converted to a thirty minute electronic program. It was piloted amongst new patients and caregivers. Using various technologies (1) computer based program (iPAD/ tablet) (2) online module (3) DVD/video. The various technologies allowed the ability to tailor education based on their preference. Participants were scheduled into the program according to their convenience, by a scheduler. Data gathered included Pre/post test data, patient satisfaction survey. In addition twenty participants were selected to participate in a post 30 day follow-up telephone interview and pilot an additional modality for comparison. **RESULTS:** Of the 114 patients/caregivers who participated in the pilot study, 82 completed iPad/tablet version of patient orientation class, 15 online education module and 17 video/DVD completions. After completing the presentation, 95% believed it would improve communication with their medical team, 92% felt empowered to take a more active role in their care, and 94% reported a better understanding of how to seek assistance for psychosocial needs and had a better understanding of how to use hospital resources appropriately. All participants expressed a preference for using these alternate methods to participate in the program versus in person class or printed materials. **CONCLUSIONS:** Research has shown that internet and web-based interventions can empower patients to take more of an active role in their care. Using different information technologies may offer practical alternatives to engage patients and families in health education, promotion and prevention. This pilot study allowed us to gain insight on incorporating meaningful and effective uses of technology for health education programs helps patients better prepare for their cancer journey by addressing geographic barriers that potentially restrict patients and families from participating in educational programs. It may also provide real-time communication opportunities that create supportive environments. **RESEARCH IMPLICATIONS:** The general use of technology is widely popular, however the use of technology in health education is still in its early stages and the impact on health education and potential health outcomes is not fully understood. Further research is needed to compare current technologies and explore innovative ways to use them in health education. Moreover, as new technologies are developed, new opportunities for effective delivery of health education and social support strategies will be possible. **CLINICAL IMPLICATIONS:** Findings from this study can guide future interventions to improve health com-

munications and patient engagement in the health-care process. Data will be used to guide the development of future educational programs for patients and families and to explore innovative ways to use technology to deliver educational programs and interventions. Understanding gained from this study provides an opportunity to enhance health communication and health education strategies more effectively to benefit patients and families. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-107

Psychiatric Rehabilitation of Patients With Oesophageal Cancer

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BACKGROUND: Patients with cancer mostly have psychiatric problems before and after therapy, especially if they undergo surgery. These psychiatric problems can be due to organic problems (as secondary symptoms), or functional problems (psychiatric disorders). **METHOD:** First to categorized these problems and then to have a definition for each of them, then explain psychiatric modalities for each of them and rehabilitation of patients separately. **RESULTS:** In cancer we have 2 types of psychiatric symptoms or syndromes. If patient develops psychiatric symptoms after cancer, we say he has secondary symptoms, for example, depression. This is called mood disorder due to GMC. But if after knowing that he/she has cancer he/she developed depression, it is adjustment disorder, but therapy in both is the same: Drug therapy, psychotherapy, vocational rehabilitation, family therapy are used for both types. **CONCLUSIONS:** In oesophagostomy special problems are eating and speech problems. These 2 problems could be due to physical defects that are produced. Intensity of patient reaction to speech lost depends on the defect, personality of patient, preceding stresses, coping of patient, social situation, occupation of patient. These factors should be considered in rehabilitation of patient and therapy processes. Aphony, dysphony, mutism, are speech problems that each of them and rehabilitation of them would be discussed in essay. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-108

The Relationship Between Emotional Expression and Resilience in a Long-Term Telephone Group for Women With Secondary Breast Cancer

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BACKGROUND: Supportive-expressive group therapy SEGT has been shown to improve psychological wellbeing and reduce distress in women with secondary breast cancer, despite deteriorating physical health over time. However mechanisms of therapeutic change are not fully understood. Few studies have examined the relationship between emotional expression, topic discussions and psychological wellbeing and distress, within the same cancer population. In this paper we examine this in a long term weekly telephone group for women with secondary breast cancer. **METHOD:** Audio transcripts of 9 group sessions over a 9-month period were coded for emotional expression and topic discussions using the Specific Affect Coding System-Breast Cancer and Topic Coding Systems and then correlated with changes in psychological wellbeing, QOL, and distress of participants ($n = 8$), on standardised measures including the IES, ABS and EORTC over the recording period as well as for the duration of their time in the group. **RESULTS:** A greater percentage of time spent talking about family and friend relationships during group sessions was significantly correlated with improvement over time (slope) on intrusion (IES) ($r = -0.79$, $p = 0.02$) and global function (EORTC) ($r = 0.79$, $p = 0.02$). Preliminary results will also be presented for emotional expression. **CONCLUSIONS:** Family and friend relationships consistently rank as among the highest concerns for people diagnosed with cancer. We provide evidence that talking about these concerns in SEGT helps to improve resilience and decrease trauma symptoms. **RESEARCH IMPLICATIONS:** This research increases our understanding of mechanisms of therapeutic change within SEGT cancer support groups and helps to inform the focus of more effective group interventions for this population. **CLINICAL IMPLICATIONS:** Facilitation of discussion concerning family and friend relationships within SEGT groups has meaningful benefits for participants and therefore should be encouraged by therapists

for this population. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-109

Co-Morbidity of Depression Among Cancer Subjects and its Implication to Treatment Options for Improved Outcome: A Perspective from a Developing Country

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BACKGROUND: Co-morbidity of depressive symptomatology is a common indication for use of mental health services in oncology. At the end of this presentation the participants should have an understanding of the burden of depression among cancer patients in this context and appreciates its relevance to cancer treatment. Specifically, this study was set to evaluate the burden of depression and describe the associated factors among cancer participants in a developing context. **METHOD:** A designed questionnaire, Centre for Epidemiological Studies Depression Scale Revised (CES-DR) and the Schedule for Clinical Assessment in Neuropsychiatry (SCAN) were administered by the researchers on 200 participants made up of attendees of a Nigerian hospital with histological diagnoses of cancer. The data were analysed with statistical package of social sciences version 15. **RESULTS:** Majority of participants, 85.5% were females and the commonest type of malignancy was breast cancer (51.0%). Ninety-eight (49.0%) participants had significant depressive symptomatology (CES-DR scores of ≥ 16) as against the diagnosis of depression in 55(27.5%) participants following SCAN interview. A substantial proportion of subjects 36(65.5%) had moderate depression, 15(27.3%) were mildly depressed and 7.2% had severe depression. In this study, diagnosis of depression among cancer patients was significantly associated cancer stage ($p = 0.006$), duration of cancer ($p = 0.048$), pain ($p < 0.001$), physical complication ($p < 0.001$) and past family history of mental illness ($p = 0.002$). However, only pain and duration of cancer were predictive of depression. **CONCLUSIONS:** A significant burden of depression was observed in cancer patients, as more than one-quarter of those studied were affected, and moderate to severe levels of depression were noted in majority of the depressed. Psychosomatic factors like advanced cancer stage as well as duration, pain, physical complications and family history of mental illness were related to the

experience of depression. However, only pain and longer duration of cancer seems to predict depression among cancer patients. Thus, the findings in this study seem to underscore the adoption of comprehensive cancer care with full inclusion of psychosocial interventions for improved overall outcome. **RESEARCH IMPLICATIONS:** The replication of similar research as well as research focusing on development and standardization of screening instrument(s) for early detection of psychosocial complications of cancer is warranted. In addition, there is need for collection of robust data on the impacts of cancer treatment models on overall outcome towards developing evidence based cancer treatment policy(s) and programs. **CLINICAL IMPLICATIONS:** Comprehensive treatment initiatives that include prompt identification as well as treatment of cancer and mental disorders like depression, management of psychosocial problems and care for pain should be integrated into cancer care in this part of the world. The development as well as popularization of screening instrument(s) with good diagnostic and administration property to ensure prompt identification of mental disorders for improved overall treatment outcome in cancer care are also implied. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-110

Psychological Factors Related to Cancer

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BACKGROUND: It was hypothesised that cancer patients and non - cancer individuals differ in their personality make up and the stress experienced due to life change events. A sample of 240 cancer patients with oral cancer, lung cancer and abdominal cancer (both male and female) were compared with 100 non-cancer individuals (50 male 50 female). **METHOD:** Malayalam versions of 16PF form C, Locus of control scale, Life - change Events Questionnaire and Interview schedule were administered to measure the personality and stress factors. **RESULTS:** It was observed that all the three cancer patient groups experienced a greater degree of stress than the non-cancer individuals. The study revealed that the stress was found to be positively and significantly related to External locus of control. It was found that cancer patients and non-cancer individuals significantly differ with respect to the personality factors A, E, F, H, L, M, N, Q2 and Q3 on 16 PF. **CONCLUSIONS:** This means that normal non-cancer individuals and the 3 cancer patient groups significantly differ with respect to the personality factors A (Cyclothymia v/s schizothymia) factor E (dominance vs. submission) factor F (Surgency vs. Desurgency) factor H (chari-

table, adventurous vs. shy and timid), factor L (Suspecting vs. trusting), factor M (unconcerned vs. conventional) factor N (sophistication vs. rough simplicity), factor Q2 (Self sufficiency vs. group dependency) and factor Q3 (High self sentiment vs. poor self sentiment) on 16 PF. **RESEARCH IMPLICATIONS:** This result reveals that the non-cancer individuals showed the personality characteristics like warm hearted, outgoing, submissive, mild, cheerful, talkative, frank, expressive, adventurous, socially bold, impulsive, friendly etc. in general. **CLINICAL IMPLICATIONS:** But on the other hand cancer patients showed the personality characteristics like reserved, detached, critical, aggressive, stubborn type, silent, slow, shy., withdrawn, more prone to conventional, worried, emotionally detached, group depending on social approval, sound follower type, low self sentiments etc. in general. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-111

Adult Cancer Patients' Representations of Cancer and Social Support. Relations Between Perceived Social Support and Social Norm. Qualitative Psycho-Social Approach.

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BACKGROUND: Our first objective is to provide deeper comprehension of the perceived social support and its relationship with patients' representations of cancer. Our second purpose is to get aware of the social norm's influence on patients' representations of Cancer. We analyse patients' health beliefs concerning social support, to understand their internal contradiction between social normative prescriptions of autonomy, and the regression phenomena necessary to accept the healthcare system, and especially psychotherapeutic support. **METHOD:** Data collection: Field survey with registered half-directive interviews are conducted upon a 30 male and female cancer patients sample (belonging to a French Oncology Dept.). An interview guide is set down after preliminary analysis and applied to the participants. Data analysis: L. Bardin's Thematic Content Analysis, is used as a descriptive presentation of qualitative data and opinion detection. Main themes are extracted from each interview transcription. A list of common themes is built in order to give expression to collective voices across participants. Results are compared and confirmed by Alceste software. **RESULTS:** Some Thematic Content Analysis (TCA) outgoing issues:

1. "To be there" is the most valuable perceived social support for patients.
2. Offering social support seems to be as important for patients as receiving it.

3. Nurse's support is the most appreciated one because the most emotional among caregivers.
4. Social support has a buffering effect between social norm and patient's deeper emotions (like regression).
5. Social support creates a Self's space and time, within Cancer.

CONCLUSIONS: This qualitative study aims to validate the mutual connection existing between social support's perception and the internal social norms lauding autonomy and performance – research field that seems to be unexplored yet. We show that social norm influences patient's health beliefs, attitudes and behaviour, it can therefore acting sometimes as a barrier in accepting or demanding social support and care. Revealing to caregivers that social norm has an impact on one's representations and behaviours towards social support could help them to intervene more efficiently, forewarning social support refusal by patients. **RESEARCH IMPLICATIONS:** Outgoing research (based on social norm influence on health beliefs and behaviour) could be conducted on the role of social support in expressing affects; social support buffering effect on the social norm; or how to increase intra-pair groups communication. Additional research is also needed to understand where are the limits between social norms on self-sufficiency and patients real will of autonomy (understood as human dignity). **CLINICAL IMPLICATIONS:** Therapy with patients could change their representations on social support, their health beliefs and behaviours. Caregivers training program, providing knowledge and skills, should overpass cognitive knowledge and include social representations and emotions. Mutual help pair groups should be developed for patients and caregivers. Psycho-oncologists should diversify their approaches and communication skills, in order to demythologize psychotherapy and make it "accessible". **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-112

The Regional Counseling Cancer Center (CCOR): Specificity and Role of Psychological Support by Telephone Within the Network of Care Services

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BACKGROUND: The CCOR is located in the Tuscany Region and is part of the network of psycho-oncology and oncology services with the operational model of the Contact Center. The Center involves informative-counseling psychologists and psychotherapists who provide psychological phone support to cancer patients and their relatives by a

free number available for 12 hours daily. Our intervention aims to emphasize the specificity of the center and the potentiality of psychological phone support within the oncology services. **METHOD:** The contact is made with a psychologist in the front line that performs the first analysis and counseling in order to assess the appropriateness of the care pathway and the need for explicit or implicit psychological support. If such a need arises, the user is offered a phone interview with a psychotherapist who co-constructs with the person a phone therapeutic intervention in the short-medium term. The personal data and those in the course of treatment and psychological contents are inserted for each call, in a management software and encoded to extrapolate the variables suitable for reworking statistics using SPSS. **RESULTS:** The CCOR has received 3140 requests, 510 for psychological support, 104 in 2012. The data-analysis of 2012, shows that users call the Center along all stages of the disease and their more frequent experiences are: difficulty to share and communicate the disease at the stage of diagnosis (43%) and of treatment (32%); discomfort for inadequate medical management (24%) at follow-up; contents related to the fear-of-death (38%) in terminal illness. Among those who have access to psychological-support, 41% identify this need by means of the interview with the psychologist. The request for psychological help, 88% of users sent to the support, is exhausted within the Center (12% is sent and taken over by local services). **CONCLUSIONS:** The demand analysis carried out by psychologists through the informative counseling is effective to help the user to recognize the need for psychological support implicit and access to trails in the immediate psychological support. This characteristic results in an action of secondary prevention, because in many cases allows to intercept, at an early stage, the risk factors for a developing psychopathology. The intervention of psychological support phone exhausts the request of application in most cases, thus confirming the data of the national and international literature the effectiveness of this tool. **RESEARCH IMPLICATIONS:** The intervention ensure the continuity of care and develop the network in order to set up a central node and a reference for users and clinicians. We consider appropriate to carry out a controlled study on the effectiveness of psychological support to implement the type of phone services of psycho-oncology in order to offer a viable alternative to the individual setting. Accordingly this approach would fit a better appropriateness (effective intervention at the lowest cost). **CLINICAL IMPLICATIONS:** The data presented contribute to increase the knowledge of the experiences related to the disease, which is useful for clinicians in order to pay more attention to the needs of communication and listening to the patient and his/her family. The

results of the study suggest the importance of an early phone takeover to reduce the level of suffering and distress in the different stages of the disease and to encourage a process of adaptation. ACKNOWLEDGEMENT OF FUNDING: None.

P2-113

A Group-Based Intervention to Facilitate Posttraumatic Growth in Portuguese Women With Non-Metastatic Breast Cancer - Preliminary Data

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BACKGROUND: There is considerable evidence of posttraumatic growth (PTG) in women with breast cancer. Recent literature supports the efficacy of group-based interventions. Although, little research has extended to the expressive writing paradigm in the development of interventions to women with breast cancer, and even less is known when referring to a group intervention that integrates some strategies from different theoretical frameworks, developed to increase breast cancer patients' perception of benefits, in the aftermath of trauma. **METHOD:** This communication presents a detailed protocol of a group intervention for Portuguese women with non-metastatic breast cancer, designed to facilitate PTG. The intervention was made on a weekly basis, during 8 weeks. It is based on an integrative model of cognitive-behavioural strategies, expressive writing and mindfulness techniques, which aim to: promote emotional disclosure and interpersonal communication; manage emotional distress; balance between gains and losses; intentionally process emotional and cognitive reactions towards their illness; construction of a coherent personal narrative about what has occurred; revise beliefs and goals for the future; and, development of new values and priorities of life. **RESULTS:** The results and efficacy of this intervention will be reported for 5 different groups, each composed by 6–8 women with breast cancer, being followed at 5 different hospitals in 2 main cities. **CONCLUSIONS:** This group intervention protocol has significant impact on the psychological adjustment to breast cancer and, specifically, in the individual perception of benefits or growth in breast cancer women with the diagnosis until 5 years. A detailed discussion based on the intervention protocol and major outcomes will be presented. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by a Portuguese Foundation for Science and Technology (SFRH/BD/81515/2011).

P2-114

The Interview With Adult Cancer Patients: A Qualitative Survey. Cancer as an Expression of the Shadow

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BACKGROUND: “The interview with adult cancer patients: a qualitative survey. Cancer as an expression of the Shadow” is an MA dissertation about the adult patient and diagnosis communication, which, through a qualitative research, aims to identify the issues that most concern the person in dealing with the cancer psycho-social discomfort and with the topics of his/her emotional story, that he/she carries out in his/her interviews with various professional figures. **METHOD:** Seeking to maximize heterogeneity, the characteristics of the sample collected (10 interviews with patients and 21 with professionals, such as doctors, psychiatrists, psychologists and nurses) have involved from a gender point of view an equal number of interviewees, and people having suffered from various tumors, benign and malignant, in remission, follow-up, free of recurrence or with metastasis. A semi-structured interview has been chosen, as the qualitative method allows to collect data and subjective descriptions of the experience, which are useful to formulate a hypothesis on the correlation between the psycho-dynamics organization and the onset of cancer. **RESULTS:** Based on illness, conversation and relationship, data are giving a meaning to the subjective living with cancer, both at an individual and social level, by focusing on the existing, and highly distinctive, ‘gap’ between theoretical assumptions and real-life experience. Besides familial genetics, the work focuses on the transgenerational aspect and its possible influence on the onset of cancer, through family history and secrets, coincidences in events, the ‘unspoken’, and psychological and physical symptoms, referring to an existing unconscious able to share and to be shared, as well as to pass through time and generations. **CONCLUSIONS:** Focusing on interpersonal relationship, this work traces the meaning people give to their cancer experience and any related learning that derived and resulted in a change in their way of life and in their dealing with everyday life. The data has been read through the Jungian thought, finding a parallel in the Shadow and in the Individuation process with the cancer genesis from a psychological point of view. Although the results cannot be generalized, due to the limitations in the sample considered, this research has led to an article, currently in press, which contributes to the field of psycho-oncology. **RESEARCH IMPLICATIONS:** This work deals with the clinical, social and personal pathway of adult patients diagnosed with cancer. Communication is the key to under-

stand this qualitative empirical research, which aims to be a prevention project and highlight the increasingly recognized relation between the PNEI and the state of mental and physical health of a person, focusing on a mind-body link and on a self-taught process that makes use of the everyday life experience related to the illness so as to develop a new vision of life. **CLINICAL IMPLICATIONS:** ‘Cancer as an expression of the Shadow’ – by focusing on the individual and collective unconscious, the ‘unspoken’, transgenerational links and synchronicity – is a further tool of reasoning on the onset of cancer, a simple hypothesis on the ‘evil obscure’ that presents itself, in the demographic increase of the illness, as a social problem and a point of inter- and multi- disciplinary encounter among oncology, genetics and psychology. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-115

Best Foot Forward: Designing a Pilot Intervention and Feasibility Study of a Peer-Led Delivered Walking Groups for Breast Cancer Survivors
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BACKGROUND: Emerging evidence suggests that regular physical activity can reduce the risk of breast cancer recurrence, cancer-specific mortality and all-cause mortality by up to 40% compared to people who are not active (Holmes et al, 2005; Hollick et al, 2008). Physical activity can also have a number of other biological, physical and social benefits; such as reducing cancer-related fatigue, improvements in aerobic fitness, reduction in body weight and body fat, and improved quality of life. **METHOD:** The BFF intervention commenced in April 2013 and will run for three years. Its primary aim is to improve the physical and emotional well-being and promote long-term adherence to physical activity. Our evaluation will consist of 2 elements (volunteer and client) that will be simultaneously conducted (using an action research methodology) alongside the delivery of the BFF intervention. This will ensure that learning from our evaluation continually shapes and strengthens service delivery. A mixed method study design is being employed and the process and outcome evaluation measures being used will be fully outlined. **RESULTS:** This presentation will report on the learnings of the first 9 months of delivering and developing the BFF walking groups, in particular from the staff stakeholders and volunteer perspectives. We will also discuss implications for involving services users in the design and delivery of the intervention and its evaluation, and the strategies being employed to ensure learnings from this action research approach

are incorporated. **CONCLUSIONS:** The BFF intervention will be discussed and positioned within the broader context of other national and local “health walk” initiatives, as well as the theoretical and behavioural frameworks that we have adopted for this study. In particular, addressing the value of peer support from someone with a personal experience of breast cancer. **ACKNOWLEDGEMENT OF FUNDING:** Breast Cancer Care received a 3-year grant from the Health and Social Care Volunteering Fund to develop and evaluate the BFF intervention. Breast Cancer Care has commissioned the University of Stirling to undertake the volunteer (walk leaders) evaluation.

P2-116

The Association Between Mental Adjustment to Cancer and Social Support
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BACKGROUND: Social support has been identified as an important factor for alleviating cancer patient’s psychological distress. The association between emotional, informational and instrumental social support with psychological adjustment to cancer has been addressed. The interpersonal relationship that protects cancer patients from deleterious effects of stress due to cancer is critical for mental adjustment of patients. The aim of our study was to examine the impact of social support with mental adjustment in cancer patients. **METHOD:** The study included 70 cases of cancer patients with 37 males and 33 females, with an average age of 51 years. The patients were equally divided into test group and control group and evaluated using the Mental Adjustment to Cancer (MAC) Scale and Multidimensional Perceived Social Support Scale (MPSS), at diagnosis and after a period of 6 months. The test group patients ($n = 35$) were subject to three interventional modalities of psycho-educational, emotional and instrumental support; whereas the control group patients received instrumental support. **RESULTS:** At initial diagnosis, MAC scale in the test group cancer patients showed a score of 45.33 ± 5.16 in Fighting spirit (FS). and a comparative score in controls. We also observed a similar score in the Helplessness/hopelessness (H/H), mean = 14.18 ± 3.0 in test group, and 14.69 ± 2.9 in control group. The MPSS scale results indicated a moderate score of 12.25 ± 2.96 in both groups. Thus, at initial diagnosis a significant difference was not observed in test and controls. On follow-up, test group showed an increase in FS and decrease in H/H. However, in control group a difference in the FS or H/H was not observed. **CONCLUSIONS:** The 3 types of social support provided to patients have shown a

positive effect on the adjustment of the patients to their disease. The test group patients exhibited increase in the level of adjustment to cancer and they faced their problems more easily in more comfortable way than the control group. The assessment at 6 month after the 3 support showed that it led to a change in level of adjustment with the cancer. Hence it may be concluded that all 3 support are needed by the patients to adjust with the disease. **RESEARCH IMPLICATIONS:** The 3 social support characterized as emotional, psycho educational and instrumental support, was demonstrated to cause positive changes in level of adjustment to cancer by the patients. This mandates that these should form part of the routine in for the patients in the Indian context as well. The data showed that emotional support will help break the barriers between patients and caregiver, thus advantageous to the patient treatment. **CLINICAL IMPLICATIONS:** To promote holistic treatment it is important to consider the psycho social aspects of an individual patient. The patient is thus protected from the deleterious effects of the additional stress of the disease. A good holistic support system will be effective in boosting positivity in the patients and better adjustment and acceptance of the disease. The psychological intervention may not substitute for painkillers but it may serve as an adjuvant therapy. **ACKNOWLEDGEMENT OF FUNDING:** The authors gratefully acknowledge Cancer Patients Aid Association for the support on the project.

P2-117

The Counseling Cancer Centre of the Tuscany Region: The Experience of a Contact Center Service and Psychological Skills in Needs Assessment and in the Supporting Care

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BACKGROUND: Since November 2009, the Tuscany Region Department of Health has activated the Regional Counseling Cancer Centre (CCOR), with the scientific collaboration of the Regional Cancer Institute (ITT) and the Healthcare Management Laboratory (MeS) of Sant' Anna University. The CCOR is made of 4 Psychologists-FrontLine (FL), 6 Psychologists-BackLine (BL, psychological supports) and 1 Coordinator. The FL manages requests through informative counseling and collaborates with public health through the healthcare referent, the Focal Point (FP). **METHOD:** THE FL: • promotes the identification of the problem and the possible solutions through demand analysis, counseling and problem-solving. • helps the person to identify the implicit needs supporting in the

resolution process. • provides valid information, updated, customized on care pathways. • provides a space for listening in crisis times, focusing on useful goals to overcome the discomfort and facilitating the decision making of the patient, becoming a point of reference for users. • activates FP to solve critical path and gaps care at the Local Health Authority (LHA). • activates BL after evaluating the need for psychological support. **RESULTS:** Totally the CCOR responded to 2820 requests. The data analysis of 2012 ($n = 705$) reveals that is used equally by family and friends (38.2%) and by patients themselves (38%); people interested in prevention reach the 20% and professionals the 2.5%. The 76% are women and 62% in range 40–75 years. The psychosocial concerns: physician-patient relationship (63%); pathway interruptions (26.5%) and social issues and poor information providing (10.4%). 86% of assisted remains under the care of their LHA. The resolution problem through the joint intervention FL-FP characterizes the first-area, counseling provided by FL marks the third-area, the BL linked to the second-area (Cramer's $V = 0.4; p = 0.000$). **CONCLUSIONS:** CCOR helps the cancer patients and their families to follow the clinical pathways and obstacles related to the psychological dimension of the illness or to organizational breakdowns. According to other experiences like our, the CCOR also confirms the effectiveness of a listening activity and demand analysis at different stages of the care pathway. The Center provides patients and their families support and guidance throughout the course by creating easy access to the services offered by the health system, activating direct contact with medical facilities, focusing on the function of active listening and emotional restraint of the patient and his family. **RESEARCH IMPLICATIONS:** This experience highlights the role of the counselling for the path improvement: the process of patient involvement in the care pathway, a clear communication with the doctor and the sharing of objectives. In fact this kind of intervention facilitates the patient empowerment, so that the communication quality and the relationship with physicians are improved. Further studies are needed to evaluate the impact of realized joint management of cases in terms of organizational learning within Health Authority. **CLINICAL IMPLICATIONS:** Making a good counseling and resolve critical in agreement with the patient makes more fluid the entire course of treatment. Therefore this type of intervention helps to increase the perception of belonging and taking charge effective for the patient and reduce the "leaks" from the LHA involved in the care pathways. The experiences acquired from the Center are useful tools for LHA to improve the quality of care pathways. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-118

Struggling for a Sense of Control in Order to be Prepared: Consequences of Chemotherapy-Related Fear Among Breast Cancer PatientsKarin Stinesen-Kollberg¹, Ulrica Wilderäng¹, Gunnar Steineck^{1,2}¹University of Gothenburg, Gothenburg, Sweden,²Karolinska Institute, Stockholm, Sweden

BACKGROUND: Aim: To investigate how women assessed their psychosocial support needs concerning chemotherapy-related side effects after breast cancer treatment. **METHOD:** We conducted an observational study and analyzed responses from 313 women who had undergone surgery for breast cancer at Sahlgrenska University Hospital breast cancer clinic 12 months prior. **RESULTS:** Concerning desire for support, there was no statistically significant difference between the group receiving chemotherapy compared with the group not receiving chemotherapy (fear of hair loss: age adjusted p value 0.5120 and fear of nausea: age adjusted p value 0.7230). Both groups reported a desire to receive psychosocial support immediately following diagnosis. **CONCLUSIONS:** One year after diagnosis, women treated for breast cancer distinctly recall an immediate desire to receive psychosocial support concerning chemotherapy-induced side effects, regardless of receiving chemotherapy treatment or not. **RESEARCH IMPLICATIONS:** Data indicate that women associate breast cancer with chemotherapy and that they have a desire to know what chemotherapy treatment entails. This association appears so strong that it still comes to mind even when responding to a questionnaire one year after diagnosis. If we can learn how to increase preparedness for treatment, we may be able to decrease the risk for psychosocial morbidity and thereby shorten breast cancer diagnosed women's rehabilitation needs. **CLINICAL IMPLICATIONS:** Offering psychosocial support and basic information about eventual chemotherapy treatment immediately following diagnosis may increase a sense of control and thus reduce the stress associated with the grim phase between breast cancer diagnosis and surgery. **ACKNOWLEDGEMENT OF FUNDING:** National Swedish Breast Cancer Foundation.

P2-119

The Theory of Planned Behavior Predicting Physical Activity in French Children Aged Between 5 to 11 Years OldMonica Takito^{1,2}, Bruno Frégeac³, Simon Dallifard⁴, Bertrand Porro⁵, Oliver Coste⁶, Florence Cousson-Gélie²¹USP, Sao Paulo, SP, Brazil, ²ICM Institut Régional du Cancer, Epidaure. Université de Montpellier 3, Epsilon, Montpellier, France, ³ICM,Institut Régional du Cancer, Epidaure. Professeur des écoles, Montpellier, France, ⁴Université de Montpellier 1, Montpellier, France, ⁵Université de Montpellier 3, Epsilon, Montpellier, France, ⁶Direction Générale de la Jeunesse et des Sports, Montpellier, France

BACKGROUND: Physical activity is highly recommended for all people as a potential behavior to improve health. In adults, physical activity could prevent certain types of cancer, and others. During childhood physical activity suffer a lot of influence from environmental factors. The objective of this study was to test the ability of the Theory of Planned Behavior (TPB) for explaining physical activity behavior. **METHOD:** This observational study included a sample of 734 children between 5 and 11 years old, selected in 11 public schools in France. This is a baseline study before an interventional study to improve physical activity. All children answered an auto-questionnaire based on TPB including assessment of attitude, subjective norm, perceived behavioral control. We also evaluated socio-demographic factors (age, sexe) and environmental factors (ex: physical activity practice by family, friends). An ordered logistical regression was model considering hierarchical analysis based on TPB. Level of significance was 5% in each level. **RESULTS:** The fact that family (father, mother and siblings) and friends are physically active or support the practice of physical activity was positively associated with higher weekly frequency of physical activity in univariate analysis. However, only the fact of his father playing sports remained significantly associated with a higher frequency of physical activity in multivariate analysis. Despite positive or negative attitude seems important, believe that physical activity all days improve physical fitness keep in the final model as an adjusted variable. By the other side, personal identity and perceived behavior control were important predictors related to activities during leisure time. **CONCLUSIONS:** These results provide partial support for the utility of TPB in explaining physical activity behavior in a sample of French children. Even intention could be the most important predictor to improve physical activity; these results showed that is necessary to engage family, friends and teachers. Children perceived as selves with autonomy to control their leisure time. **RESEARCH IMPLICATIONS:** The research implication is that if family and friend were engaging it will be possible increase the chance of improve physical activity of children and as consequence physical fitness and quality of life. **CLINICAL IMPLICATIONS:** These findings have implications for tailoring physical activity programs in this population. **ACKNOWLEDGEMENT OF FUNDING:** This research was supported by the "Agence Régionale de santé de

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P2-120

Effect of Group Counseling for the Empowerment of Mental Health on Resilience in Cancer Patients

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BACKGROUND: The emotional impact of cancer diagnosis that patients may feel shock, disbelief, fear, anxiety, guilt, sadness, grief, depression, and anger. Each person may have some or all of these feelings, and each will handle them in a different way. Group counseling may help patients for emotional coping. The objective was to evaluate the effect of group counseling for resilience in cancer patients. **METHOD:** This study conducted the quasi experiment design of 20 cancer patients whom were treated with radio therapy between May to July 2011. The participants were divided into 2 groups, 10 for control and 10 intervention groups. Participants in the intervention were attended group counseling for twice a week in 4 weeks, and each 60–90 minutes per time. Participants in the control group were offered no interventions and received their usual medical care. The questionnaire used for data collection included personal information, Resilience scale, and group counseling evaluation. The independent *t*-test and pair *t*-test were employed to analyze. **RESULTS:** The results of this study showed that statistically significant difference the mean score of resilience between the intervention group and control group (mean difference = 19.5; 95%CI: 17.61 to 21.38, $p < 0.05$) and there was a statistically significant difference the mean score of resilience between before and after in the intervention group (mean difference = 14.9; 95%CI: 12.77 to 17.03, $p < 0.05$) **CONCLUSIONS:** The findings suggest that group counseling could resilience cancer patients for emotional coping that clinician may apply for helping cancer patients. **RESEARCH IMPLICATIONS:** The result of this study show the program can be applied for empowerment of mental health crisis in patients with other chronic diseases. **CLINICAL IMPLICATIONS:** Normal score standard of resilience from the Department of Mental Health, Thailand is 55–69 points. The results of this study showed that the experimental group was 69.80 points, that higher than the standard. When testing the difference between the control group and the experimental group was found to have a mean score difference 19.5 points, which is statistically significant (p -value < 0.05). **ACKNOWLEDGEMENT OF FUNDING:** Department of

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P2-121

Motivation for Childhood Cancer Patients to Participate in a Combined Physical and Psychosocial Intervention Program: "Quality of Life in Motion"

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BACKGROUND: Survival rates in childhood cancer have increased dramatically in the past decades. However, survivors can have late effects, including impaired physical fitness which can lead to other physical health problems and may impact health-related quality of life (HrQOL). In order to improve physical fitness a 12-week physical and psychosocial intervention program was developed. In a multi-centre RCT 38.3% of invited patients were willing to participate. The question arises as to reasons of this limited participation. **METHOD:** All childhood cancer patients (8–18 years) during treatment with chemo- and/or radiotherapy or no longer than 12 months off treatment, were eligible. Patients requiring bone marrow transplantation and/or growth hormone treatment, those depending on a wheelchair or being unable to "ride a bike", and those with mental retardation were excluded. Eligible patients received written and verbal information about the study. Patients and parents not wishing to participate were asked to fill in a one-time survey regarding reasons for non-participation, physical activity, HrQOL and behaviour problems. The baseline measurements of the participants included the same questionnaires (except for non-participation). **RESULTS:** Of 162 eligible patients 100 (61.7%) non-participated, of which 57% filled in the one-time survey. Parents reported "time-consuming participation" and "participation too heavy for child" as main reasons for non-participation, and children "time-consuming participa-

tion” and “already frequent sports participation”. No differences between participants and non-participants were found for mean age, HrQoL and parental-reported behaviour problems in the total group. Participating older children (11–18 years) reported more behaviour problems ($p = 0.03$), in particular more internalising problems ($p = 0.02$) and rated their quality of social functioning lower than non-participating peers. Parents of participating children aged 11–18 also reported more behaviour problems ($p = 0.04$). **CONCLUSIONS:** Participation of childhood cancer patients in a physical and psychosocial intervention program is related to the burden of the intervention, as perceived by patients and parents. It appeared that adolescents with more internalising behaviour problems and a lower quality of social functioning were more prone to participate in the study. Also parents of the participating adolescents report higher behaviour problem scores than parents of the non-participating adolescents. **RESEARCH IMPLICATIONS:** Physical activity and fitness are supposed to be important determinants for physical health and HrQoL in childhood cancer patients. Interventions to stimulate physical activity gain increasing interest, but participation is hampered by the burden of the intervention. Therefore insight in factors related to participation or non-participation in intervention programs is crucial in optimizing recruitment and motivation strategies, as well as to develop tailor-made interventions. This study is the first with information on this subject. **CLINICAL IMPLICATIONS:** Participation in a physical and psychosocial intervention program is hampered by the burden of the intervention. Especially adolescent patients with better psychosocial functioning seem to have lower motivation to participate. This information can help to develop interventions in which larger groups can be included. **ACKNOWLEDGEMENT OF FUNDING:** This study is financially supported by the Alpe d’HuZes/Dutch Cancer Society (ALPE-VU 2009-4305).

P2-122

Professionals’ and Patients’ Perspective on Facilitators and Barriers for Return to Work in Unemployed Cancer Patients: A Focus Group Study

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BACKGROUND: It is estimated that 62% of cancer patients return to work (RTW). Current RTW support programs have been designed for employees, but are not suitable for unemployed workers who receive a sickness benefit. In order to develop a RTW program specifically for this subgroup, we

studied the facilitators and barriers for RTW in this group of patients, and in the physicians who assess unemployed cancer patients with regard to their sickness benefit. **METHOD:** We conducted separate focus group interviews with (1) cancer patients who receive a sickness benefit and (2) insurance physicians (IPs) who assess cancer patients with a sickness benefit (unrelated). Patients were invited to interviews at the VU University Medical Center. For IPs, local peer review groups were used to host their interview. The focus group interviews were guided by an experienced moderator. Topics discussed included: attitude towards RTW over time, barriers and facilitators regarding RTW, involvement of others (e.g. spouse) in decision-making, possible interventions. Data was collected using an audio recording device and collection continued until saturation was reached. **RESULTS:** In total, 6 focus groups were organized; 3 patient focus groups, including seventeen participants and three physician focus groups, including twenty-two participants. All data was transcribed verbatim and is currently subject to analysis. Results will be known by October 2013. **CONCLUSIONS:** Data saturation was reached for both the patient and IP perspective. Therefore, the researchers estimate that the results regarding RTW factors will be applicable to most of the cancer patients who receive a sickness benefit. Further conclusions will be drawn when the results are known. **RESEARCH IMPLICATIONS:** This study is, to our knowledge, the first to assess RTW factors for cancer patients who receive a sickness benefit. Nowadays, research for cancer patients is usually diagnosis-based. If found that employment status may affect factors for RTW, this could support a new approach that takes employment status into account. Also, this could be applied to other types of patients and fields in clinical research. **CLINICAL IMPLICATIONS:** If found that specific RTW factors are related to employment status, this could have implications for the development of supportive intervention programs. Such programs should then be tailored to the employment status of the patient, rather than solely to the diagnosis. **ACKNOWLEDGEMENT OF FUNDING:** This study is funded by the Dutch Institute for Employee Benefit Schemes (SMZ UWV).

P2-123

Determinants of Seeking Psychosocial Care in Dutch Men With Prostate Cancer

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BACKGROUND: Prostate cancer patients often express the need for supportive care, although they are not frequently participating in supportive care

activities. To study the determinants of seeking psychosocial care, patients' supportive care needs were assessed (SCNS) and their attitude about supportive care, perceived social support and self-efficacy (ASE model) on psychosocial care seeking. Further, as external factors the influence of distress, biographical and medical factors, previous experience with and evaluation of supportive care was studied. **METHOD:** A cross-sectional study with a convenience sample of patients who completed a questionnaire. The patients were recruited from institutes of in the Dutch South- West cancer area (hospitals, patient organization, social media and psychosocial care facilities). Care needs were measured with the SCNS; patient's attitude towards care seeking, perceived social support and self-efficacy were assessed by using former ASE measures. Distress was measured by the HADS. The measurement of biographical characteristics (age, SES, marital status), medical factors (time since diagnosis, type of treatment, metastasis), previous experience with and evaluation of supportive care was used from a former Dutch study. **RESULTS:** We included 87 patients, who all returned the questionnaire by email or post. Results indicated that 36% had some experience with social care facilities. About one third of all men look for expert information (urologist, urology nurse, patient organization). More than 20% of the participants value their support from the hospital as unsatisfactory, marking the received support from the hospital with a mean score of 6.7 on a zero to ten scale. Results of a multiple regression analysis pointed out that only psychological, physical needs and depression are the main determinants for future supportive care use. **CONCLUSIONS:** The results show that psychological and physical needs beside depression are more important determinants of future supportive care use than the ASE driven factor attitude towards care seeking, anxiety, previous psychosocial care use, satisfaction with care and age. **RESEARCH IMPLICATIONS:** More studies should focus on multiple determinants of the use of psychosocial care facilities by prostate cancer patients. **CLINICAL IMPLICATIONS:** The Vruchtenburg, on which behalve the study was performed is developing a policy to attract more prostate cancer patients. Urologists, urology and oncology nurses and other health-care professionals should use this information for patient centered referrals to psychosocial care facilities as well as to develop fitting interventions. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-124

The Effect of Group Psychological Intervention in Chinese Gastric Cancer Patients' Rehabilitation

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BACKGROUND: The purpose of this study is: 1. to examine the effectiveness of group psychological intervention on emotion and quality of life in convalescent gastric cancer patients in China, and explore the influence factors; 2. to examine the acceptability of group psychological intervention by the participants and explore the therapeutic factors of intervention by semi-structured qualitative interview. **METHOD:** 1. Totally 60 patients diagnosed with gastric cancer and finished active treatment participated in this controlled trial. 30 patients joined the intervention group, which consisted of ten consecutive, weekly sessions of 100 minutes each in length, whereas other 30 patients served as controlled subjects. All participants completed pre-test and post-test questionnaires consisting of Cancer Quality-of-life Core Questionnaire (QLQ-C30), Self-Rating Depression Scale (SDS) and Self-Rating Anxiety Scale (SAS). Intervention group had 3-months follow-up 2. By stratified random sampling, eight patients from the intervention group who had completed three assessments accepted interview according to a semi-structured outline. **RESULTS:** Participants' global quality of life (QOL) was significantly improved after interventions [(65.00 ± 21.25) vs. (75.00 ± 16.14)], especially nausea/vomiting, dyspnea, sleep, appetite, anxiety and depression. In the intervention group, global QOL improvement in patients of low global health status was significantly greater than patients of high status [(-18.33 ± 22.54) vs. (2.50 ± 15.24)]. In the control group, fatigue and anxiety were aggravated in low health status group and improved in high status group. Interview showed group psychological intervention has good acceptability. The main therapeutic factors included: hope adjustment, universality, imparting information, group cohesiveness, emotion venting and altruism. **CONCLUSIONS:** 1. Group psychological intervention could alleviate depression and anxiety mood and improve the quality of life of gastric cancer patients and promote their rehabilitation. 2. The effect of group psychological intervention in quality of life and negative emotions of gastric cancer patients with low global health status was more significant. 3. The group psychological intervention has good acceptability in gastric cancer patients; The main effect factors include hope adjustment, universality, imparting information, group cohesiveness, emotion venting and altruism. **RESEARCH IMPLICATIONS:** Verify the effect of group psychological therapy in Chinese gastric

cancer patients' rehabilitation; research results and conclusions as theoretical support and limitations and questions found during this research process was showed for the future researchers in group therapy in cancer patients so that they could make more improvement in future research protocols. **CLINICAL IMPLICATIONS:** Provide theoretical support for application of group psychological therapy in Chinese gastric cancer patients, as an important adjunctive intervention in the holistic oncology clinical practice. **ACKNOWLEDGEMENT OF FUNDING:** Capital medical science Development Fund.

P2-125

A Preliminary Evaluation on the Effectiveness of a Memory Enhancement Psycho-Educational Group on Improving Mood and Short-Term Memory in Hong Kong Cancer Patients

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BACKGROUND: Fear, anxiety and depression are the most common emotions experienced by cancer patients (Reich, 2008). Previous research shows evidence of correlation between depression and memory loss (Burt & Byrd, 1995). A memory enhancement psycho-educational group was developed and introduced as an intervention to address this concern, which involved teaching memory enhancement skills and mood management strategies through experiential games and daily practice, in order to improve levels of depression and anxiety, and enhance memory functioning. **METHOD:** A total of 48 cancer patients participated in a total of 5 memory enhancement psycho-educational groups conducted between November 2011 and May 2013. Theories of Experiential Learning (Kolb, D, 1984) and the Chronic Disease Self-Management Program (Stanford Patient Education Research Center, 1993) formed the basis of the content of this program. Participants were invited to fill in the General Health Questionnaire (GHQ-12, Pan & Goldberg, 1990) before and after the group in order to measure their psychological distress level. A memory subjective questionnaire and objective test (Small, 2003) were used to measure participant's self-ratings of memory capacity and memory functioning. **RESULTS:** The findings showed a significant decrease in psychological distress ($M = -8.13$, $SD = 6.08$, $p = 0.000$), while subjective memory and objective memory also showed significant increases ($M = 23.38$, $SD = 26.49$, $p = 0.000$ and $M = 1.02$, $SD = 1.41$, $p = 0.000$ respectively). **CONCLUSIONS:** Participants showed a significant decrease on measures of distress and an enhancement of their self-reported memory functioning after joining this psycho-educational group. Control group and development

with more evidence base information are suggested as the next step of the research. **RESEARCH IMPLICATIONS:** A control group should be included in the future to facilitate a better understanding of the effectiveness of the intervention. It is further suggested that additional objective memory measurement tools be used in the future to further explore nature of the memory enhancement observed in this study. **CLINICAL IMPLICATIONS:** This memory enhancement group would be continued to conduct for cancer patients as it has a significant benefit for them. After developing with more evidence based data, the content of the group can be refined in order to increase its effectiveness. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-126

Impact of Chemotherapy-Induced Alopecia Distress on Body Image, Psychosocial Well-Being, and Depression In Breast Cancer Patients

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BACKGROUND: Chemotherapy-induced alopecia (CIA) is a traumatizing and distressing experience for women with breast cancer. But, few studies have been conducted about association between alopecia and quality of life, but there most of them have been limited to studies with specify alopecia distress and its impact on body image and psychological disorders. This study evaluates the impact of chemotherapy-induced alopecia distress on body image, psychosocial well-being and depression among breast cancer patients. **METHOD:** A cross-sectional survey was conducted with patients who participated in a breast cancer advocacy events held at 16 hospi-

tals in Korea. Alopecia distress was assessed using the “Chemotherapy-Induced Alopecia Distress Scale (CADS),” which evaluated the distress in physical, emotional, daily activity, and relationship domains. The CADS indicated that higher score is higher distress. Body image and psychosocial well-being were measured by the EORTC QLQ Core 30 and BR-23, and depression was measured using the CES-D. Univariate and multivariate linear regression analyses were used to evaluate the association between CIA distress and body image, psychosocial well-being, and depression. **RESULTS:** A total of 168 patients participated in the study; the mean age was 48.4 and 53% of the patients were receiving active treatment such as chemotherapy and radiotherapy at the time of the survey. More than 50% of the patients experienced alopecia distress. Patients who had higher CIA distress experienced about 2 times poorer body image than patients with lower CIA distress after adjusting for all socioeconomic status and clinical characteristics. Distressed patients were also more likely to report lower emotional and role functioning, and the CIA distress was also negatively associated with depression after controlling for all covariates ($p < 0.01$). **CONCLUSIONS:** To the best of our knowledge this is the first quantitative study confirms that patients experience moderate to severe distress due to CIA and its distress has a significantly negative impact on body image, psychosocial well-being, and depression in women with breast cancer. In future studies, it will be necessary to identify factors that associated with onset and course of alopecia distress and to develop interventions for minimizing alopecia distress in women with breast cancer. **ACKNOWLEDGEMENT OF FUNDING:** The research was accomplished by support from the AMOREPACIFIC and Korea Breast Cancer Foundation.

P2-127

Multidisciplinary Support Needs in Cancer Patients in a German Comprehensive Cancer Centre

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BACKGROUND: Supportive care plays an increasingly important role in cancer patients. Modern therapies have significantly improved disease control and prolonged survival. However, the majority of cancer patients is incurable and suffers from the disease itself and potential side-effects of stressful treatments. The prevalence of support needs have mainly been addressed separately in the various disciplines in previous studies. The aim of

the present study was to investigate multidisciplinary support needs in cancer patients. **METHOD:** A total of 562 patients suffering from gynecological, gastrointestinal or dermatological cancers took part in the survey. Questionnaires were used to assess support needs for psychooncological interventions, social work, nutritional counseling and exercise therapy. Additionally, psychic comorbidity was assessed using the Patient-Health Questionnaire (PHQ-D). The assessment was computer-assisted using tablet-PCs and the study took place at a German Comprehensive Cancer Centre. **RESULTS:** From the 562 patients, 52% ($n = 294$) asked for psychooncological interventions or psychotherapy and family counseling. One third (34%) of this subgroup showed at least a moderate depressive episode. Besides psychooncology, the vast majority (97%) of these patients had additional support needs: 28% asked for all four services (psychooncology, social work, nutrition, exercise), 40% asked for three services (psychooncology plus two additional support services) and 29% for two services (psychooncology plus one additional support service). **CONCLUSIONS:** The findings of the survey indicate that the vast majority of cancer patients across different cancer entities and at different stages of their disease have multidisciplinary support needs compromising psychooncology, social work, nutritional counselling and exercise therapy. **RESEARCH IMPLICATIONS:** Given the multidisciplinary support needs in cancer patients, more integrated and comprehensive support services have to be developed for cancer patients. The effectiveness of these multidisciplinary supportive care programs should be evaluated in clinical trials. **CLINICAL IMPLICATIONS:** Multidisciplinary supportive care programs delivered by a team of different healthcare professionals (e.g. psychotherapists, social workers, dieticians and physiotherapists) is necessary to optimize quality of life in cancer patients at all stages of their disease. This requires a close collaboration between the involved therapists to coordinate a multifaceted supportive care tailored the patient's needs. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-128

Oncological Patients' Desire to Receive Psychological Support - A Peruvian Representative Sample

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BACKGROUND: The objective of the study is to explore the psychological needs of a patient in relation to cancer and his/her desire to receive professional or family oriented psychological support. The study targeted 340 Peruvian oncological

patients (men and women). **METHOD:** As part of the study both a socio-demographic data analysis and an analysis of psychological factors (anxiety, adaptation to the disease, depression and other factors related to the disease and its treatment) were conducted. Tools used as instruments of evaluation include a demographic survey, two psychological evaluation instruments (HADS and WAYS Coping Scale), the Karnofsky Scale and the Cancer Rehabilitation Evaluation System (CARES). Data obtained through CARES was analyzed in relation to the desire expressed by patients to receive or not receive psychological support from health professionals or from their families. This data was reviewed considering differences in sex. **RESULTS:** Results are currently being processed statistically in coordination with the Free University of Brussels (Professor Razavi, Psychosomatic Unit, Psychology Department). We expect these to be finalized by September 2013. **CONCLUSIONS:** There are no conclusions at this time. They will be completed once the data analysis is available. **RESEARCH IMPLICATIONS:** One of the objectives of the study is to compare these results with a previous study conducted with a Belgian sample by Merckaert et al in 2009. **CLINICAL IMPLICATIONS:** This is the first study of its kind carried out in Peru with a significant sample (340 patients). Results will hopefully influence the development of public policies inside the oncological field in Peru. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-129

Emesis and Quality of Life Among European Cancer Patients

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BACKGROUND: The influence of chemotherapy-induced nausea and vomiting (CINV) has been studied as a factor influencing cancer patients' qual-

ity of Life (QoL). The aim of the study, as a part of a larger European research protocol, was to identify the relationship of emesis (acute and delayed) and quality of life (QoL) with psychosocial (in particular coping and psychological distress) and relational (doctor-patient communication) variables. **METHOD:** 284 cancer patients aged 18–65 years, with no cognitive deficit, a Karnofsky Score >60 and a life expectancy >6 months, participated in a multicenter European study (Italy, Austria, Spain). Each patient completed the Functional Living Index for Emesis (FLIE) (Martin et al., 2003) before chemotherapy (FLIE-1); the 24-item Patient Satisfaction with Doctor Questionnaire (PSQ-MD) (Loblaw et al., 2004), two subscales of the Mini-MAC (Watson et al., 1984), (i.e. Anxious Preoccupation and Hopelessness); and the 0-10 Distress Thermometer (NCCN, 2012). Five days after chemotherapy the patients completed the FLIE (FLIE-2) again and a 0-10 VAS CINV diary to measure nausea and vomiting. **RESULTS:** DT moderate caseness (score > 4) was shown in 48% of cancer patients and a more severe distress (score ≥ 7) in 27.2% patients. Intensity of nausea on days 3–5 and score on FLIE-2 were associated with DT scores ($r = 0.24$, $p = 0.01$), Mini-MAC hopelessness ($r = 0.23$, $p = 0.01$). FLIE-2 was also associated with low scores on Physician Support on the PSQ-MD. **CONCLUSIONS:** The study indicated that cancer patients' emotional stress, coping strategies as well as low support from physician in doctor-patient relationship are associated with nausea post-chemotherapy, irrespective of anti-emetic treatment. **RESEARCH IMPLICATIONS:** Results suggest the importance of psychosocial variables, to be further explored, in post-chemotherapy symptoms, especially CINV. **CLINICAL IMPLICATIONS:** The study suggests that screening of patients' coping styles and distress are important to possible preventive intervention of CINV. Furthermore, doctor-patient relationship should be monitored given the possible influence on influencing patients' QoL. **ACKNOWLEDGEMENT OF FUNDING:** Istituto Oncologico Romagnolo (IOR), Forlì, Italy; FAR Project, University of Ferrara, Italy.

P2-130

The First Analysis of Quality of Life of Patients With Acute Leukemia in Republic of Armenia

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BACKGROUND: Since hematological cases can be treated and prolongation of life is achieved, many different spirituals and psychological concerns must be addressed to maintain smooth functioning and optimize quality of life (QoL). This research study has been designed the first time to

place into hematological practice in Armenia a modified QoL questionnaire and find out correlations between efficiency of treatment of AL and QoL. **METHOD:** QoL questionnaire include common and disease related specific problems: over 50 questions about psychological and functional conditions of the patients their relationship with others, self-esteem issues, etc. The questionnaires were first filled out within the 7 days after admittance and after two weeks. **RESULTS:** The study of questionnaires revealed that weakness impaired the patients' QoL in 80% ($n = 64$), the bone pain – in 85% ($n = 68$), fever- in 75% ($n = 60$), dyspepsia – in 60% ($n = 48$), followed by the decreased ability to work – in 60% ($n = 48$) and lower personal relations – in 62.5% ($n = 50$) of cases. QoL indicators were dependant on the disease diversity and accompanied risk factors. Patients with high-risk and AML have shown the poorer indicators of QoL then the patients with low-risk and ALL. Reliable information and trustful communication is the most well validated instrument that measure the QoL outcomes. **CONCLUSIONS:** The first step towards dealing with the routine chemotherapy treatment is communication. It's important for patients to communicate their thoughts and feelings with their healthcare practitioners. The second step is QoL information: perception that many of depressive feelings are predictable and not fatal, and many of side effects are impermanent, may become meaningful. Low personal relations, depression and anxiety, financial burden problems play negative and significantly impair patients' QoL. The modified QoL questionnaire for the patients with AL is one of the well-validated instruments to place into everyday practice to obtain reliable scores and meaningful data on QoL. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-131

The Development of Prostate Cancer Patients' Information Needs: Patients', GPs' and Significant Others' Perceptions Focusing on Diet

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BACKGROUND: The literature provides evidence how doctor-patient communication may improve health outcomes (Stewart et al., 2000; Beck et al., 2002; Flach et al., 2004) especially in cancer care (Mainous et al., 2004). Rees et al. (2003) found that prostate cancer patients are highly interested in seeking information. There hasn't been a study identified evaluating the discrepancies between health professionals, patients and significant others perceptions as to when patients develop needs in health care especially diet. **METHOD:** This is a cross sectional study using an online survey. Participants ($N = 220$) were recruited through the Pros-

tate Cancer Charity's website, an advertisement on the Prostate Care Cook Book (Rayman et al., 2008) and the Royal College of GPs (South West Thames Faculty). The questionnaire used consisted of 3 variables: time of information need development, food item awareness in reducing risk of prostate cancer, importance of diet in cancer aetiology. An open ended question on GP's attitudes towards was used to compliment the data. Kruskal Wallis and Cochran's Q tests in SPSS were used to analyse the data. **RESULTS:** Results from this study indicate that a) male GP's believe patients develop an interest in some information needs sooner than female GP's do, b) female GPs with less experience believe patients are in need for information regarding sexuality sooner than experienced female GPs, c) male GPs believe patients need information regarding mental health sooner than experienced female GPs, d)GPs, patients and significant others differ on their perceptions in 7 out of 11 information needs and e) GPs show discrepancies on their awareness of food items that are considered beneficial for prostate cancer. **CONCLUSIONS:** Gender and experience of GPs was found to predict their perceptions on the time prostate cancer patients develop a need regarding mental health, sexuality, interaction issues and more information. Regarding differences between GPs and patients this study confirms previous ones (Fallowfield et al., 1995; Zemmercuk et al., 1998) indicating that GPs underestimate patients' needs and fail to provide to patients the information they need (Schikel et al., 2013). However, this study also suggests that significant others' have highly prioritised need for information after their family members/friends' diagnosis as well. **RESEARCH IMPLICATIONS:** This study suggests that significant others are a group that future interventions may want to focus as well as their need for information is also closer to diagnosis than health care providers perceive. Findings can inform research aiming to improve patient (and their family/friends) and health care providers communication. **CLINICAL IMPLICATIONS:** Doctor-patient communication can be improved if we understand the different perceptions of health care providers and the people that are primarily affected by cancer (patients and significant others). This will also improve patient outcomes such as satisfaction with health care provision and probably other psychological constructs that can be identified for further research (i.e. quality of life). **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-132

Benefits of Mindfulness Improving Emotional Status and Quality of Life in Oncology Patients.**Comparison of Two Schedules of Treatment.**

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BACKGROUND: The use of Mindfulness to reduce emotional distress and improve psychological adaptation in cancer patients has increased and has proven to be highly effective. However it is not well known which schedule of treatment sessions allows to better results. This study aims to test whether a 30 minutes/daily meditation (30M) is more useful than 10 minutes/daily meditation (10M) to decrease anxiety and depression and improve quality of life in ambulatory cancer patients. **METHOD:** Ambulatory cancer patients diagnosed and treated at both centers in the Institute Oncologic del Vallès (IOV) who agreed to participate in the study were given written informed consents and were included in the study. Patients in Terrassa-Center received instructions to develop at home the 30M schedule during 10 weeks, and patients in Sabadell-Center, the 10M schedule at home during 8 weeks. Anxiety, depression and quality of life were assessed by STAI, BDI and QLQC-30 at pre-intervention and after patients had completed 6 treatment sessions at least. **RESULTS:** 25 oncology patients completed the study (30M group $n = 12$; 10M group: $n = 13$). No differences were found between groups at baseline measures. Anxiety and depression decreased at post intervention both in the 10M group (BDI, STAI-E, STAI-R $p = 0.000$) and in the 30M group (BDI: $p = 0.027$; STAI-E: $p = 0.08$; STAI-R: $p = 0.01$). Furthermore, the following quality of life dimensions improved at post-intervention in the 10M group: Physical ($p = 0.005$), Emotional ($p = 0.012$), and Fatigue ($p = 0.001$). **CONCLUSIONS:** Results suggest that Mindfulness could improve quality of life and reduce anxiety and depression in cancer patients, and that a short daily time is required to achieve these results since a 10 minute/daily practice schedule allows to better results than a 30 minute/daily practice schedule in improving some quality of life dimensions. **RESEARCH IMPLICATIONS:** Results suggest that, after 6 weeks of daily mindfulness sessions, both schedules were useful to reduce Anxiety and Depression, and that some dimensions of quality of life improved in the

10M group. However, more research with larger samples is needed to know whether a 10M schedule allows to more improvements in anxiety, depression and quality of life once the patients have completed the whole schedule (10 weeks). **CLINICAL IMPLICATIONS:** This study suggests that a 6-week 10M schedule offers the same benefits than a 30M schedule to reduce anxiety and depression levels, and has additional effects improving some dimensions of quality of life. Thus, the former should be recommended in order to enhance adherence to treatment, since it is less time-cost and more easy to apply. **ACKNOWLEDGEMENT OF FUNDING:** Study supported by Fundació Parc Taulí de Sabadell.

P2-133

Association Between Symptom Severity, Depression, and Relevant Factors at Six Months After Surgery in Head and Neck Cancer Patients

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BACKGROUND: Depression is a common psychological problem in cancer patients. Head and neck cancer (HNC) patients experience physical function changes after surgery treatment. These physical symptoms affect patients' quality of life and cause psychological distress. Therefore, the purpose of this study are: (1) to explore the symptom severity in HNC patients received surgery for 6 months (2) to examine the relationship between the symptom severity and depression (3) to identify the predictors of depression. **METHOD:** This is a cross-sectional research with purposive sampling. Patients were newly diagnosis of head and neck cancer and received surgery for 6 months in a medical center in north Taiwan. We used Symptom Severity Scale (SSS), Depression Subscale of Hospital Anxiety and Depression Scale (HADS) to evaluate patients' symptom severity and depression. Description analysis, Pearson correlation and linear regression were used. We put the meaningful demographic variables and top ten severe symptoms into regression model to predict the depression after receiving surgery for 6 months. **RESULTS:** We recruited 156 patients' responses. The average depression score is 3.4 (SD = 3.5). The most distressed severe symptoms were difficult chewing (Mean = 3.1, SD = 3.8), dry mouth (Mean = 3.0, SD = 2.9) and difficult swallowing (Mean = 2.3, SD = 3.3). Patients' depression was correlated to fatigue, dry mouth, poor appetite and insomnia ($r = 0.51, 0.41, 0.39, 0.38$, respectively; $p < 0.05$). The significant predictors of depression were fatigue, without occupation, dry mouth, insomnia and difficult chewing ($R^2 = 0.40, p < 0.05$). **CONCLUSIONS:** The results found physical symptoms sig-

nificantly predicted patients' depression. Patients had occupation and income after surgery may have lower levels of depression than patients did not. Researchers and care providers should be aware of patients' symptoms and psychological distress after treatment, and give patients appropriate supports to improve their life after treatment. **RESEARCH IMPLICATIONS:** In the result, patients' occupation and income status associated with depression. Future study should make more effort on exploring the family or environment context in this population to clarify the association between depression and their life after treatment. **CLINICAL IMPLICATIONS:** The results indicated eating function decline after surgery significantly affect patients' life and emotional status. Health care providers should regularly assess patients' eating function and give them rehabilitation early. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-134

Abstract withdrawn

P3-1

Nurses' Need of a Learning Program for Evidence-Based Practice at Center Hospitals for Cancer Care in Japan: A Content Analysis of Interviews

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BACKGROUND: Previous studies have reported that nurses at center hospitals for cancer care in Japan had inadequate knowledge of evidence-based practice (EBP), and a high number of experienced nurses were without education in EBP. However, little is known about nurses' needs for EBP learning programs. Therefore, the purpose of this study was to describe their needs for EBP learning programs as continuing education at center hospitals for cancer care. **METHOD:** A qualitative inductive study was conducted, and participants were a convenience sample of 24 Japanese nurses who work at center hospitals for cancer care (11 novice nurses and 13 expert nurses). They were interviewed using semi-structured interview questions. Then, a content analysis was performed to find out the reasons, contents, and strategies of the program. **RESULTS:** Eighteen participants (75%) stated that they needed an EBP learning program. The commonly found reasons were "importance of EBP for a cancer care practice" and "need of opportunities to learn EBP." They desired to include "strategies to support cancer patients and families" in the program. In addition, we also found that they preferred "group discussion with other nurses," and "a series of educational programs rather than a single program at one time."

CONCLUSIONS: These findings suggested that an EBP learning program needs to be developed to provide higher quality care at center hospitals for cancer care in Japan. **RESEARCH IMPLICATIONS:** Further studies on EBP need to be performed in order to evaluate an effective program at these hospitals. **CLINICAL IMPLICATIONS:** These findings provide us with a basis to develop an EBP learning program, including strategies to support cancer patients and their families, as continuing education at center hospitals for cancer care in Japan. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-2

Risk Factors and Prevention of Post-Traumatic Stress Disorder in Breast Cancer Patients

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BACKGROUND: A breast cancer diagnosis is a potential life-threatening event associated with significant distress. Even after successful treatment, cancer diagnosis may continue to be a source of distress. The present study was aimed to identify the association of symptoms of posttraumatic stress disorder (PTSD) with clinical and social factors in newly diagnosed breast cancer patients and to offer the ways of managing negative psychosocial outcomes. It is the part of a larger prospective research. **METHOD:** The study included 180 women with cT1-T3/N0-N1/M0 stages of breast cancer treated at the Institute of Oncology, Vilnius University. Before the surgery women completed four questionnaires: Impact of Event Scale - revised (IES-R), Beck Depression Inventory II (BDI - II), Vrana-Lauterbach Traumatic Events Scale-Civilian (TEQ) and a form about patient's socio-demographic status. Data about their diagnosis were taken from their hospital case-records. Frequency of significance was presented as a percentage. To determine factors predisposing PTSD, multiple logistic regression analysis was carried out. Values of $p < 0.05$ were considered statistically significant. For statistical data analysis SPSS software, version 21 was used. **RESULTS:** 45% of patients had from moderate to severe symptoms of PTSD (score of IES-R ≥ 35). 37% of women were suffering from depression of different level. Logistic regression analysis showed that depression (adjusted OR 8.15; 95% CI - 3.14–21.16; $p < 0.0005$), earlier and present psychological traumatic experience (adjusted OR 2.31; 95% CI - 1.12–4.78; $p < 0.024$) associated to high scores of posttraumatic stress. Negative correlation was found between the manifestation of PTSD and time, which passed from the moment

patients were informed that they are ill with the cancer (-0.33 ; $p < 0.012$). **CONCLUSIONS:** Significant numbers of newly diagnosed breast cancer patients suffer PTSD symptoms. Depression and earlier traumatic experience are the predictors of PTSD. The finding show that early evaluation of psycho emotional needs of breast cancer patients is necessary and early interventions for the prevention of PTSD are meaningful especially if patient states about the earlier traumatic experience and bad mood. Newly diagnosed cancer patients should be provided regular care and assistance. **RESEARCH IMPLICATIONS:** It is necessary to develop useful intervention for the prevention of PTSD in cancer patients. Early prevention of PTSD minimizing PTSD symptoms could improve the quality of women's lives. **CLINICAL IMPLICATIONS:** Seeking to reduce influence of PTSD symptoms, medical staff has to assess cancer patients' mood, its changes after the diagnosis of disease and earlier traumatic experience. A united and easily applied system must be established for the evaluation of emotional status in cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-3

Innovative Efforts in a Romanian Oncological Center: Dimensions of Patient-Centered Health Care **Anca Mirsu-Paun¹, Coralia Mirsu-Paun^{2,1}**

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BACKGROUND: Patient-centered care, as quality health care, is associated with improvements in patient satisfaction, health-related quality of life, and psychological wellbeing, health outcomes, and higher survival rates. A group of Romanian oncology patients reported high levels of distress: 47.5% depression, 46.7% anxiety, and 28.1% critically low quality of life. Clearly, there is a need to understand how to improve the experience of these patients who are the "experts" regarding their own health care needs. **METHOD:** An estimated 35 patients from a large Romanian oncological hospital will be recruited to anonymously participate in this study. The study questionnaire will ask participants to rate (a) the subjective importance and (b) the care they actually received, along the eight general dimensions identified by Ouwens et al. (2010) (e.g. access to care, communication and respect, etc.). Patients will be encouraged to provide any additional dimensions important to them (qualitative data). **Data analysis:** to determine which dimensions of patient-centered care are most important, which ones are lacking, and which additional dimensions emerge from the qualitative data. **RESULTS:** It is expected that Romanian oncology patients will identify significant needs regarding

their patient-centered care based on their health care experiences (i.e. aspects of their care which they rated low and thus are still lacking). It is also expected that the results will indicate which dimensions are most important and thus warrant further immediate attention and development. Additionally, the qualitative data will provide information regarding the specific needs of Romanian patients (versus patients from other countries). **CONCLUSIONS:** Using a specific set of patient-centered indicators is a much needed first step toward developing innovative patient-centered interventions in Romania. Health care professionals' opinions and guidelines are important and yet it is patients themselves who can provide best information regarding their health care needs, which can further lead to their increased adherence to treatment and increased treatment satisfaction. The results from this study can be used to develop specific and targeted ways to improve the health care experience among Romanian oncology patients. **RESEARCH IMPLICATIONS:** Future research can examine the effectiveness of patient-centered care by comparing levels of distress and health outcomes among patient who experience versus those who do not experience such care. Also, replicating results from this study on a larger sample including subgroups (e.g. by diagnosis, illness stage, etc.) will allow a more accurate generalization of its findings. Comparing results with those from other European countries can increase our understanding of cross-national differences in patient-centered care needs. **CLINICAL IMPLICATIONS:** Implications for clinical practice include: (a) tailoring psycho-social programs to the stated needs of the patients; and (b) attempts to sensitize health care providers to the specific needs of patients (e.g. if need for communication of health care information is rated highly then providers can be alerted regarding this fact or if patients rate family involvement as very important to them, efforts can be made to increase opportunities for such involvement). **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-4

Young People With Cancer and Hospital Care: 'It's a Whole Different World' How can Hospital Care Promote the Wellbeing of Young People With Cancer?

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BACKGROUND: Young people with cancer are recognised as a vulnerable patient cohort whose wellbeing and resilience is compromised by the dual crisis of unanticipated life-threatening illness at a critical transitional life stage. Although good outcomes include quality of life and successful maturation

tion, little is known about young people's needs or the constituents of age-appropriate healthcare. Applying the Sense of Coherence theoretical framework, this study examines how hospital care can promote wellbeing enhancing strengths and coping resources. **METHOD:** This doctoral study applies a qualitative narrative design to explore the perspectives of two under-researched populations of teenagers and young adults [TYAs: 16–19, 20–24 years], carers and multi-disciplinary professionals. A series of three semi-structured interviews over 6–9 months are conducted with 14 young people receiving treatment in adult provision and their primary carers. Young participant interviews utilise visual diagramming including social network maps and timelines to support engagement in the interview process while exploring identity, illness, relationship and healthcare narratives. Supplementary single interviews are carried out with 15 multi-disciplinary hospital professionals. **RESULTS:** Supportive relationships and inclusive communication processes are identified as central components of wellbeing-promoting hospital care enabling TYAs find meaning from their experience, manage uncertainty, access resources and sustain engagement with everyday life. Although parents are identified as key resources whose wellbeing has a reciprocal impact on TYA coping, they are often marginalised to the periphery of adult service provision. Multi-disciplinary professionals are confirmed as active participants in the young person and family's evolving illness narratives with the potential to contribute positively to their wellbeing. Findings also highlight the importance of psychosocial wellbeing to sustaining treatment and remaining involved in life. **CONCLUSIONS:** An increased focus on relationship-building, communication and strength-orientated support for young people and their primary carers, both individually and as a family system, is recommended as a prerequisite for optimal hospital care across the treatment trajectory. Greater interdisciplinary collaboration is required with all professionals understanding their role in promoting TYA and carer wellbeing, and having the skills to enable the young person's emerging adulthood while welcoming carer involvement. Professional training should include an inter-disciplinary component, recognise the importance of psychosocial wellbeing and develop communication skills and processes specifically targeted at this neglected group of patients and their carers. **RESEARCH IMPLICATIONS:** Further research is required to understand the experience of TYAs receiving palliative and end of life care, and their carers. Attention should also be directed at the needs of young people aged 14–15 years treated in either paediatric settings or admitted directly to adult services. The impact of qualitative research on sensitive topics with vulnerable participants also requires further study to ensure interviews enhance rather than

diminish participant wellbeing at times of crisis. **CLINICAL IMPLICATIONS:** This study indicates that a whole system interdisciplinary approach with a focus on relationship-building and communication is required to enhance young people's resources throughout the cancer trajectory. Recognition of the importance of psychosocial wellbeing and the reciprocal impact of young person and carer wellbeing is essential for optimal care. Hospital care for this transitional age group admitted to adult services must move beyond person-centred care, to welcome and develop services for carers and families. **ACKNOWLEDGEMENT OF FUNDING:** This doctoral study is sponsored by Belfast Health and Social Care Trust and Queen's University Belfast, and funded by the Northern Ireland Public Health Agency's Research and Development Office (2009–2014).

P3-5

Evidence-Based Practice Related to Effects of Peripheral Neuropathy Caused by Chemotherapy on Quality of Life In Japan: A Literature Review

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BACKGROUND: To review and identify Japanese articles of evidence-based practice (EBP) related to effects of peripheral neuropathy caused by chemotherapy on patients quality of life. **METHOD:** At the end of March 2013, two researchers specializing in cancer nursing conducted a literature search on Iqaku Chuo Zasshi, a Japanese medical literature database. They performed keyword and "AND" searches for the terms "peripheral neuropathy", "chemotherapy" and "quality of life (QOL)" used in literature published between 2003 and 2013. **RESULTS:** The keyword searches resulted in 19014 articles for "peripheral neuropathy" 79082 articles for "chemotherapy" and 44695 articles for "QOL". The 32 original papers using the 3 terms were then selected. After reading and reviewing the 32 articles, 9 were finally selected as relevant articles for this study. The 9 articles were reviewed and summarized for our study with regards to methods, study results, and conclusions. Research designs of the 9 articles were intervention studies ($n = 3$), descriptive studies ($n = 5$) and qualitative study ($n = 1$). The articles include intervention studies on peripheral neuropathy, however, it is not possible to assert said studies effectiveness. **CONCLUSIONS:** This literature review suggests that peripheral neuropathy caused by chemotherapy is an important issue which can influence patients' quality of life. We need to validate the efficacy of intervention that patients with peripheral neuropathy caused by chemotherapy can

practice themselves, based on EBP. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-6

Auditing Psychological Interventions in Oncology Patients With the Outcome Rating Scale and Session Rating Scale in a Clinical Health Psychology Setting

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BACKGROUND: Patient-directed and outcome-informed approaches improve therapeutic outcomes (Reese, Norsworthy & Hawkins; 2009). Therapeutic alliance improves outcomes, retention and the course of therapy (Miller, Duncan, Brown, Sorrell & Chalk, 2006; Lambert et al., 2003). The Outcome Rating Scale (ORS) and Session Rating Scale (SRS) measures patient functioning and therapeutic alliance, respectively (Miller, Duncan, Sorrell & Brown, 2005). This audit aims to measure the outcome of psychological interventions with the ORS and SRS in cancer patients. **METHOD:** A standard audit cycle will be used to guide the audit process. The audit will take a stepped approach to reviewing current local service level agreements (SLA's). The existing and current ORS/SRS data for all patients accessing psychology services in an outpatient setting will be collected and analysed. Results will be compared to local SLA's and will be used to implement changes and to plan further audits and research. This data pertains to cancer psychology patients, but is part of a larger audit to determine outcomes across physical health difficulties. **RESULTS:** Local SLA's are based on standards that 50% of patients accessing psychology services will report a 5-point increase on the ORS, while 80% of patients will report scores of 80% or higher on the SRS. Results will show that the ORS and SRS help to improve the therapeutic outcomes and alliance with cancer patients; while serving to meet outcomes agreed through SLA's. Research shows that change occurs early in the therapeutic process (Miller, Duncan, Brown, Sorrell & Chalk; 2006). Similar results are expected, while expecting to find variations amongst session numbers and rate of change across different physical illnesses. **CONCLUSIONS:** Results of all ORS/SRS data from oncology patients accessing clinical psychology between January 2012 and October 2013, as well as research and clinical implications will be discussed. **RESEARCH IMPLICATIONS:** Data on the rate of change across different physical health presentations within an acute physical health set-

ting will highlight the need for further research on patient-directed and continuous outcome-informed approaches in clinical health psychology, and psycho-oncology in particular. The results will also promote the clinical use of practice-based research and audit to improve therapeutic process, alliance and outcomes in cancer psychology. Further research may have implications for cost effectiveness of therapy by minimising disengagement. **CLINICAL IMPLICATIONS:** Improvements in service provision may include reviewing pathways of care, including referrals and signposting to community psychological services for those not progressing in therapy. Results will help inform future SLA's to provide a more targeted service based on differential outcomes and therapeutic change rates across different physical illnesses, including cancer. Improved patient rapport and targeted outcomes may improve the service effectiveness and minimise and predict therapeutic disengagement. Other improvements could include more targeted supervision discussions. **ACKNOWLEDGEMENT OF FUNDING:** The project is being run and funded by the Cancer Psychology Service at the Queen Elizabeth Hospital in the United Kingdom.

P3-7

Gender Differences in Cancer Caregiving: An Italian Study on Strain and Coping

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BACKGROUND: Several studies reported that caregivers of cancer patients are exposed to a considerable burden related to the caregiving responsibilities; however little is known on the relationships between demographic characteristic (gender, ethnicity, etc.) and caregiving in oncology. The present research aims to analyse the possible influence of gender differences and coping strategies on the strain experienced by the caregiver. **METHOD:** The study involves a group of caregivers attending the Day Hospital of the Veneto Institute of Oncology in Padua (Italy). All participants have agreed to voluntarily participate in the research. The instruments used are the following: 1) the Family Strain Questionnaire-Short Form (FSQ-SF), to evaluate the strain; 2) the Coping Orientation to Problem Experienced-New Italian Version (COPE-NVI), to assess the coping strategies. **RESULTS:** The sample consisted of 112 primary caregivers (range age: 20–76 years), 67% ($N = 75$) were women, while 33% ($N = 37$) were men; 51.6% of the sample has a middle-high educational level. Par-

ticipants were mostly the patient's spouse (53.6%) or an adult children (28.6%). Women feel a stronger emotional strain connected with assistance, in particular when their educational level is low. Strain considered as the only factor correlates negatively to the problem-oriented coping strategy. Among the different dimensions evaluated by FSQ-SF, the only one unrelated to gender differences is the need to know about the beloved's illness. **CONCLUSIONS:** This research help to define the Italian caregiver's profile. In most cases it concerns women, spouses with a middle-high educational level. Women play the main role in the caregiving management, experiencing a considerable strain related to the assistance, in particular when they have a low educational level. Coping strategies which people generally use to face stressful life events influence strain; specifically, the caregivers who adopt an active problem-oriented strategy experience a lower level of strain. **RESEARCH IMPLICATIONS:** The results gained from this research suggest the importance to focus further studies in order to highlight the best strategies fighting the negative consequences related to caregiving; to observe the psychological and physical effects of strain on the cancer caregiver, in consideration of gender differences and other demographic characteristic; to observe the effects of caregiving on patient's quality of life. **CLINICAL IMPLICATIONS:** Focusing specific clinical attention to the most fragile type of caregiver (women with a low educational level); identifying the cancers with the highest incidence in the male population (since generally they have a female caregiver) and providing from the first visits a psychological screening for caregivers to assess the coping strategies. Planning psycho-educational interventions to enhance and develop active and useful coping methods to reduce the negative consequences connected with the management of the care. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-8

Abstract withdrawn

P3-9

Patients' Words Into Action: Occupational Therapy Approaches in Rafik Hariri University Hospital Lebanon

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BACKGROUND: The first and unique occupational therapy service in Oncology in Lebanon has

started in 2010 at the Rafic Hariri University Hospital as the only psycho-social support provided for cancer patients at this hospital. Thus, many challenges were faced due to the novelty of this field and the lack of funding. The presentation will highlight the challenges faced and the approaches used in order to put patients' words into action in individualized therapeutic plans. **METHOD:** The presentation will be addressing the main features of the service provided and highlighting how patients' words and advocacy were used to develop therapeutic plans to help in improving the psychological state of cancer patients. Practical examples and case studies will be provided. **RESULTS:** The presentation will show qualitative results of the impact of occupational therapy approaches used on the quality of life of cancer patients and their families. The results will be discuss in term of the importance of individualized therapeutic plan which were based on patients' needs and expectations. Moreover the unique effect of these plans will be highlighted due to the satisfaction attained by the patients regarding the quality of care given. **CONCLUSIONS:** The presentation will pose the following question: if the care planning is based on the needs voiced by patients' words, how can we effectively listen to cancer patients? And, How can we use advocacy techniques to make patients participate in their care planning and how this participation can create a difference and improve the quality of care. **RESEARCH IMPLICATIONS:** This presentation will give directions into how to integrate advocacy into health research and will highlight difficulties that could be faced at this level n a developping country. **CLINICAL IMPLICATIONS:** Through the practical examples of case studies, clinicians will benefit from tips related the therapeutic approach used with cancer patients and will learn how valuable is to listen to their patients' needs and to build up their therapeutic plans based on them. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-10

A Systematic Review of Patient-Reported Outcome Measures Assessing Quality of Patient-Centred Cancer Care

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BACKGROUND: The Institute of Medicine (IOM) has endorsed six dimensions of patient-centredness as vital to providing quality health care. However, whether patient-reported outcome measures (PROMs) comprehensively cover these six dimensions remains unexplored. This systematic review explored: (1) whether PROMs that assess

the quality of patient-centred cancer care addressed the six IOM dimensions of patient-centred care; and (2) the psychometric properties of these measures. **METHOD:** Five electronic databases were searched to retrieve published studies describing the development and psychometric properties of PROMs assessing the quality of patient-centred cancer care. Two authors determined if eligible PROMs covered the six IOM dimensions of patient-centred care of: (1) respectful to patients' values, preferences, and expressed needs; (2) coordinated and integrated; (3) provide information, communication, and education; (4) ensure physical comfort; (5) provide emotional support; and (6) involve family and friends. The adequacy of psychometric properties based on recommended criteria was also evaluated. **RESULTS:** Across all 21 PROMs, the most commonly included IOM dimension of patient-centred care was *information, communication and education* (19 measures). Two measures included one IOM-endorsed patient-centred care dimension, 2 measures had two dimensions, seven measures had three dimensions, five measures had four dimensions, and four measures had five dimensions. One measure, the Indicators (Non-small Cell Lung Cancer), covered all 6 IOM dimensions of patient-centred care, but had adequate face/content validity only. None of the measures met recommended criteria for test-retest reliability. **CONCLUSIONS:** There are no psychometrically rigorous PROMs developed with cancer patients that capture all six IOM dimensions of patient-centred care. Further psychometric testing of the Indicators (Non-small Cell Lung Cancer) is needed. Construction of comprehensive measures that can be used with the general cancer population are required. **RESEARCH IMPLICATIONS:** This systematic review highlights that existing measures of patient-centred cancer care fail to accurately capture the *whole-person orientation* of cancer care. There is a need to develop new measures assessing the quality of patient-centred care that cover all six IOM-endorsed dimensions. Such measures need to be psychometrically robust and suitable for use with a range of cancer populations. **CLINICAL IMPLICATIONS:** Quality improvements to the healthcare system can be guided by measures that assess the quality of patient-centred cancer care. Reliable and valid patient self-report measures that identify where improvements to care are needed may facilitate advancements to health care services and health care professionals' training. **ACKNOWLEDGEMENT OF FUNDING:** Dr Flora Tzelepis is supported by a Leukaemia Foundation of Australia and Cure Cancer Australia Foundation Post-Doctoral Research Fellowship. Dr Tara Clinton-McHarg was supported by a Leukaemia Foundation Post-Doctoral Research Fellowship. Dr Tzelepis was supported by a Hunter

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P3-11

Abstract withdrawn

P3-12

Prostate Cancer Survivors' Experiences of Participation in Recreational Football - A Qualitative Evaluation Of The "FC Prostate Trial"

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BACKGROUND: Despite increasing awareness of the relevance of gender-sensitive rehabilitation, male cancer survivors are underrepresented in survivorship care and rehabilitation. To meet the demand for studies encompassing the needs of male cancer patients, we initiated the "FC Prostate Trial" with the aim to examine effects of recreational football in prostate cancer patients undergoing androgen deprivation therapy. The purpose of this study is to describe the results of the qualitative evaluation of the participants' experiences with participation. **METHOD:** Drawing on principles of ethnographic research, the study took advantage of method triangulation in collection of data. Data were collected through semi-structured focus group interviews ($5 \times n = 5-7$) and participant observations (a total of 20 hours) in the period from June 2011 to May 2013. Both methods were based on a semi-structured interview/observation guide including the following themes: "motivation for participation", "safety and tests", "interpersonal relations", "responses to the training", "the role of coach", "reactions from significant other". **RESULTS:** The participants were motivated by the opportunity of self-managing the disease through participation in a well-known and high-valued sport. The inherent characteristics of football (i.e. the presence of a coach, the element of playing and being part of a team) and the clinical monitoring and testing were emphasized by the participants as essential for the simultaneous concern for the disease and distraction from the disease. Physical and mental well-being, space for solidarity and exchange of personal experiences and positive feed-back from significant others were described as positive responses from participation and were experienced as fundamental for post-intervention maintenance. **CONCLUSIONS:** This qualitative study suggests that recreational football may be a unique and relevant alternative rehabilitation strategy that appeals to prostate cancer survivors receiving androgen deprivation therapy, as it facilitates self-determination

and the development of a community of practice enabling social support and solidarity. These findings support previous studies indicating that male cancer patients give priority to active, rational, action-orientated activities and that sport participation may contribute to blurring the patient role among cancer survivors. **RESEARCH IMPLICATIONS:** Sustained provision of rehabilitation initiatives that reflect the need of peer support facilitated through physical activity in male cancer survivors calls for new approaches in the future cancer rehabilitation research. Knowledge on the applicability and effectiveness of exercise interventions in real life settings and deeper understanding of long-term adherence to behavior change (i.e. physical activity) in male cancer patients and survivors are warranted. **CLINICAL IMPLICATIONS:** The present study indicates that recreational football can promote recruitment and adherence to physical activity in prostate cancer survivors. Furthermore, the findings reveal that prostate cancer survivors appreciate and benefit from interactions with peers through sport participation. Therefore, it is imperative that cancer rehabilitation strategies incorporate gender sensitive initiatives and contexts that reflect male cancer survivor's need for independency and self-determination on one hand and their need for patient care and support in the other. **ACKNOWLEDGEMENT OF FUNDING:** The FC Prostate Trial has received DKK 1.4 million from the Danish foundation TrygFonden.

P3-13

Factors Influencing the Return-to-Work Experience of Women Survivors of Gynecological Cancers: An Exploratory Descriptive Study

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BACKGROUND: A large proportion of women with gynecological cancers are still active members of the labour force when they are diagnosed. One of the challenges they face is returning to work (RTW) after treatment. Limited knowledge is available on the RTW process of this category of woman in the Québec population. The aim of this study was therefore to explore the factors influencing the RTW experience of Québec women with cervical or endometrial cancer. **METHOD:** Exploratory descriptive study. Two focus groups, each two hours long, were run with women who had cervical or endometrial cancer, held paid employment at the time of diagnosis, and were living in an urban area. A total of 15 women between ages 34 and 54 participated in this study. Clinical and sociodemographic data were collected from their computerized clinical files and through a ques-

tionnaire. Content analysis of the focus group transcripts was performed using pre-established categories for initial coding. These categories were based on the variables of the Feuerstein model for a RTW after cancer (2010). **RESULTS:** The main RTW facilitators concerned the meaningfulness the participants perceived in their work (e.g. they saw it as a return to normal life or as a response to their need to reduce the cancer's impact). The presence of support services (e.g. psychological follow-up, support group) was also identified as an RTW facilitator. The main obstacles involved three main factors: (1) the individual (e.g. high personal demands), (2) services received (e.g. absence or inadequacy of interventions and resources supporting the RTW), and (3) the work environment (e.g. high employer expectations). Participants identified financial pressure as a major incentive for accelerating RTW. **CONCLUSIONS:** This exploratory study revealed the multi-dimensional nature of the factors related to the RTW of women following a gynecological cancer. The current structure of healthcare services and poor knowledge of the disease in the workplace constitute major obstacles to a healthy, sustainable RTW of this population. **RESEARCH IMPLICATIONS:** The results of this study help fill the gap left by the lack of data on the RTW of women following a gynecological cancer. They also help generate hypotheses about ways to promote sustainable RTW that will have to be tested in future research. **CLINICAL IMPLICATIONS:** The results of this study will give practitioners who work with this clientele a better understanding of the factors facilitating or hindering their RTW. The results may also provide a basis for developing interventions tailored to people living with cancer as they pursue their RTW trajectory. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-14

Nordic Walking for Patients With Early Stage Breast Cancer

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BACKGROUND: Surgery and radiation to the axilla as part of breast cancer treatment often result in arm and shoulder morbidity. In addition to the general benefits for cardiorespiratory fitness, Nordic Walking (NW) targets at the muscles of the upper extremities and shoulder. This may increase shoulder mobility and reduce functional limitations. Our objective was to offer a NW intervention to women recovering from early stage breast cancer

treatment and to explore changes in well-being and shoulder function. **METHOD:** A NW program was offered in three consecutive years from 2009–2011. The 1-hour sessions were supervised by a certified NW-instructor. The program consisted of 10 weekly training sessions. The program took place from April to June. Subjective outcomes were assessed by questionnaire before and after the 10-week course, and at 6 months follow-up. Outcomes included shoulder morbidity (SPADI), vitality and mental well-being (SF-36), limitations in ADL and social activities (5-point Likert scales), and perceptions about shoulder morbidity (Brief IPQ). A physical therapist assessed participants' shoulder range of motion before the first training session and at the 10th training day. **RESULTS:** Twenty-eight women took part in the NW groups, of which 82% completed the course. Repeated measurements showed a significant improvement in vitality and a reduction in perceived shoulder symptom severity and ADL limitations, after 10 weeks of training. Results from the Shoulder Pain and Disability Index had improved, but this change was not significant until six months follow-up. Goniometric data indicated that active and passive range of motion (forward flexion, abduction, external rotation) of the affected shoulder had improved significantly in the 10-week interval. The NW intervention was well received by the participants. All would recommend it to other patients. **CONCLUSIONS:** This study has investigated a new method of aftercare for patients with early stage breast cancer who have undergone surgery or radiation to the axilla. Results from this pilot study suggest that a Nordic Walking program for this patient group is a feasible and enjoyable intervention. Although our results call for further research, our data show that NW can have a beneficial effect on patients' shoulder morbidity and ADL limitations. **RESEARCH IMPLICATIONS:** First of all, adequately powered and controlled studies are needed to determine whether improvements in Range of Motion and well-being are attributable to the NW intervention or to natural recovery, and to what degree the affected and contralateral arm will benefit from training. It also remains to be determined to what degree improvements in ROM are enduring and to what extent these improvements in ROM relate to improvements in pain and disability. **CLINICAL IMPLICATIONS:** Evaluation of the intervention has demonstrated that accessibility of the training location should be optimized to facilitate participation. Furthermore, supervising a group of cancer patients requires that the instructor has sufficient knowledge about the disease and treatment modalities of the participants, and has the social skills to discuss emotional events that may occur during the program and to recognize participants' needs for additional care. Finally, participants may need support in distinguishing normal from abnormal sensations. **ACKNOWLEDGEMENT OF FUNDING:** This project was supported by a grant from Pink Ribbon, the Netherlands.

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P3-15

Factors Associated With Physical Activity Intervention Adherence and Maintenance in Cancer Survivors During and After Treatment: A Systematic Review

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BACKGROUND: Beneficial effects of physical activity (PA) and exercise among in cancer survivors depends on intervention adherence and maintenance. The associated factors need to be identified to further improve and personalize interventions. We aimed to systematically review factors associated with PA adherence and maintenance in cancer survivors. **METHOD:** Studies were identified by searching PubMed, Embase, PsycINFO and SPORTDiscus from inception to April 2012. We included full-text articles that: (1) were performed in adult cancer survivors; (2) quantitatively assessed (a) PA intervention adherence and maintenance, and (b) potentially associated factors; (3) were published in English. The methodological quality of the selected studies was examined. A best evidence synthesis was applied providing summary scores for associations evaluated in three or more studies. **RESULTS:** Nineteen studies were included and generally had high methodological quality (67–92% of maximum score). They investigated associations of 73 personal and 6 environmental factors with adherence, and 68 personal and 4 environmental factors with maintenance. Only few summary scores could be calculated. Socio-demographic (age, marital status, education and employment) and clinical factors (disease stage, time since diagnosis, and treatment regime) were not associated with PA adherence. Patients in higher stage of change had higher PA adherence. Higher age, instrumental attitude and PA levels after diagnosis were associated with higher PA maintenance. **CONCLUSIONS:** Evidence on factors influencing intervention adherence and maintenance in cancer survivors is limited but indicate that personal and environmental factors may play a role. Additional research is needed to understand and act on barriers to improve PA. **ACKNOWLEDGEMENT OF FUNDING:** This study is supported by the Alpe d'HuZes/KWF Fund. The research grant is provided by the Dutch Cancer Society.

P3-16

Work it Out: The Six Steps of Intervention Mapping Process for Designing a Self-Led Return-to-Work Intervention Tool

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BACKGROUND: There are few UK-based return-to-work (RTW) interventions for those affected by and living beyond cancer, that brings together the expertise of healthcare professionals and employers in supporting the individual to RTW. There is an essential and urgent need for interventions for those affected by cancer that identify work adjustments or ways to manage work with regard to their cancer-related health. We therefore developed a work-related guidance tool (Work it Out) to address this issue. **METHOD:** The six steps of the intervention mapping process (Bartholomew et al., 2006) were used to guide the development of the Work it Out tool: (a) needs assessment, (b) the Identification of outcomes, performance objectives and change objectives; (c) selecting theory-based methods and practical strategies; (d) developing program components and materials; (e) planning for program adoption, implementation, and sustainability; and (f) planning for evaluation. Each step leads to a product that guides the next step. **RESULTS:** A needs assessment identified the “gaps” in information/advice received from healthcare professionals and other stakeholders. The intended outcomes and performance objectives for the tool were then identified followed by theory-based methods and an implementation plan. The tool was designed to be a self-led tool that can be used by any person with a cancer diagnosis and working for most types of employers. **CONCLUSIONS:** The intervention mapping process to develop the tool took 9 months to complete. To our knowledge, no similar technique has been used for developing RTW interventions for those affected by cancer. **RESEARCH IMPLICATIONS:** Intervention Mapping is a valuable protocol for designing complex guidance tools. The process and design of this particular tool can lend itself to other situations both occupational and more health-care based. **CLINICAL IMPLICATIONS:** The tool promotes consultation and discussion with a range of different healthcare professionals, employers, employment agencies and support services who are all involved in the RTW of an individual diagnosed and treated for cancer. **ACKNOWLEDGEMENT OF FUNDING:** UK

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P3-17

Effects of a Brief Outpatient Rehabilitation Program for Cancer Patients on Physical Activity, Return to Work and Quality of Life

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BACKGROUND: Oslo University Hospital, Radiumhospitalet, is offering a multidisciplinary outpatient rehabilitation program (ORP) to cancer patients who have recently completed their treatment for lymphomas, breast and gynecological cancers. The program is funded by the Norwegian Government program “Fast return to work (Fast-RTW)”. The aim of this study was to assess the effects of a brief ORP with attendance once a week over seven weeks on physical activity, work status and quality of life. **METHOD:** All participants were within employment age and had to be on sick-leave or in need of sick-leave. Each day of the program consisted of a patient education session for two hours, followed by a one hour lunch break for “small talk”. Then followed two hours with physical activity/relaxation. Data were collected at baseline (T0), at the end of the intervention (T1), and at 6-months follow-up (T2) using items from the Health Survey of Nord-Trøndelag County (HUNT), The Core Quality of Life Questionnaire of the European Organization for Research and Treatment of Cancer (EORTC QLQ-C30) and patient’s report on work-status. **RESULTS:** 93% of 172 participants completed the program. Mean age was 52 years. The proportion on sick leave decreased from 65% at T0 to 12% at T2. At T2 69% of the participants were in full or partial work compared to 27% at T0. Increase in physical activity from T0 to T2 was observed in terms of increased frequency, duration and intensity of exercise habits. Those who improved their work status during the study period reported a higher level of physical activity, indicating a correlation between physical activity and increased work ability. HRQoL domain scores improved significantly from T0 to T2. **CONCLUSIONS:** Our brief multidisciplinary outpatient rehabilitation program for

patients after treatment for cancer was feasible. The patients reported increased physical activity and increased work rate 6 months after termination of the program. There seems to be a positive correlation between returning to work and degree of physical activity. **RESEARCH IMPLICATIONS:** The results of the program should encourage further research on the effects of this type of brief, low cost, outpatient multidisciplinary rehabilitation program for other types of cancer patients. Future studies should also examine which patients will have the greatest benefit from such a program. **CLINICAL IMPLICATIONS:** This study highlights the importance of structured group-based physical activity as an important ingredient of a multidisciplinary rehabilitation program. **ACKNOWLEDGEMENT OF FUNDING:** The program is funded by the Norwegian Government program "Fast return to work (Fast-RTW)".

P3-18

Physical and Mental Support in Young Patients During Cancer Treatment, a Multidisciplinary Pilot Intervention Study

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BACKGROUND: Coping with cancer treatment is reported to be challenging for young patients, in particular, but studies regarding this subject are limited. The main aim of this study was to evaluate whether an intervention with group based physical exercise combined with oncology nurse counselling and psychologist consultations given to young cancer patients during treatment are associated with physical function, level of anxiety and depression. **METHOD:** This multidisciplinary pilot intervention study included young adult cancer patients diagnosed with cancer of testis, breast, the lymphatic system or gynecological cancer, and were carried out during adjuvant cancer treatment. The intervention included a group based physical exercise program lead by a physiotherapist for 90 minutes, twice a week in 12 weeks and in addition oncology nurse counselling and psychologist consultations. Physical function and Hospital Anxiety and Depression Scale (HADS) were assessed at baseline, 12 weeks and at 6 months. The effect of the intervention on physical function and mental health were analysed by using parametric/non-parametric tests, including qualitative methods. **RESULTS:** We observed among these young (28 ± 4 years) cancer patients ($n = 19$) an increase over time in physical function ($p < 0.05$): Max Step Length tests and the Sit-to-Stand test increased by 9.2% to 15.5%, and by 9.9% to 18.7% from baseline to 12 weeks and 6 months, respectively. The Astrand

fitness test improved suggestively with 25% at 6 months follow-up ($p = 0.071$). Grip strength and HADS did not change from baseline to follow-up. Adherence to follow-up during 12 weeks cancer treatment was mean 8 ± 5 weeks. Qualitative reports supported a multidisciplinary approach during cancer treatment. **CONCLUSIONS:** These results indicate that this multidisciplinary approach with group based exercise and counselling during treatment may play a role for young adult cancer patients in relation to physical function, anxiety and depression. However, the results must be interpreted with caution due to small sample size, drop-outs and no reference group included. **RESEARCH IMPLICATIONS:** Our small pilot study should be looked upon as hypothesis generating, only. However, our study support that the multidisciplinary approach including both physical and mental support in young cancer patients during adjuvant treatment should be assessed in larger RCT's. Furthermore, additional measurements i.e of physical function, fatigue and coping strategies, should be included. **CLINICAL IMPLICATIONS:** This multidisciplinary pilot study in young adult patients indicates that physical and mental support during adjuvant cancer treatment is feasible in a vulnerable period of life and serious treatment, but needs to be replicated. **ACKNOWLEDGEMENT OF FUNDING:** The Norwegian Cancer Society and Active Against Cancer supported the study.

P3-19

Emotional and Psychological States of Patients With Dyschezia Following Low Anterior Resection for Rectal Cancer

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BACKGROUND: The patients who received the low anterior resection for rectal cancer show characteristic symptoms of dyschezia such as frequent defecation, feeling of incomplete evacuation, urgency, difficulty in discerning stools and gas, and soiling and have difficulties in their social lives. The current study attempts to investigate emotional and psychological states of the patients with dyschezia following the low anterior resection for rectal cancer. **METHOD:** We conducted interviews with 13 patients who received low anterior resection for rectal cancer (mean age 62.3; SD = 11.5; 4, 2, 6, and 1 cases of stage I, II, III, and IV, respectively) 1–3 times for each patient 2–13 months after the operations. We evaluated defecation symptom using Defecation Dysfunction Assessment Scale (DDAS; range 9–36), asked about lives, assessed psychological states using POMS, and asked to grade defecation symptom out of 100 points. POMS was calculated using standardized T score. Dyschezia was evaluated by defecation frequency and DDAS. Six subjects

were interviewed more than once and their clinical courses were analyzed. **RESULTS:** Mean values of POMS items showed TA = 47.2 (SD8.78), D = 49.2 (SD8.36), AH = 46.2 (SD7.62), V = 50.6 (SD8.27), F = 45.2 (SD8.90), and C = 49.8 (SD10.27). Ten cases showed greater values compared with standard scores. Their self-evaluation was 50–95, and DDAS was 10–26. Emotions were improved during the time (6 cases). However, in the case that showed high scores as 60–70 except for V even 3 months after the resection, most items except for one showed high values around 60 even 1 year after the operation. DDAS of this patient was higher than that of other cases. The self-evaluation was low as 50 even 13 months after the operation. **CONCLUSIONS:** Gradual improvement in defecation symptom tends to cause improvement of psychological state. However, many cases showed high POMS which is far higher than the standard score as 50, suggesting the necessity of the care for psychological stability. Especially, the item “confusing” showed high score, reflecting the non-predictable and out-of-control defecation after the operation. Besides, low self-evaluation score could be associated with emotional instability. **RESEARCH IMPLICATIONS:** Instable emotion could be caused not only by the defecation dysfunction but also by the low self-evaluation. Thus, the improvement of self-evaluation could improve emotional stability despite of continuous defecation dysfunction. This would be addressed in future studies. **CLINICAL IMPLICATIONS:** In some cases, patients who received the low anterior resection for rectal cancer feel confusion because of the out-of-control defecation symptom. Although gradual improvement in defecation dysfunction tends to stabilize emotion, the patients with low self-evaluation could still feel confusing and need psychological care. **ACKNOWLEDGEMENT OF FUNDING:** The study was supported by Grant-in-Aid for Scientific Research (C) (No. 23593221).

P3-20

Patterns of Daily Physical Activity and Fatigue in Cancer Survivors: A Pilot Study

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BACKGROUND: Cancer-Related Fatigue (CRF) is a distressing and debilitating symptom which affects a third of all cancer survivors who finished curative treatment. Activity management is frequently included in the management of CRF. However, the evidence of the beneficial effects of activity

management on CRF is scarce. The aim of our study was to explore patterns of fatigue and physical activity throughout the day to see how physical activity is related to self-reported fatigue in cancer survivors. **METHOD:** Physical activity was measured with a MTx inertial 3D-motion tracker, for 5 consecutive days from 8 am to 8 pm in cancer survivors (free from cancer, last treatment \geq 3 months ago). Simultaneously, fatigue was scored thrice daily (morning, afternoon, evening) by survivors on a mobile phone with a 0–10 VAS scale. Changes in fatigue and physical activity throughout the day were tested with Repeated Measures ANOVA. Possible associations between fatigue and physical activity on the different day parts were explored with non-parametric correlations (Kendall's Tau). **RESULTS:** 18 cancer survivors (6 male; mean age 55.7 ± 10.2 years) were included. Time since last treatment ranged from 3 to 204 months, and 83% of the survivors underwent combined treatment of surgery, radiotherapy and/or chemotherapy. Cancer survivors reported a significant increase in fatigue throughout the day ($p = 0.001$); fatigue increased from an average of 3.7 in the morning to 5.1 in the evening. At the same time, a significant decrease in physical activity was observed from morning to evening ($p = 0.003$). Self-reported fatigue in the evening showed a significant relationship with activity in the afternoon ($p = 0.009$), and a trend with morning activity ($p = 0.07$). **CONCLUSIONS:** Cancer survivors that finished curative treatment reported increasing levels of fatigue throughout the day. The increase in fatigue accompanied a decrease in level of physical activity. Survivors that showed highest activity in the morning and afternoon also reported higher levels of fatigue in the evening. This suggest that adequate management of daily physical activity could aid in management of CRF. **RESEARCH IMPLICATIONS:** Although the present study suggest that daily physical activity patterns are associated with self-reported levels of fatigue in cancer survivors, no causal relationship between physical activity and fatigue could be established. Furthermore, an indepth analysis of physical activity patterns in an adequate powered study is necessary to clarify how and in which population of cancer survivors activity management could aid in decreasing CRF following cancer treatment. **CLINICAL IMPLICATIONS:** Activity management is an important aspect of current CRF treatment protocols. Our study partly supports the assumption that levels of daily physical activity are indeed associated with self-reported fatigue. However, due to the cross-sectional design, no conclusions can be drawn from the present study about the effect of activity management in daily life on fatigue. More research is needed that determines the clinical evidence of activity management in the management of CRF following primary treatment. **ACKNOWLEDGEMENT OF FUNDING:** This

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P3-21

Cognitive Functions Among Adult Lymphoma Cancer Survivors

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BACKGROUND: Cognition is a complex process which is needed intact to deal with the complex world. Cognitive deficits associated with cancer treatment and the disease itself can have a dramatic effect on patients' quality of life. The primary purpose of the study was to find out the cognitive function among lymphoma cancer survivors **METHOD:** Adult Lymphoma survivors ($N = 60$) who reports to the medical oncology OPD in Cancer Institute (WIA) for follow-up were included by using purposive sampling technique. Long-term adult lymphoma cancer survivors ($N=60$: male = 38.30% & female = 61.70%) were taken at least 2 years from the completion of last chemotherapy cycle and presently not receiving cancer treatment, and disease-free of lymphoma who had been treated with systemic chemotherapy. NIMH-ANS neuropsychological battery was administered to the cancer survivors to understand the level of memory, attention, motor function & psychomotor function. **RESULTS:** Descriptive statistics which revealed the Mean, Standard deviation and percentage of socio-demographic variables such as age ($M = 36.83$; $SD=12.58$), Survival rate ($M = 6.1$; $SD = 7.8$), Diagnosis ($HD = 48.30\%$; $NHL = 51.70\%$). Survivors who treated with systematic chemotherapy shows deficit in long term memory (26.7%), working memory (35%), selective attention (36.8%), and in psychomotor ability (21.8%). Mann U Whitney test and ANOVA, controlling for age and education respectively, revealed that adult lymphoma survivors scored significantly lower on the battery of neuropsychological tests, particularly in the domains of working memory ($p < 0.004$) and verbal memory ($p < 0.023$) respectively. **CONCLUSIONS:** From the above study it can be concluded that the adult lymphoma survivors deficit in cognitive functions particularly selective attention, visual, verbal, and working memory, and Psycho-motor speed. This reveal that not only patient who are affected by CNS cancer are getting cognitive impairment but also patients who are diagnosed with local cancer like lymphoma also having impairment in cognition **RESEARCH IMPLICATIONS:** In India this is the first study were done in cognitive functions among adult lymphoma cancer

survivors **CLINICAL IMPLICATIONS:** Incidence rate of adult lymphoma has been increasing in worldwide. The major problems facing by the clinicians are about the quality of life of the survivors. So, this study gives the insight about the neuropsychological problems facing by the survivors because this might leads to poor quality of life **ACKNOWLEDGEMENT OF FUNDING:** For this abstract we did not get any funding from the private sector and also from the government. In future if we get funding, we will compare the cognitive functions with CNS cancer survivors, Lymphoma survivors and normal peoples to give a clear picture about the deterioration of cognitive function.

P3-22

Work it Out: Development of a Self-Led Return-to-Work Intervention Tool Using a Delphi Consensus-Building Method

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BACKGROUND: Involving stakeholders in the design of interventions is an important aspect of developing patient-centred resources. For those living with and beyond cancer there are few UK-based stakeholder-informed resources available to support the individual in returning to work. The Delphi technique provides a systematic method of gaining consensus from a variety of stakeholders within their domain of expertise. This method was used to develop a patient-centred work-related guidance tool to manage return-to-work issues. **METHOD:** The first draft of the tool consisted of questions divided into four chronological categories to represent the stages of the cancer journey in relation to work. Within each of the categories the questions were organised into three themes (health, finance, work). Consensus and validation of the tool were achieved in a two-round Delphi procedure. Respondents rated the relevance of each item on a 9-point Likert scale, and indicated to whom each question should be asked. To assess the extent of agreement between experts the interquartile range (IQR) was calculated for each item. Perceived relevance was assessed using median ratings. **RESULTS:** In round one of the Delphi procedure 172 respondents were provided with a 43-item resource and given four weeks to respond. In addition to their ratings they could suggest alternatives and provide qualitative feedback. All questions that achieved good consensus were also perceived as highly relevant. Questions that did not achieve consensus were re-evaluated in the second round (139 respondents; 80.9%). Two new questions were included based on feedback from round one. Based on the same statistical procedures used in round

one, a final 40-item guidance tool was piloted with 35 individuals living with and beyond cancer. **CONCLUSIONS:** This work-focused guidance tool provides people living with and beyond cancer with a sense of empowerment by promoting a proactive approach when addressing work-related issues and encouraging effective communication with healthcare and other professionals. Novel aspects of the tool include its relevance for individuals with most types of cancer and in a variety of work situations. The results of the pilot study suggest that it is welcome and needed by those living with and beyond cancer and by other relevant stakeholders. **RESEARCH IMPLICATIONS:** This study used a rigorous, systematic and evidence-based methodology to develop a practical guidance tool aimed at empowering those living with and beyond cancer to manage work-related issues. The Delphi technique is a practical and cost-effective method that may be adapted for use in a variety of healthcare contexts. **CLINICAL IMPLICATIONS:** The guidance tool aims to promote exchange of information between patients, healthcare professionals and other stakeholders, therefore has the potential to enhance communication between these groups. **ACKNOWLEDGEMENT OF FUNDING:** NATIONAL CANCER SURVIVORSHIP INITIATIVE (DEPARTMENT OF HEALTH AND CANCER MACMILLAN SUPPORT):

P3-23

Predictors of Distress in Cancer Patients Under Chemotherapy Treatment

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BACKGROUND: Cancer diagnosis and treatment promote a sense of vulnerability, sadness, and fear for patients, often resulting in distress. When this happens quality of life, satisfaction with care and treatment adherence can be greatly affected. Managing this situation may require to use a variety of coping strategies for psychosocial adjustment. The present purpose was to identify variables (sociodemographic, problem list, quality of life and coping) that predict moderate to severe distress (MSD) and mild distress (MD). **METHOD:** Two hundred patients from a Brazilian cancer patients participate, answering before start chemotherapy (T1), halfway time point (T2) and at completion of treatment (T3): Distress Thermometer (DT) and Problem List (PL); Functional Assessment of Chronic Illness Therapy - General (FACT-G); Ways of Coping (WAYS). They were between 18–89 years old ($M = 56.8$; $SD = 15$), being 69.5% women, 63% married, and 55% had at least college degree.

The main diagnosis were breast (30%), hematology (22%) and gastrointestinal (17.5%), being 59.5% with advanced disease stage. Logistic regression were used to identify predictors of distress. **RESULTS:** At T1, predictors for MSD were married/divorced ($x^2 = 15.4$; $p = 0.05$), housing ($x^2 = 19.2$; $p = 0.002$), family ($x^2 = 11.5$; $p = 0.003$) and emotional problems ($x^2 = 99.9$; $p = 0.000$; $R^2_N = 53\%$); for MD: distancing/positive reappraisal ($x^2 = 42.1$; $p = 0.000$). At T2, spiritual problems ($x^2 = 7.56$; $p = 0.006$) and nausea ($x^2 = 52.9$; $p = 0.000$; $R^2_N = 54\%$) for MSD; distancing, problem solving and positive reappraisal ($x^2 = 24.9$; $p = 0.001$) for MD. At T3, only family problem [$x^2 = 5.5$; $p = 0.05$] for MSD. **CONCLUSIONS:** There was a statistically significant reduction in distress and an increase in quality of life over assessments. Our observation linking MSD to marital status (T1) and some problems at PL, and MD predicts coping strategies. This findings have an impressive prediction success, mainly for emotional (T1), and nausea (T2). Quality of life did not appear as a predictor. The same occurs for age, gender, education, diagnostic and staging. Moreover, patients with MSD at T1 have an increased probability to present MSD at T2 and T3, which reinforces the literature data - the best predictors of later distress is early distress. **RESEARCH IMPLICATIONS:** Continued research is needed to understand how distress relates to quality of life, gender, age, cancer type and severity, treatment and symptom burden throughout the continuum of care. **CLINICAL IMPLICATIONS:** There is no doubt about the importance of detecting distress in cancer patients as early as possible, in order to facilitate rapid and targeted intervention for those who will need it most, as well as the importance of the follow-up. But, understand the predictors of distress during the treatment could be a key to improve cancer care, given more indicators to direct psychosocial care. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-24

A Preliminary Perspective of Distress Prevalence by Diagnosis and Disease Stage in a Sample of Brazilian Cancer Patients

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BACKGROUND: In 2001, a study demonstrated the prevalence of distress for 14 cancer sites in a study of 4496 cancer patients. They reported that the prevalence ranged from 43.4% for lung cancer to 29.6% for gynecological cancers. The present study aims to investigate the prevalence of distress by cancer sites in a Brazilian cancer patients, during the chemotherapy treatment. **METHOD:** Participants comprised 525 patients who treat at private

cancer center, located at Brasília, DF, Brazil. They answered the Distress Thermometer (DT) before start chemotherapy infusion (T1), halfway time point (T2) and at completion of treatment (T3). The mean age of the participants was 55.6 years (range 18–89; SD = 15.5); 66.1% were female; 62.1% were married and 59.8% had at least college degree. The diagnosis were breast (26.1%), gastrointestinal (24%), hematological (22.5%), gynecology (9.3%), lung (6.9%), genitourinary (4.2%) and others types of cancer (7%). Descriptive analysis and linear regression of DT and diagnosis were carried out. **RESULTS:** The prevalence of distress at T1 range from 59.2% for gynecology cancer patient to 48.3% for hematological. At T2, this range from 27.7% for gynecology to 17.1% hematological. At T3, 17.4% for lung to 6.7% gynecology. The predictor of distress at T1 and T2 was gynecological ($p < 0.05$). Cancer site had a significant effect on DT at T2 ($F = 2.7$; $p = 0.03$). The prevalence of distress by disease stage were highest for stage IV and lowest for stage I at T1 and T2, and stage III at T3. In this analysis, disease stage did not predict distress. **CONCLUSIONS:** Unlike study published in 2001, gynecology cancer patients showed to be the cancer site that report more frequently moderate to severe distress. In our study, lung cancer held the second position at T1, gastrointestinal at T2 and breast at T3. Probably the results obtained at T2 and T3 suffered the impact of the chemotherapy side effects; and for patients with advanced disease stage the perception of disease progress. Finally, the linear regression analysis determine gynecology cancer as a predictor of distress just for T1 and T2 assessment, and any cancer site for T3; either, any disease stage for all assessment. **RESEARCH IMPLICATIONS:** Future research should included patients from others cancer center, and others cities in Brazil, in order to establish the Brazilian prevalence. Moreover, to explore the relationship between distress and illness perception across time; and analyze if there is any effects for gender, or others demographic data. **CLINICAL IMPLICATIONS:** Draws attention the high prevalence of distress for all cancer site at T1, which confirms that cancer diagnosis is the time of greatest vulnerability to psychological morbidity; but, brings our attention to create strategy to minimize distress before patients start chemotherapy. The further reduction, brings us the idea that this results is not only derived from the patient's adaptation to cancer and treatment, but also from our routine of cancer care. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-25

Breast Cancer Patients: The Relationship of Chemotherapy Regimen and Distress Levels on Different Stages of Treatment

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BACKGROUND: Cancer patients face numerous stressors in physical, emotional, social and spiritual life domains, not only because of the stigma related to this disease, but mainly because the treatment has a substantial amount of acute and late symptoms. The current literature emphasizes the effect of cancer, disease stage and treatment type on distress levels. In this study we examined the chemotherapy regimen (CR) relationship with distress levels on different stages of treatment. **METHOD:** Ninety women with breast cancer completed the Distress Thermometer (DT) and Problem List (PL) before first chemotherapy infusion (T1), halfway time point (T2), and at completion of treatment (T3). Five types of CR were prescribed: 34.4% of the patients took AC-TX (doxorubicin/cyclophosphamide/paclitaxel) regimen, 23.3% TC (docetaxel/cyclophosphamide), 14.4% TXT (doxorubicin/cyclophosphamide/docetaxel), 14.4% TAC (docetaxel/doxorubicin/cyclophosphamide), and 13.3% FEC (fluorouracil/epirubicin/cyclophosphamide). The data was analyzed with three-regressions of DT as dependent and CR as independent variables (controlling for age, marital status and disease stage) followed by a repeated measures ANOVA with CR as independent and five problems as dependent variables (practical, family, emotional, spiritual, physical). **RESULTS:** Severe to moderate distress (SMD) was reported by 48.9% of the patients at T1, 18.9% at T2 and 15.6% at T3. The most reported emotional problems were for FEC (fears, worry, sadness) and TXT (worry, depression, nervousness). For physical problems were AC-TX (constipation, fatigue, pain, appearance), TXT (appearance, sleep, nausea, fatigue) and TAC (fatigue, appearance, pain). Only TAC was a significant predictor of distress at T1 ($p = 0.004$) and T2 ($p = 0.02$) while TXT regimen was significant at T3 ($p = 0.04$). The repeated measures ANOVA revealed a significant interaction between CR and Physical problems ($p = 0.02$). **CONCLUSIONS:** The incidence of SMD and problems-related distress decreased between T1 to T3, despite the increase of patients' side effects. FEC and TXT causes more emotional problems and AC-TX, TXT and TAC more physical problems. Considering the toxicity of the protocol, these results are consistent with the literature. The highest problem-related distress

associated with CR was physical problems. Moreover, TAC showed to be predictive of distress in T1 and T2. **RESEARCH IMPLICATIONS:** Our results indicate that CR predicts distress in all treatments phases. Nonetheless, the effects of chemo can be persisted even after the end of treatment; and breast cancer survivors have increased risk for distressful symptoms related to fear of recurrence, death and disability. More studies are thus needed to investigate those factors increasing the sample in order to make the data more generalizable. **CLINICAL IMPLICATIONS:** The findings suggest a very positive benefit from the discussion between psychologist and physician, in which side effects and distress during treatment are addressed. It is important to create a strategy to help cancer patients to deal with chemo, mainly for patients who report problems related to TAC and TXT. This strategy could be related to tailored psychosocial education, preventive care for side effects, psychological management intervention, coping strategies and should be reinforced regularly. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-26

Abstract withdrawn

P3-27

Screening and Treatment of Psychological Distress in Colorectal Cancer (CRC) With Metastasized Disease: The TES-Trial.

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BACKGROUND: We have developed the TES program, which involves Targeted selection and Enhanced care, delivered on the basis of Stepped care. Our goal is to present the design of the study. The primary study aim is to evaluate the effectiveness of the TES-program compared to usual care in reducing psychological distress in metastasized CRC patients. Secondary aims include the evaluation of the impact of the TES-program on several other outcome measures and to evaluate the cost-effectiveness. **METHOD:** *Study design* The study is designed as a cluster randomized trial with 2 treatment arms in 10 hospitals. The treatment arms are: the TES program versus usual care. Outcomes are evaluated at the 1st cycle of chemotherapy, after 3 weeks, 10 weeks, 24 weeks and 48 weeks. *Study population* Patients with metastasized colorectal cancer, 18–85 years old, at start of treatment with 1st

line chemotherapy. *Interventions* The TES program, which involves Targeted selection (screening at 0, 10 and 18 weeks) and Enhanced care, delivered on the basis of Stepped care (from watchful waiting to psychotherapy), and usual care. **RESULTS:** There are no results available yet. **CONCLUSIONS:** There is no conclusion available yet. **RESEARCH IMPLICATIONS:** This is the first randomized controlled trial on this scale in which a combination of Targeted Screening, Enhanced Care and Stepped Care is compared to usual care in reducing psychological distress in metastasized CRC patients. Furthermore the cost-effectiveness is determined. **CLINICAL IMPLICATIONS:** The results of this study will show whether targeted screening, enhanced care and stepped care will have an impact on the levels of psychological distress in metastasized CRC patients. It will support guidelines in which screening and treatment is advocated or it will show that it cannot be assumed that implementation of screening and treatment leads to improvement in detection, management or outcome of psychological distress. **ACKNOWLEDGEMENT OF FUNDING:** The TES-trial was funded by KWF/Alpe d'HuZes. VU 2011-5279.

P3-28

The Construction of Cancer Cause: From Identification to Psychosocial Dynamic

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BACKGROUND: Causality is one of the most important illness representations dimensions. For patients, the process that accompanies the identification of illness cause constitutes a key component of the “search for meaning”. The study purpose is -(1) THE TYPOLOGY OF CAUSE PRODUCED BY PATIENTS,; -(2) the potential role and impact of the construction of cancer cause by patients on different dimensions of illness experience of patients (coping, psychological distress, quality of life). **METHOD:** The survey was conducted using a self-administered questionnaire amongst 110 cancer patients (67.3% males; mean age 62.4) with chemotherapy treatment from the multidisciplinary oncology and therapeutic innovations department of Marseille North University Hospital (France). Illness representations were assessed with the Brief IPQ (Broadbent et al., 2006). Responses to the causal item (open-ended response item) were grouped into categories (psychological, internal, external

and accident). The MAC (Watson et al., 1988) was used to measure mental adjustment of patients; the HADS (Zigmond & Snaith, 1983) to assess psychological distress, and the QLQ-C30 (Aaronson et al., 1993) to evaluate quality of life. **RESULTS:** The principal cause cited by patients is the internal cause. Almost twenty percent of patients does not evoke any cause to their cancer. Women declare more psychological cause and less external cause than men. Smokers or ancient smokers declare more internal cause and less psychological cause than non-smokers. Patients who report psychological causal attribution present more anxious preoccupation adjustment. Patients who report internal causal attribution have higher scores on anxiety, depressive and anxious preoccupation adjustment, and lower score on fighting spirit. Patients who do not report causal attribution have higher scores on anxiety and depression. **CONCLUSIONS:** The research of aetiology of cancer is a major part of cancer acceptance for cancer patients. Even if this question is hidden behind defense mechanisms and collective social influence it is at the origin of many misunderstanding in doctors/patients relations. Psycho-oncology has now many tools to understand the unconscious cause of cancer in patients. This could be the way to have a better approach of cancer cause meaning. **RESEARCH IMPLICATIONS:** Absence of cause as presence of multiples causes or links between some causes and psychological components, constitute a heuristic way to analyze illness experience. In other words, what is the function of causal attribution? Future work will aim to identify the processes involved into the "construction of the cause" (e.g. coping, identity issues, social norms, changes due to the experience of illness, psychosocial constraints associated the evocation of the cause). **CLINICAL IMPLICATIONS:** Because of its limitations, the process of identification of cancer cause needs to be questioned by the psycho-oncologists in a psychosocial way. The psycho-oncologists could accompany patients concerning their construction of the cause, because this elaboration may produce some suffering (e.g. anxiety, depression, guilt). This kind of study allows to identify and to analyze the psychological needs of patients in a pragmatic and applied way in the perspective of supportive care in oncology. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-29

A Breast Cancer Specific Screening Questionnaire for Psychosocial Problems: The PDQ-BC

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BACKGROUND: Although different psychosocial screening instruments exist, these instruments are all generic and not cancer type specific. To assess psychosocial problems and risk factors specifically relevant for patients with breast cancer, we developed the Psychosocial Distress Questionnaire-Breast Cancer (PDQ-BC). The aim of this study was to examine the psychometric properties of the PDQ-BC, a breast cancer specific screening list. **METHOD:** Before the start of adjuvant chemotherapy, 164 (98.8%) women completed the PDQ-BC as routine care. The PDQ-BC consists of 35 questions about psychological risk factors (trait anxiety, (lack of) social support), psychosocial problems (state anxiety, depressive symptoms), social problems, physical problems, body image, financial problems, sexual problems, clinical factors (type of surgery, radiotherapy, hormone therapy, psychiatric morbidity), and demographic factors (marital status, age, age of children). Varying numbers of patients also completed the WHOQOL-100, the CES-D, the DT, and the HADS. Fifty-four patients completed the PDQ-BC twice (one week interval). CFA, Pearson correlations, ICC, and chi-Square tests were used. **RESULTS:** CFA supported the internal structure of the PDQ-BC (CFI = 0.95 NNFI = 0.91; RMSEA = 0.073). The PDQ-BC subscales' Cronbach's alphas ranged from 0.69 to 0.88, except for Social problems (0.42). Moderate to high correlations ($r \geq 0.44$) were found between subscales of the PDQ-BC and the other questionnaires where expected. Low correlations with other questionnaires were found when expected. The subscales Trait anxiety and State anxiety had a high correlation with the CES-D. The subscales State anxiety and Depressive symptoms (PDQ-BC) had a good sensitivity (87.5–78.6) and specificity (81.1–73.0). Completion of the PDQ-BC takes about 5 minutes. **CONCLUSIONS:** This study shows that the breast cancer specific screening instrument PDQ-BC has good psychometric properties and takes only a few minutes to complete. **RESEARCH IMPLICATIONS:** The PDQ-BC can be used in intervention studies in which breast cancer patients scoring high on psychosocial problems are included in studies examining the effectiveness of innovative psychosocial interventions. **CLINICAL IMPLICATIONS:** Considering the psychometric properties of the PDQ-BC, this screening instrument can be used to screen for psychosocial problems in patients with breast cancer as part of routine care. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-30

Trends in Cancer Distress: Results of a Representative Population-Based Investigation

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BACKGROUND: Hungary has the highest rate of cancer deaths in Europe, but trends in cancer distress are still unknown. In the last decade depression has increased in the general population, in both genders with an ascending pattern through age-categories. This study aims to inform about major tendencies in the modification of depression and well-being among cancer patients, specific to the Hungarian context. There are no previous longitudinal investigations on psychosocial aspects of cancer diseases in Hungary. **METHOD:** Our study is based on data obtained from the Hungarostudy Epidemiological Panel (HEP). HEP is a nationally representative follow-up survey assessing health-related functioning in the Hungarian adult population. Self-report data were collected in two waves: the first set of the data in 2002, and the second one in 2005/2006. Our results are based on the complete results of 4524 participants. In the initial sample 6.5% of respondents reported that they had been treated for cancer, 214 were female and 64 were male. The WHO Well-being Index and Beck Depression Inventory were completed. Non-parametric tests were used in all statistical analyses. **RESULTS:** Half of cancer patients deceased from 2002 to 2006, a third of them are in remission and 17% experienced cancer recurrence in this period. Although cancer mortality during this time was 26% higher for men compared to women, gender had no or marginal impact on levels and trends of cancer distress. Our results indicated declining trends in self-efficacy, sense of coherence and satisfaction with life, and ascending patterns for hostility and subjective well-being. Effect sizes were small to medium. Median depression scores were significantly higher in the recurrence group than that in remission, but overall they showed no relevant changes. **CONCLUSIONS:** In this longitudinal study high cancer mortality rates were confirmed as significant factors associated with psychosocial burden of cancer were highlighted. For depression a ceiling effect was found, that contributes to invariable adverse health effects over time though cancer patients might counterbalance these influences with "response shift" adaptation processes, reflected in favorable changes of subjective well-being. Recurrence in cancer and male gender negatively impact trends in cancer distress and mortality, but lower well-being has significant effect only on women. There are no significant differences according to gender and age in depression. Satisfaction with life showed the strongest decrease in time.

RESEARCH IMPLICATIONS: A very important question refers to the cultural specificity of our results. This longitudinal study from a large representative sample of the Hungarian population is a model of best research for the Central Eastern European region, including Romania, where Hungarians are one of the largest minority groups. Although we did not set forth to establish causal relationships between investigated variables, future studies should address them between positive-negative affects and trends in cancer morbidity. **CLINICAL IMPLICATIONS:** Practical value of our results consists in the delineation of tendencies, and the identification of specific groups that may be more vulnerable to changing trends in cancer distress. Also, our results imply that unchanging depression values observed in this sample might be attributed to the extent to which depression remains uncontrolled among persons treated for cancer, making distress screening and treatment of depression clinical priorities. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by a grant of the Romanian National Authority for Scientific Research, CNCS - UEFISCDI, project number PN-II-RU-TE-2012-3-0011.

P3-31

Monitoring Quality of Life (QoL) and Distress in Patients With Breast Cancer: The Care Notebook Study

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BACKGROUND: Research has demonstrated that problems and needs of patients with cancer are not always adequately identified by health care providers. Regular assessment and discussion of QoL has shown to have beneficial effects on patient-provider communication and Patient Reported Outcomes. A study was initiated at the Clinical Oncology Department of the Leiden University Medical Center to incorporate repeated assessment of QoL, distress and care needs into the routine care for patients with early stage breast cancer. **METHOD:** A breast cancer specific QoL-monitor was constructed containing two validated QoL questionnaires (EORTC BR23 & Care Notebook), the Distress Thermometer, one free text dialog box for questions for the doctor, and one question about supportive care needs. A graphic summary was designed that showed current and all previous results from the QoL-monitor in the electronic patient dossier (EPD). Semi-structured interviews were conducted with 10 women with breast cancer.

Patients were asked to evaluate the content of the monitor on a 5-point Likert scale and to comment on their answers. Basic thematic analysis was used for the qualitative data. **RESULTS:** All patients thought the questions were easy to understand and applicable to their situation. All patients considered the questionnaire to be complete with no redundant items. With regard to the expected benefits, patients expected the questionnaire results could serve as a checklist, reducing chances of missing important information. In addition, patients expected that the monitor may facilitate the discussion of personal or intimate topics. Some patients were concerned that the introduction of the monitor would lead to an information overload for physicians. Two patients doubted whether the QoL monitor would improve the already high quality of care. **CONCLUSIONS:** Results from this study showed that in general, patients held a positive attitude towards the QoL-monitor. The instrument proved easy to understand and was considered as a comprehensive checklist for patients and physicians, possibly broadening the agenda of the conversation. For most patients the anticipated benefits of the assessment outweighed the burden of regularly completing the questionnaires (before each new cycle of chemotherapy). Nevertheless, patients occasionally were unsure about how the QoL information would be used in daily practice. **RESEARCH IMPLICATIONS:** This study has been followed by a multicenter randomized controlled trial in which the effect of a breast and lung cancer specific QoL-monitor is investigated. Study outcomes are consult variables (patient-provider interaction content, patient management, visit length) and Patient Reported Outcomes such as QoL, distress, patient satisfaction, illness perceptions and self-efficacy with regard to communication. **CLINICAL IMPLICATIONS:** To increase the discussion of QoL data during the visit, we now provide patients with a copy of the graphical summary of their QoL data just before the consultation. Furthermore, physicians receive a notification each time new QoL-data has been added to patients' EPD. Finally, all physicians have received a pocket guideline recently issued by the Dutch Comprehensive Cancer Centers with information about how information about QoL and distress can be used in daily practice. **ACKNOWLEDGEMENT OF FUNDING:** This project was supported by a grant from Pink Ribbon, the Netherlands.

P3-32

Psychometric Properties of the Hospital Anxiety and Depression Scale for Cancer Patients in the Mexican Population

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BACKGROUND: Symptoms of anxiety and depression are among the major mental health problems in cancer patients affecting quality of life, treatment adherence and more symptoms. Valid and reliable screening instruments such as the Hospital Anxiety and Depression Scale (HADS) has made possible the detection of possible cases of depression and anxiety in medically ill patients. The psychometric properties of this instrument have not been documented in different types of cancer diagnoses in the Mexican population. **METHOD:** Determine the psychometric properties of the HADS in a sample of patients with cancer in the Mexican population. 400 patients from the National Cancer Institute participated, of which 226 were women (56.5%) and 174 were men (43.6%), with a mean age of 47.4 ± 14.1 years. Participants completed concurrently the HADS as well as the following inventories: i) Beck Depression ii) Beck Anxiety, iii) Stress Thermometer. The sample of participants was obtained during consultations of Medical Oncology Services, Surgery, Radiotherapy and Psycho-oncology during the period from June to December 2012. **RESULTS:** A factor analysis adjusted to two factors explained 44.29% of the variance with 13 of the 14 items loading on these two factors in a way similar to the original version. The internal consistency of the overall scale was satisfactory ($\alpha = 0.82$). Cronbach's alphas for each subscale were .73 and .76. The concurrent validity assessed by way of correlations with concurrent measures showed significant associations (Pearson $r = .51-.71$, $p < 0.05$). **CONCLUSIONS:** The HADS has adequate construct validity, internal consistency and concurrent validity for use in cancer patients from the Mexican population. The relevance of these results is a cost effective tool to provide timely mental health care

early in oncological treatment for those in need. Detecting anxiety and depression symptoms through the HADS may benefit cancer patients by ensuring appropriate care that may increase quality of life, treatment adherence and reduce hospital stays. **RESEARCH IMPLICATIONS:** Being a brief instrument, easy to apply and reliable for the research in oncology population, it is relevant to determine the magnitude of the problem, arrive at and implement prevention measures for the treatment of deserving cases. **CLINICAL IMPLICATIONS:** Additionally adequate systematic identification of psychosocial damages is crucial order to identify the group of patients with more psychological effects and use that information to direct psychological interventions have shown beneficial effects in this group of patients, on the objective of maintaining acceptable parameters of psychological wellbeing in this population. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-33

How to Understand What Breast Cancer Patients Say About Their Distress? When Suppression Talks About of the Adaptation of Patients

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BACKGROUND: Results from Psycho-Oncology research vary in terms of the prevalence, intensity, and nature of anxiety and depression issues for patients evaluated by self-reported data. Clinical practice demonstrates large differences between the way distress is communicated and the way it is experienced, which may explain the diagnostic difficulties. **METHOD:** Objectives: To determine the intrapsychological factors explaining the difficulties in the evaluation of distress in Psycho-Oncology, using a scientific and clinical research approach. Prospective study. Sample: One hundred and one patients with breast cancer (initial or recurrence treatment). Instruments: Hospital Anxiety and Depression Scale (HADS), Rorschach-CS. Exploratory clinical and inferential statistical analyses. **RESULTS:** Our results concern two groups of anxiety-depressive patients: the Verbalise group, verbalizing psychological distress on HADS and identified on Rorschach, and Silence group, who did not express distress on HADS. Our approach compares clinical and qualitative analysis with statistical analysis of quantitative data. Our results reveal three intrapsychological variables that predict the adjustment of the communication of emotional distress: emotional inhibition, relational immaturity, and impact of situational stress. These factors allow us to establish, according to the interaction that they have with each other, two psycho-

logical dynamics: a neurotic-type functioning for Silence adjustment and an operative functioning for Verbalise adjustment. **CONCLUSIONS:** Our approach uses quantitative aspects of the nomothetic function of the HADS and the Rorschach-CS, and qualitative properties of the evaluation of psychological and subjective activity. As part of the standardized clinical methodology, the precision enabled us to isolate salient variables for the functioning of subjects in each of our analysis groups, and facilitated the comprehension of the particular underlying psychological dynamics. The statistical analysis of the quantitative data obtained in the second step, enabled us to extend the results in the aim of developing more pertinent diagnostic methods for appropriate follow-up. **RESEARCH IMPLICATIONS:** The research must integrate conscious and unconscious dimensions of the psyche. This research allows us to envisage a richer interpretation of the results obtained with the quantitative scales of self-assessment **CLINICAL IMPLICATIONS:** A better interpretation of scientific results evaluating distress will allow better care and appropriate support for cancer patients. **ACKNOWLEDGEMENT OF FUNDING:** GEF LUC AQUITAINE (GROUPEMENT DES ENTREPRISES FRANÇAISES DANS LA LUTTE CONTRE LE CANCER):

P3-34

Examining the Sustainability of Screening for Distress, the 6th Vital Sign, in 2 Outpatient Oncology Clinics

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BACKGROUND: Research indicates that cancer patients often experience significant distress during their cancer journey. Attention has shifted from if we should screen for distress to implementation. Routine Screening for Distress was implemented in two tumour groups at the Tom Baker Cancer Centre, Calgary, Alberta Canada in May 2010. The implementation was supported by program staff and December 2011 marked the completion of the implementation. This study examined the sustainability of Screening for Distress post-implementation. **METHOD:** A mixed-method cross-sectional design was utilized. To determine if screening rates, screening conversations and appropriate interventions occurred, the charts of 184 consecutive patients attending the head and neck or neuro-oncology tumour clinics over a three week period in May 2012 were reviewed. To examine the barriers and facilitators of sustainability 16 semi-structured interviews with administrators, physicians, and nurses were conducted from June-August 2012.

RESULTS: Of the 184 charts that were reviewed, 163 (88.6%) had completed screening tools on them. Of this 163, 130 (79.8%) of the charts indicated a conversation occurred with the patient about the screening tool. Of the 89 (54.6%) charts where the need for an intervention was indicated, 68 (76.4%) had an intervention documented. Six oncologists, 7 nurses, and 3 administrators were interviewed and five themes which influenced the sustainability of the program emerged: 1) attitudes, knowledge and beliefs about the program, 2) implementation approach, 3) outcome expectancy of providers, 4) integration with existing practices, and 5) macrosystem factors **CONCLUSIONS:** Patients continued to be screened 6 months after the completion of the implementation and nearly 80% of the charts indicated a conversation took place and an intervention was provided when warranted. This data suggests that screening was being sustained in the clinics but also highlight areas of improvement as they are slightly lower than the target of 90%. Based on the feedback from participants, sustainability may be enhanced and rates improved by ensuring that new staff are appropriately orientated to screening, by better integrating with existing practices, and by rolling out to all groups as a standard of care. **RESEARCH IMPLICATIONS:** Building on this work, future research is needed to explore strategies, including barriers and facilitators, to effectively integrate Screening for Distress with existing practices. Additionally more research is needed to explore what interventions are being provided and their alignment with best practices. **CLINICAL IMPLICATIONS:** This research suggests that Screening for Distress can be sustained as a clinical program beyond the completion of funding. Clinicians who are interested in integrating routine screening as part of their clinical practice are likely to find screening as a useful tool that enhances patient-provider communication; however, when integrating screening they should ensure the integration of screening with existing practices to optimize sustainability. **ACKNOWLEDGEMENT OF FUNDING:** Tom Baker Cancer Centre, Alberta Cancer Foundation, Psychosocial Oncology Research Training Program, Knowledge Translation Canada, and the Canadian Institute for Health Research.

P3-35

The Development and Validation of the Paediatric and Young Adult Distress Thermometer for Use With Oncology Patients

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BACKGROUND: To develop and validate a new version of the distress (worry and memory) thermometer for use in paediatric and TYA oncology

populations To pilot the developed tool for ease of use and content and design, and what was missing To compare screening tool against recognised gold standard measures. To assess the sensitivity and specificity of the new tool To develop clinically relevant cut off points for referral purposes **METHOD:** 1. cross sectional questionnaire design 2. Patients will be assessed using consecutive series of paediatric and young adult oncology patients 3. exclusion criteria:

- Estimated prognosis < 3 months,
- Not able to speak or read English. The sample size is $N = 108-215$ per age group = 540–1075 in total. **TOOL DEVELOPMENT:** A. Focus groups held with patients. Issues used to form the problem/coping list. B. Field testing. Five parallel developmentally sensitive versions with parent proxy thermometers were piloted ($n = 45$). C. Validation. Validated against gold standard measures and cut off points established. **RESULTS:** Pilot results: The age and developmentally-appropriate psycho-social screening tools were acceptable to patients and parents/carers, in terms of ease of use, design, content and accuracy of problem identification. Validation results: 260 participants recruited, 5 collaborating centres. **CONCLUSIONS:** Field testing of tool completed. Validation to be completed and then further research to be carried out using the tool prospectively both in clinic and remotely. Pilot the tool in clinic settings with the accompanying action plan and audit use, referral rate and actions taken. Drawing up of good practise guidelines with regards to applying this Health Needs Assessment (HNA) Tool in line with NICE and peer review guidelines, and ensuing repeated use during the patient pathway. New development and use of distress thermometer in paediatric and TYA settings using developmentally appropriate versions (under 5, 5–7, 8–12, 13–15 and 16–24 versions). **Research Implications.** The development of this tool will inform further research into screening for psychological and learning and memory problems. Further research would usefully incorporate a family screening thermometer to ensure a more systemic approach is adopted when dealing with families where there is a diagnosis of cancer, and therefore acknowledging the impact upon the whole family and wider family system. The new tool could be used strategically throughout the patient pathway and add to risk assessment strategies. **CLINICAL IMPLICATIONS:** This is an important development to enable clinicians to screen either face to face or remotely for psychological, memory and learning problems and then take action to ensure those who need or want help can access the support they need. This is an easily administered screening tool which can be used by any trained member of staff and ensure that

patients' needs are being met. This can be used as a repeated outcome measure. **ACKNOWLEDGEMENT OF FUNDING:** Funding from National Cancer Survivorship Initiative (NCSI).

P3-36

Phenomenology of Subsyndromal Delirium in Postoperative Esophageal Cancer Patients
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BACKGROUND: Delirium is common complication of cancer and it should be diagnosed as early as possible because it is a sign of underlining critical physiological disturbance. In recent studies the significance of subsyndromal delirium is pointed out as early sign of delirium. In this study, to elucidate early, prodromal symptoms of delirium, we conducted a prospective observational study in postoperative esophageal cancer patients without dementia. **METHOD:** 28 esophageal cancer patients (Male 27 Female 3) without dementia (MMSE>23) aged from 52 to 79 years scheduled for esophageal transection (29: thoracoscopic and laparoscopic esophagectomy 1: laparoscopic esophagectomy) in Kyoto University Hospital were successively enrolled in this study. We assessed symptoms and severity of delirium using the Delirium-rating scale revised 98 (DRS-R98) (Trzepacz 2001) on postoperative day 2 and 6 longitudinally. **RESULTS:** All the scores of DRS-R98 on postoperative day 2 were over 3 suggesting that they have subsyndromal delirium to some degree. Frequencies of each symptom on postoperative day 2 were sleep-wake disturbance 100%, Hallucination 100%, Attention deficit 63%, Liability of affect 59%, disorientation 44%. One subject died from anastomotic leak on day 4. On postoperative day 6, all the scores were reduced except for a score of a subject who died from anastomotic leak on day 8. **CONCLUSIONS:** According to DSM-4, the essential features of delirium are disturbance of consciousness with reduced ability to focus, sustain or shift attention and a change in cognition or the development of a perceptual disturbance. Though subsyndromal delirium (SSD) does not fully meet the criteria of delirium, it is suggested that it had higher mortality and decline in activities of daily living. Our results were consistent with the previous studies about SSD and the importance of early detection of symptoms such as sleep-wake cycle disturbance, hallucination, attention deficit, and liability of affect were suggested. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-37

Psychosocial Risk Factors for Depression in Patients With Hematological Malignant Diseases Who Were Going to Receive Hematopoietic Stem Cell Transplantation

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BACKGROUND: Hematopoietic stem cell transplantation (HSCT) is an alternative to conventional treatment for adults with hematological malignant diseases. Because HSCT is associated with life-threatening physical morbidity, lengthy convalescence, and social isolation, the potential for significant psychosocial morbidity is high. The aim of this study was to investigate psychosocial risk factors for depression in Japanese patients with hematological malignant diseases who were going to receive HSCT. **METHOD:** Subjects consisted of 208 adult patients with hematological malignancy receiving HSCT between September, 1996 and April, 2013 at the University of Tokyo Hospital. Patients were asked to complete Hospital Anxiety and Depression Scale, Rosenberg Self-Esteem Scale, Social Support, State-Trait Anxiety Inventory (STAI) and Stress Coping Inventory (SCI) before HSCT. The subjects were divided into groups with or without depression using the Hospital Anxiety and Depression Scale. **RESULTS:** Multiple logistic regression analysis showed a significant association between depression and trait anxiety. In addition, emotion-focused coping tended to have an association with depression. **CONCLUSIONS:** Depression was most strongly linked with trait anxiety and coping style, and using screening instruments to identify these factors may be useful for preventive interventions. **RESEARCH IMPLICATIONS:** The present study indicates that depression in patients before HSCT might be associated with trait anxiety and coping style. However, the present study was cross-sectional. Therefore, prospective studies are needed in the future. **CLINICAL IMPLICATIONS:** This study indicates that depression is linked with trait anxiety and coping style, and using screening instruments to identify these factors may be useful for preventive interventions. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-38

Distress Screening by Distress Thermometer in a Community Psycho-Social Oncology Center - Sharing of the Local Experience in Hong Kong

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BACKGROUND: Mood disturbance often occurs among cancer patients and their families. Early detection of distress with suitable intervention might help the affected to cope better throughout the cancer trajectory. Systematic distress screening is an important means to detect early distress. In 2012, Hong Kong Cancer Fund began a trial project of distress screening among all new users of its three cancer care centres. The present study aims to share some preliminary findings of this project. **METHOD:** All new service users from June to December 2012 including cancer patients, family members or friends were invited to complete the Distress Thermometer (DT) and the Problem Check List (PL) (NCCN, 2008) during their initial visit to CancerLink. Clinical assessment by social workers were arranged if the users' DT level was equal to or above 4 (NCCN, 2008). An individualized intervention plan was designed for users in order to reduce their distress level. The distress level of the users was periodically checked utilizing the DT & PL to evaluate their progress. **RESULTS:** 455 sets of DT and PL data were collected from our new service users (342 patients, 108 carers and 5 friends). 64% had DT levels ≥ 4 . Carer distress levels were significantly higher than that of patients (carers: mean = 5.61, patients: mean = 4.60, $p < 0.01$). The distress level for users in the diagnostic phase was the highest compared with other phases (diagnostic phase: mean = 6.47, $p < 0.01$). With regards to PL, both patients and carers had similar levels of physical problems (patients: mean = 15.46, carers: mean = 15.82). **CONCLUSIONS:** Over 60% of cancer patients and carers had DT level over 4, indicating distress was prevalent which is consistent with previous findings. Our findings also demonstrated that the carers had significantly more stress than patients, and that they also experienced physical disturbances comparable to that of patients, even though they did not undergo cancer treatment themselves. Patients at diagnostic phase experienced more distress than in other phases. More data analysis will be shown in the presentation. **RESEARCH IMPLICATIONS:** The carers experience higher stress when compared with the patients. Further research is required to investigate on factors contributing to the higher distress among carers. Besides, the high distress level of the service users who were in diagnostic phase might be a transient distress and requires further analysis. **CLINICAL**

IMPLICATIONS: As a cancer care service provider, the physical health and high distress of carers should also be addressed. Apart from our cancer support centre, hospitals should also systematically carry out distress screening in order to identify and intervene in the lives of distressed patients and carers at an earlier stage. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-39

Associations Between Psychological and Physical After-Effects in Women Undergoing Colposcopy and Related Procedures for Follow-Up for an Abnormal Cervical Smear

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BACKGROUND: If cervical screening is to be effective, women with abnormalities on smear tests require follow-up. One follow-up option is a colposcopy examination. It is known that undergoing colposcopy and related procedures, such as biopsy/treatment, can be distressing for women. Less is known about the psychological and physical after-effects and whether there are associations between the two. We investigated prevalence of women's psychological and physical after-effects following colposcopy and related procedures and inter-relationships between these. **METHOD:** Women referred for colposcopy following an abnormal smear result completed questionnaires 4 months following their initial colposcopy at two hospitals in Ireland. Anxiety and depression was assessed using the Hospital Anxiety and Depression Scale (HADS; significantly anxiety, HADS subscale score ≥ 11 ; significant depression, HADS subscale score ≥ 8). Specific worries (next smear being abnormal, future fertility worries and concerns about cervical cancer) were measured using the Process Outcome Specific Measure. Details of physical after-effects (pain, bleeding and discharge) experienced following colposcopy and related procedures were collected. **RESULTS:** 425 of 584 women completed questionnaires (response rate = 73%). Prevalence of clinically significant anxiety and depression was 21% and 8% respectively. 69% were worried about their next smear being abnormal, 56% had concerns about future fertility and 36% had worries about cervical cancer. The reported prevalence of pain, bleeding and

discharge following colposcopy and related procedures was 56%, 65% and 38%, respectively. Overall, 80% of women reported one or more physical after-effect. Women with significant anxiety were more likely to report pain or have bleeding for >7 days. Women with significant depression were more likely to report having experienced moderate/severe pain. **CONCLUSIONS:** High proportions of women report anxiety and worries 4-months following colposcopy and related procedures. Similarly, high proportions report physical after-effects. To our knowledge, this is the first study to show that there are inter-relationships between these after-effects. **RESEARCH IMPLICATIONS:** These findings suggest that ensuring that women are fully informed about the likelihood of physical after-effects may help to minimise anxiety: research is required to determine whether this is the case. **CLINICAL IMPLICATIONS:** Clinicians and nurses need to be fully aware of the psychological and physical after-effects experienced by women following colposcopy and related procedures, so that they can provide support, reassurance or advice if required by women. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by the Health Research Board, Ireland.

P3-40

Prevalence and Predictors of Anxiety and Worry in Women After Colposcopy: A Longitudinal Study
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BACKGROUND: Organised screening is effective in reducing cervical cancer incidence. Women with abnormal cytology require follow-up and many are referred for a colposcopy examination. Studies have reported raised anxiety levels prior to and during the examination. Less is known about the psychological after-effects, and the issues that concern women. This study aimed to estimate prevalence of anxiety and specific worries at 4, 8 and 12-months post-colposcopy and identify women most at risk of suffering psychological after-effects. **METHOD:** Women referred for colposcopy following an abnormal smear result completed questionnaires 4-, 8- and 12-months following their initial colposcopy at two hospitals in Ireland. Anxiety was assessed by the Hospital Anxiety and Depression Scale (HADS). Worries about future

fertility and cervical cancer were assessed by the Process Outcome Specific Measure (POSM). Prevalence of significant anxiety (HADS anxiety subscale score ≥ 11) and each worry was estimated at each time-point. Multiple logistic regression models were developed to identify predictors of risk of anxiety and each worry. **RESULTS:** 584 women were recruited (response rate=73%, 59%, 52% at 4, 8, and 12 months). Over 12 months, prevalence of significant anxiety remained steady (21%, 23% and 20% at 4, 8 and 12 months). Worry about future fertility was the most common worry; 56% were worried at 4 months, declining to 47% at 8 months and 39% at 12 months. Cervical cancer worries fell from 36% at 4 months to 23% at 12 months. In multivariate models, being younger and having ever had depression, a lower satisfaction with life/healthcare, no private health insurance, and less social support were significantly associated with increased risks of anxiety and worries post-colposcopy. **CONCLUSIONS:** High proportions of women attending colposcopy report anxiety or worries afterwards. While worries declined over time, the proportions affected remain high at 12 months. Various socio-demographic and other factors are associated with an increased risk of psychological distress post-colposcopy. **RESEARCH IMPLICATIONS:** This study highlights that colposcopy and related procedures can place a significant psychological burden on women. Research into appropriate interventions that target "vulnerable" women and reduce this burden is urgently required. Research is also needed into whether this burden impacts on compliance with follow-up or future cervical screening intentions. **CLINICAL IMPLICATIONS:** Clinicians and other medical professionals involved in the follow-up of women with abnormal cytology should be aware of the psychological after-effects experienced by women following colposcopy and related procedures. They also need to be aware that certain groups of women are at higher risk of suffering adverse psychological after-effects and may benefit from support. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by the Health Research Board, Ireland.

P3-41

The Distress Thermometer and The PHQ-2 for Ultra-Brief Screening Depression Of Cancer Patients In Korea

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BACKGROUND: The development of ultra-brief screening tools using in busy clinical settings is

important to help clinician recognize depressive patients with cancer. This study aims to examine the performance of the Distress Thermometer (DT) and the Patient Health Questionnaire-2 (PHQ-2) as a one or two-item screening tool to identify depression in Korean patients with mixed cancer. **METHOD:** Thirty hundred and fifty four patients with mixed cancer were recruited in five hospitals completed the DT, the PHQ-2, and the Hospital Anxiety Depression Scale (HADS) from March to May 2009. The performance of each tool was examined against major depressive disorder based on the Korean version of the Mini International Neuropsychiatric Interview's (MINI) for their sensitivity and specificity. **RESULTS:** Receiver operating characteristic (ROC) curve analyses identified a DT score of 5 as the optimal cut-off with sensitivity and specificity of 0.71 and 0.75. A PHQ-2 cutoff score of 2 was considered optimal with sensitivity and specificity of 0.83 and 0.72. Discrimination levels were comparable for the DT (area under the curve (AUC) 0.79) and the PHQ-2 (AUC 0.83). Overall performances of these ultra-brief tools were also comparable with HADS, a 14-item scale (AUC 0.82). **CONCLUSIONS:** One or two-item questions as the DT and the PHQ-2 can be useful screening tools for depression in oncology clinical practice. Compared with the DT, the PHQ-2 appears to show higher sensitivity detecting depression in Korean patients. **RESEARCH IMPLICATIONS:** This is the first study to validate depression screening tools against depressive disorder based on structured interview in Korean patients with cancer. **CLINICAL IMPLICATIONS:** Compared to a long-item scale, ultra-brief screening tools consisting of one item or two items can be efficacious for screening depressive disorder in cancer care. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by a grant from the National R&D Program for Cancer Control, Ministry for Health and Welfare, Republic of Korea (grant number: 0820340).

P3-42

Distress in Women Recently Diagnosed With Breast Cancer

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BACKGROUND: The Distress Thermometer (DT) is a validated instrument, recommended by National Comprehensive Cancer Network to screen for distress in cancer patients. The uniqueness of this study is that it explored the level of distress, the problems women experienced and the request for referral to a professional shortly after the diagnosis

of breast cancer and before treatment started. **METHOD:** This study used cross-sectional data from the trial Nurse Intervention Project about the use of the DT. Women newly diagnosed with breast cancer in a university hospital were asked to fill in self-reported questionnaires. Distress was assessed with the DT and the Hospital Anxiety and Depression Scale (HADS). Cut-off point of ≥ 5 on the DT was used for distress and cut-off point of ≥ 7 was used for severe distress. Scores ≥ 15 on the HADS were used for clinically significant emotional distress. **RESULTS:** Of 198 patients, 117 (59%) experienced distress (DT ≥ 5) and 68 patients (34%) severe distress (DT ≥ 7). Mean (SD) DT score was 5 (2,8). The most frequently reported problems were nervousness (79%), anxiety (58%), sleep (54%), emotional control (49%) and fatigue (42%). Eighty-four patients (42%) of the total group and 62 (53%) of the distressed patients requested or considered a referral to a professional to talk about their problems. Mean (SD) HADS score was 11,4 (7,8) and 63 patients (32%) scored ≥ 15 . Patients with distress measured by the DT scored also significantly higher on the total score of the HADS. **CONCLUSIONS:** A recent breast cancer diagnosis resulted in distress in 59% of the patients. Problems in the emotional domains of the DT were reported more than in the domains of physical, social or relational problems. Half of the distressed patients expressed or considered a referral to a professional shortly after diagnosis. The optimal cut-off point of the DT shortly after (breast) cancer diagnosis may be discussed. **RESEARCH IMPLICATIONS:** Not unexpectedly, a high level of distress was measured with the DT in patients with a recent diagnosis of breast cancer. The used cut-off point of 5 may not be specific enough in the screening for distress after diagnosis. We are currently investigating the optimal cut-off point of the DT shortly after the breast cancer diagnosis and in the course of the disease. Preliminary results will be presented. **CLINICAL IMPLICATIONS:** Following the patient with the DT from diagnosis is important to signal, prevent and decrease distress. Nurses and other professionals should be aware of the impact of the breast cancer diagnosis on the patient. They should proactively discuss with patients the opportunity for referral to a professional if needed and/or wished for. **ACKNOWLEDGEMENT OF FUNDING:** This study is funded by Pink Ribbon, the Netherlands.

P3-43

The Dynamics of Perceived Control on the Evolution of Emotional Distress in Women With Breast Cancer

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BACKGROUND: Emotional state is overall affected the first year after breast cancer diagnosis. Perceived control of the disease and his changes seem to be crucial for the regulation of patients' emotional state. Our study focuses on the development of emotional distress up to a year after surgery, and the evolving in time of perception of disease control, and tries to show that this change represents a risk factor for the development of the patients' emotional distress. **METHOD:** 115 patients ($M = 56.56$, $SD = 10.07$) with a first breast cancer were interviewed during their hospitalization. Women who had had cancer or chemotherapy before surgery, not reading or not understanding French were excluded. Emotional distress was assessed with the Hospital Anxiety Depression Scale (HADS) at the time of surgery (T0), then 1, 4, 7, 10 and 13 months after surgery (T1 to T4). Control was assessed by the Cancer Locus of Control Scale (CLCS) at T1, T2, T3 and T4. We attend to found 4 trajectories of emotional distress. **RESULTS:** We confirm 4 groups: "resilient" group with low basal level, decreasing significantly ($t = -3.45$, $p < 0.001$); "stable" group with a basal level slightly higher constant level over time; "deferred" group with a medium level at T0, which increased significantly ($t = 33.33$, $p < 0.001$); "chronic" group with high emotional distress that remains constant over time. Low perceived control reduces the probability of belonging to the resilient group ($OR_{aj} = 0.227$, $IC95\% = [0.062; 0.836]$) and to the stable group ($OR_{aj} = 0.175$, $IC95\% = [0.045; 0.688]$) compared to the increasing risk of belonging to the deferred group ($OR_{aj} = 4.41$, $IC95\% = [1.19; 16.23]$). Those whose scores disease control decreased between T1 and T2 are less likely to belong to the stable group ($OR_{aj} = 0.86$, $IC95\% = [0.16; 0.46]$). **CONCLUSIONS:** The study of changes in emotional distress highlights four profiles of trajectories. We observed that most of the paths are equivalent to their basal level throughout the disease values, with the exception of one which has been increased during the first months after diagnosis, before stabilize. It allows us to conclude the importance in considering both perceived control of the disease and his variations. Patients with high internal causal attribution and/or low perceived control of the disease are more prone to emotional distress than others. **RESEARCH IMPLICA-**

TIONS: The first research interest is to introduce developmental trajectories of emotional distress and to find the factors who explain these developmental trajectories. We propose that future research focuses on the evolution of the overall quality of life of patients and potentially mediating role of coping strategies. **CLINICAL IMPLICATIONS:** The clinical interest of this work is to show that patients with low scores, or a decrease in the perception of control up to 4 months after surgery, are those who should be monitored regularly in order to prevent the risk of develop further distress. **ACKNOWLEDGEMENT OF FUNDING:** Many thanks to Lilly's Laboratories and the French National Cancer Institute (INCa).

P3-44

Screening Cancer Patients' Distress and Care Needs: Translation and Validation of the Cancer Rehabilitation Evaluation System (CARES) for the Flemish Population in Belgium

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BACKGROUND: This study aims the translation and validation of the Cancer Rehabilitation Evaluation System (CARES) that could be used in Belgian research. Validation of this quality of life and needs assessment tool to identify Flemish cancer patients burden and care needs, following the confrontation with cancer and its treatment, can give insights for patient-centered care directed on symptom-management, psychosocial wellbeing, information and further care needs. **METHOD:** A heterogeneous sample cancer patients will be recruited in the clinic to complete the CARES in an electronic format. The psychometric properties and feasibility of the instrument will be tested on the basis of statistical analysis. Also there will be a supplementary questionnaire to get insight in patients experiences with screening. **RESULTS:** This study should bring clarity about the validity, reliability and feasibility of the Dutch CARES-translation for the Flemish population in Belgium. In addition qualitative questioning will give more insight in the "care consumers" experiences en preferences on screening in the included group of cancer patients. **CONCLUSIONS:** After long existing copyright on

the CARES, the instrument is released for free use. A successful translation and validation in Dutch can create the possibility in the Belgian-Flemish population to scientifically document the number, type and severity of difficulties and care needs that individuals may be facing as a result of a cancer diagnosis and associated treatment. **RESEARCH IMPLICATIONS:** Because of the broad coverage of domains in wellbeing -and in particular the psychosocial aspects- the use of the CARES in future quantitative Belgian research can be of great value to explore cancer patients burden and care needs that go past the disease itself and its treatment. The CARES-outcomes and other parameters can be combined to predict the risk of cancer patients to develop psychosocial problems later in time after treatment aimed at physical recovery. **CLINICAL IMPLICATIONS:** Better insight in patients overall wellbeing and care needs could confirm the appropriateness of current multidisciplinary cancer care in Belgian practice, or result in recommendations for change in the future. Further research on the CARES itself could lead to a valuable screening tool for clinical practice to detect distress and care needs, what could stimulate communication about the psychosocial topic and optimize the efficiency in match between overall care needs and total cross-boundary care. **ACKNOWLEDGEMENT OF FUNDING:** The subject of this abstract is part of a PhD-research project. Limburg Sterk Merk (LSM) gave funding to realise the research project on UHasselt.

P3-45

Fear of Recurrence in Head and Neck Cancer Patients

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BACKGROUND: Fear of recurrence (FoR) is common in survivors of head and neck and is associated with increased distress. It is difficult to predict which patients will experience FoR and whether this will diminish over time. The Patient Concerns Inventory (PCI) is a means of identifying FoR and can facilitate a discussion of real versus perceived risk with patients. This study aimed to qualitatively explore patients' experiences of discussing FoR with oncologists/surgeons in the clinical setting. **METHOD:** Head and neck cancer survivors attending clinic for follow-up care were asked to complete the PCI, as usual, prior to consultation. Those identifying FoR were invited to take part (n=11) and for this group, their consultation with their clinician was recorded. A telephone

based, one-to-one follow-up interview was also arranged to further explore the issue of FoR and patient's experiences of how well this was managed in their consultation. All participants had completed treatment over three months prior to taking part, were over the age of 18 and were currently disease free. **RESULTS:** A thematic analysis of both the consultation and interview transcripts was undertaken by two members of the research team. The analysis highlighted the following as relating to participant's fears of recurrence: participant's background; coping style; personality; physical triggers; gender differences in how the fear presents; the nature of the fear itself; and a sense of gratefulness towards the clinician. Of particular interest was the novel finding that patients were reluctant to address their FoR with their clinician for fear of appearing ungrateful or of upsetting their valued relationship with their clinician. **CONCLUSIONS:** FoR is a common issue for cancer survivors, but few studies have explored this within a head and neck cancer sample. Our findings indicate that whilst many features of FoR experience mirror those of other cancer survivor groups, within head and neck cancer survivors particularly, prevalence might be higher than previously appreciated. Patients report feeling reluctant to raise this issue with their clinician for fear of appearing "ungrateful" and clinicians often don't prioritise this issue within rushed consultations; this may lead to under-reporting. **RESEARCH IMPLICATIONS:** This study is somewhat unique in exploring FoR within a clinical setting. Whilst some of the emergent themes (e.g. those relating to coping style and personality) are concordant with previous literature, novel themes also emerged. Future research should address the issue of "patient gratitude" further. We particularly need to know: how generalizable this finding is; to what extent it is associated with FoR; and, whether it is a barrier to other types of patient-clinician communication. **CLINICAL IMPLICATIONS:** This work highlights the difficulties that cancer survivors have in addressing FoR with their clinicians; clinicians must instead be prepared to raise it with their patients as a standard part of follow-up care. Due to the reluctance to raise the topic of FoR, it is possible that current estimates are under-representative; the PCI is a useful tool for screening FoR and may present a more acceptable way for patients to raise this issue with clinicians. **ACKNOWLEDGEMENT OF FUNDING:** This project received funding from the British Association of Head and Neck Oncologists.

P3-46

In What Ways and Fields can the ORS/SRS (PCOMS) be Useful in Clinical Practice? A Literature ReviewInès Ohlhausen¹, Ruchika Gajwani²,
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BACKGROUND: The PCOMS, consisting of the Outcome - and the Session Rating Scale, is a brief measure that has been developed by Miller, Duncan and Johnson (Miller, Duncan & Johnson, 2002) to measure outcome and therapeutic alliance. It has been validated (Bringinghurst, Watson, Miller, & Duncan, 2006) and used throughout numerous studies (e.g. Reese, Norsworthy, & Rowland, 2009). An overview article about research, use and implementation has been published by one of the authors (Miller, 2012). **METHOD:** The aim of this review was to thoroughly outline in which ways the ORS/SRS have been used and implemented in clinical practice and in which fields they were considered useful. A systematic literature search was conducted in the following databases: Medline, PsychINFO, Psycindex, PsychARTICLES and Google Scholar. Keywords included Partners for Change Outcome Management System, PCOMS, Client Directed outcome informed, Client directed outcome therapy, Feedback Informed Treatment, FIT, ORS, SRS, Outcome Rating Scale and Session Rating Scale. Inclusion criteria for the review were English language and a mention of the (qualitative or quantitative) effect or impact of using the ORS/SRS. **RESULTS:** Of a total of 1690 hits, 20 articles were extracted. These showed that the ORS/SRS have been successfully used in individual and couple therapy, in CAMHS settings and for counseling as well as training purposes. From a research perspective, they have been used to investigate therapists' and families' perspectives on their use from a qualitative point of view. **CONCLUSIONS:** Selected articles will be presented in the poster and further fields of implementation can be discussed. **RESEARCH IMPLICATIONS:** Researchers might benefit from an overview of the different clinical settings, in which the ORS/SRS have been used in order to determine new fields of interest or studies that are yet to be conducted. **CLINICAL IMPLICATIONS:** Outlining in which ways the ORS/SRS have been used and implemented in clinical practice might be helpful in terms of an overview and also give ideas about possible studies or clinical implementations in the future. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-47

The Impact of Physical Symptoms in the Course of Distress, Anxiety and Depression in Lung Cancer Patients During ChemotherapyClaudia van Helden¹, Anja van den Hout¹, Lilian Lechner², Nele Jacobs², Jill Lobbestael³¹Atrium Medisch Centrum, Heerlen, TheNetherlands, ²Open Universiteit Nederland, Heerlen,The Netherlands, ³RINO Zuid Nederland, Eindhoven, The Netherlands

BACKGROUND: The prevalence of mental distress during chemotherapy is high. Some studies suggest that certain points in time during the treatment process are the most appropriate for screening. There are however few studies found where the course of mental distress was mapped. The purpose of this study is to investigate the course of distress, anxiety and depression (D.A.D.) before, during and after treatment with chemotherapy in lung cancer patients, and the influence thereon by physical symptoms. **METHOD:** In a longitudinal prospective study 151 lung cancer patients undergoing chemotherapy were followed (mean age 64.5, range 43–86; 61% men). Self-report questionnaires at 7 time points were collected: before the start (T0), at the first chemotherapy (T1), every 3 weeks (T2, T3, T4 and T5) and 3 months after completion of chemotherapy (T6). **Measurements.** *Physical symptoms:* the somatic subscale of The Screening Inventory for Psychosocial Problems (SIPP), *Distress:* The Distress Thermometer (DT), *Anxiety and depression:* The Hospital Anxiety and Depression Scale (HADS). Data were analyzed using paired *t*-tests, multilevel linear regression analysis and multiple regression. **RESULTS:** Each time point anxiety levels were higher than depression levels. At T0 18.7% and 8.0% scored clinical levels of anxiety and depression. Between T0 and T6 there was no change in levels of distress ($t = -1.36$, $p = 0.18$), anxiety ($t = 0.27$, $p = 0.79$) or depression ($t = -.42$, $p = 0.16$). Over the measurements there were significant positive correlations between physical complaints and distress ($B = 0.49$, $SE = 0.01$), anxiety ($B = 0.148$, $SE = 0.26$) and depression ($B = 0.04$, $SE = 0.01$). D.A.D at T0 predicted average level of distress ($\beta = 0.38$, $p < 0.001$), anxiety ($\beta = 0.73$, $p < 0.001$), depression ($\beta = 0.78$, $p < 0.001$) from T1 to T5. T0 Anxiety and depression predicted T6 anxiety ($\beta = 0.42$, $p < 0.001$) and depression ($\beta = 0.41$, $p = 0.01$). T0 Distress was no significant predictor of T6 distress ($\beta = -0.57$, $p = 0.74$). **CONCLUSIONS:** There is no significant change in the level of D.A.D. before, during and after chemotherapy. These findings are consistent with earlier research. There are clear indications that there is a relationship between an increase in physical symptoms and an increase in D.A.D. This is in contrast with an earlier study identifying the relationship between

perceived control and psychological distress in breast cancer patients as independent of changes in physical state. It is possible that physical symptoms experienced during treatment by breast cancer patients differ from those in lung cancer patients with resultant differences in effect on levels of distress. **RESEARCH IMPLICATIONS:** A suggestion for future research is replicating this study in other populations of oncology patients in order to identify the most appropriate screening moments. As physical symptoms proved clear predictors of D.A.D. studies evaluating the impact of treatment packages that minimize psychological impact are highly recommended. Developing and evaluating effective psychological treatments for lung cancer patients at the start of medical treatment, aimed at reducing D.A.D. represents a challenge for the future. **CLINICAL IMPLICATIONS:** Screening of lung cancer patients before treatment is recommended as a minimum. Baseline screening at this stage can identify patients with high scores on D,A,D likely to require psychological support, and facilitate early referral. Increased awareness of the correlation between physical symptoms and the degree of D.A.D. could alert practitioners to early changes or increases in physical symptoms and their likely impact. This would enable referral for treatment of psychosocial needs where appropriate during treatment. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-48

Trajectories of Psychosocial Distress and its Correlation With Physical Problems, Social Support, Coping Styles and Posttraumatic Growth Among Breast Cancer Survivors

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BACKGROUND: Transition to survivorship for cancer patients can be distressful. At KF-SYSCC, the majority of our patients choose to return to this institution for follow-up after completion of active cancer treatment. We studied the prevalence and the trajectories of psychosocial distress in this population and assessed its correlation with physical problems, social support, coping styles and post-traumatic growth (PTG) over 3 years. **METHOD:** Consecutive outpatients of early stage breast cancer, who were about 9 months after active cancer treatment, were invited to participate in this prospective study at two time points. The patients, who participated in the study at time 1 in 2009, were further recruited for the follow-up study at time 2 in 2012. At both times, they were given mea-

surements to assess psychosocial distress, physical problems, social support, coping styles and PTG. Patients with the total score of the Hospital Anxiety and Depression Scale (HADS-t) ≥ 15 were considered to be significantly distressed. **RESULTS:** At time 1, 248 patients completed all questionnaires. From this group, 118 participated in the time 2 study. Of the participants, 28.63% were screened to be significantly distressed at time 1, and 16.10% at time 2. Comparing with time 1, at time 2, 6% of these patients remained distressed, 75% remained non-distressed, 8% changed from non-distressed to distressed and 11% changed from distressed to non-distressed. The level of distress was correlated positively to physical symptoms, coping styles of negative emotion and cognitive avoidance; and negatively to social support, coping style of positive attitude and PTG of interpersonal dimension. **CONCLUSIONS:** Up to 29% of early stage breast cancer patients transitioning to survivorship experiences psychosocial distress. The prevalence of distress appears to diminish over time. The level of distress is correlated to physical problems, social support, coping styles and PTG. **RESEARCH IMPLICATIONS:** We will extend the assessment of distress and its related factors to 5 post-treatment years and beyond to examine patients' course of distress and their response to psychosocial interventions. **CLINICAL IMPLICATIONS:** Early stage breast cancer patients transitioning to survivorship should be screened for psychosocial distress. Services to address issues of physical problems, social support, coping styles and PTG should be initiated as soon as the treatment is completed. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-49

Psychosocial and Physical Problems Experienced by Patients Visiting a Skin and Melanoma Center

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BACKGROUND: According to the Dutch guidelines, the Distress Thermometer (DT) and its problem checklist should be completed by all oncology patients to assess distress and problems. However, dermatologists have been using the Skindex-29 to assess quality of life. The aim of this study is to investigate which physical, psychosocial and functional problems are most prevalent in patients visiting a Skin and Melanoma Centre, and what (combination of) tools are best in identifying these problems. **METHOD:** During November 2012–April 2013, all new patients who visited the Skin and Melanoma Centre were invited to participate in the study, by completing a questionnaire at

home, one week after their visit. The questionnaires included the DT and its checklist, the Skindex-29 (assessing skin related symptoms -such as itch, irritation and pain-; emotions -such as depression, worrying and embarrassment-; and functioning -such as interaction with others, sex life and social life-), and some additional questions about the need for additional (psychosocial) care and the usefulness of these questionnaires. **RESULTS:** 221 patients (61% response) completed the questionnaire (Mean age = 59, SD = 14 years; 43% men; 62% with malignant skin disease). In total, 82 patients (49%) scored 5 or higher on the DT. Most prevalent complaints assessed by the problem checklist were feeling tense (42%), fatigue (38%), and dry, itchy skin (37%). Scores of the total population on the DT correlated statistically significantly with the total score of the Skindex-29 (Pearson Correlation = 0.68; $p < 0.001$). Most prevalent complaints assessed by the Skindex-29 were: worries about the severity and progression of the skin problems (>53%), and symptoms like sensitive, irritated, itchy skin (>45%). **CONCLUSIONS:** According to the DT, approximately half of the group visitors of the Skin and Melanoma Center experiences levels of distress that warrant further attention. General problems such as tension and fatigue, as well as skin specific problems, are both frequently reported. High distress scores are not more prevalent in patients currently diagnosed with skin cancer as compared to those with benign skin problems. These results suggest that all patients visiting this Skin and Melanoma Center should be screened for general aspects of distress (such as fatigue), as well as skin-specific complaints (such as irritated skin). **RESEARCH IMPLICATIONS:** Analyses are ongoing to investigate which (combination of) tools are most appropriate to use at the skin and melanoma centre, and which factors are significantly associated with the experienced problems. **CLINICAL IMPLICATIONS:** At a skin and melanoma center, for each patient an assessment should be made of the experience of general as well as skin specific psychosocial and physical problems. A combination of both the DT and the Skindex-29 questionnaires, as a tool to identify psychosocial and physical problems may be important to improve communication and management of these issues. **ACKNOWLEDGEMENT OF FUNDING:** None.



P3-50

Feasibility of Distress Screening With the Distress Thermometer (DT) and Patients' Acceptance of Referral to a Team Integrated Psycho-Oncologist: A Pilot Study

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BACKGROUND: In spite of increasing efforts to identify distressed patients and to increase the number of referrals to psycho-oncological care, relatively few patients accept referral and the desire for psycho-oncological support is broadly independent of the distress. Our presentation has two aims: 1) to present our pilot data on distress and (acceptance of) referral to psycho-oncological service and 2) to discuss practical aspects of the screening procedure with focus on communicating on the basis of the DT. **METHOD:** Screening for psychological distress with the DT was implemented at the University Oncology Outpatient Clinic Basel as part of routine clinical care. All oncologists received training for communicating about psychosocial distress on the basis of the DT. Oncologists were instructed to inform *all* patients about the support service and to make explicit recommendation to see the psycho-oncologist if patients scored $5 \leq$ on the DT. Over a nine-month period (July 2012-March 2013), we collected preliminary data on distress in patients, referral to and acceptance of psycho-oncological support after the first consultation at the Outpatient Clinic. Oncologists were asked about their experiences. **RESULTS:** Of the 236 included patients, 61.8% ($n = 131$) showed elevated levels of DT scores $5 \leq$ (DT 8-10: 15.6%; DT 5-7: 46.2%; DT 0-4: 38.2%). Overall, 18.2% of the patients consented to or wished for psycho-oncological support. 42.4% of the high, 22.4% of the medium, and 4.8% of the low distress group wished for or accepted referral to the psycho-oncologist. Correspondingly, 72.5% of patients who were recommended to consult the psycho-oncologist ($5 \leq$) did not make use of this service. Feasibility of the implemented screening practice was demonstrated and all participating oncologists were positive about the practice change in daily routine. **CONCLUSIONS:** Compared to international literature the rate of referral and acceptance of referral is higher at our Clinic. Still, only a moderate proportion of the distressed patients also accepts referral to or utilizes psycho-oncological support. Communication about psychosocial distress and psycho-oncological support on the basis of the DT seems to be crucial in the experience of oncologists. However, international guidelines describe recommendations for screening and referral procedures, but no recommendations are offered regarding the actual communication with the patient on the basis of a screening tool. This leads us to focus on patient-clinician interactions. **RESEARCH IMPLICATIONS:** Our data serves as a pilot project for the following investigation: a prospective study is planned (starting in October 2013) at the Outpatient Clinic in which we

first intend to explore why cancer patients accept or turn down psycho-oncological support service, and second, examine how patients and clinicians experience talking about psychosocial distress on the basis of the DT. **CLINICAL IMPLICATIONS:** We are convinced that attention now needs to shift from recognition of distress to difficulties associated with acceptance of referral. In our experience communication on the basis of the DT not only is important to reveal needs and problems of patients but also it is crucial for the patients' acceptance of referral to psychooncological services. One other important factor for acceptance of psychooncological support might be the close integration of a psychooncologist in the team **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-51

Psycho-Sexual Problems in Vulval Malignancy

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BACKGROUND: Vulval malignancy is rare. We had 63 cases in a 10-year period at S.G.C.C & R.I, THAKURPUKUR, Kolkata between 2000 and 2009 (less than 1% of all gynecological malignancies). Purpose has been retrospective analysis of the psychological problems as noted in case records. **METHOD:** Age, parity, occupation, menopausal status, co-morbidity (e.g. diabetes, co-existent cervical lesion, addictions, socio-economic status, education) were all analysed. Investigations included blood sugar estimation, Hb, renal function tests, virological screening including H.P.V, H.I.V, PAP smear and vulval biopsy. All patients had pretreatment counselling. Psychosexual status, sexual activity, frequency, satisfaction were recorded. There was cultural barrier in enquiring about orgasm. Counselling was also done during follow-up after completion of treatment at regular intervals. **RESULTS:** 67% were over 50 years, 11% were over 70 years. There was only 1 patient who was 28 years old. Most were illiterate, multiparous, low socio-economic group (farm hands). Elderly patients were not concerned about post treatment sexual problems and would be happy to be disease free. Women over 70 years were not sexually active and this was age related rather than disease related. All the patients were depressed, suffered from insomnia, indigestion. More than a third sexually active patients avoided sex after treatment. This avoidance is more psychological than disease related. **CONCLUSIONS:** Radical vulvectomy was chosen for advanced cases in elderly women, while conservative surgery was selected for sexually active women (e.g. avoiding removal of clitoris if possible and avoiding extremely mutilating operation). Post treatment counselling involving both the patient and

her sexual partner played an important role in sexual rehabilitation. Use of vaginal dilator or lubricant jelly is discussed. Stable marital relationship as is common in India helps to cope the crisis in younger women. Anxiety about desirability as a sexual partner has a very negative effect. **RESEARCH IMPLICATIONS:** It is important that patient is psychologically prepared before undergoing treatment. **CLINICAL IMPLICATIONS:** **SURGICAL TREATMENT:** **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-52

Psychological Stress of Raised CA125 in Post Treatment Asymptomatic Ovarian Carcinoma Follow Up

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BACKGROUND: Ovarian carcinoma is only 10–15% of gynecological malignancies but accounts for a very high mortality. Most cases are diagnosed late stage iii/stage iv. Often there is spread to general peritoneum, liver & pleura. Though surgery is the first line of treatment in advanced cases zero residual resection is not possible. In these cases NEO-ADJUVANT chemotherapy 3–6 cycles are given and complete surgical treatment is then possible in most cases. Post op. adjuvant chemotherapy 2–3 cycles are then prescribed. Follow-up is by clinical examination & estimation of marker CA125. **METHOD:** 88 cases of ovarian malignancies were recorded during the year 2006 at our tertiary cancer centre. Of these 63 were epithelial carcinoma i.e. 71%. Patient age, parity, socio-economic educational status were recorded. All the patients had blood CA125 level recorded at the beginning of treatment and repeated after neo-adjuvant chemotherapy, surgery & adjuvant chemotherapy. Follow up was every 3 months for 2 years, then every 6 months for 3 years and then yearly life long. In most cases raised CA125 comes down to normal range of less than 36 i.u. Recurrence which is not uncommon is often preceded by rising CA125 by about 3–6 months. The stress factor is assessed during this asymptomatic period of monitoring serum-CA125 level. **RESULTS:** The stress was directly proportional to educational status especially with computer education. Younger women were more vulnerable than the elderly Urban women more psychologically affected than their rural counterparts. They dreaded the date of followup and was afraid to ask the latest level of CA125. Those who survived 2 years without recurrence was gradually less stressful. Unfortunately most patients were lost to follow up. Assessment of stress factor was by degree of anxiety, insomnia, anorexia and irritability. Women of low socioeconomic group

and illiterates were very much less stressful and relied more on destiny & religion. The young & tech-savvy were the most vulnerable to anxiety disorder. CONCLUSIONS: CA125 level is useful in predicting the progress of the disease recurrence but early treatment of recurrence does not improve the final outcome, morbidity or mortality. Hence it seems that asymptomatic patients need not have CA125 as follow up which might compromise her quality of life. No symptom-no treatment, as treatment will not cure recurrence. Earlier treatment of recurrence does not improve the morbidity or mortality. RESEARCH IMPLICATIONS: Repeated estimation of CA125 for follow up of asymptomatic patient who already had full oncologic treatment does not have any positive value but it definitely increases the patient's anxiety when the CA125 level starts rising. At present it is perhaps wise not to give too much importance to rising level of CA125. CLINICAL IMPLICATIONS: CLINICIAN should be alert about the stress of investigations on a symptom free cancer patient and proper counselling is mandatory at every stage of follow-up. ACKNOWLEDGEMENT OF FUNDING: None.

P3-53

Health-Related Stigma in Lung Cancer: Piloting an Acceptance-Based Approach

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BACKGROUND: Lung cancer patients experience higher levels of psychological distress than other cancer patients. Health-related stigma in these patients is a significant contributor to poorer outcomes. Research to address health-related stigma in this group and promote better psychological outcomes for lung cancer patients is a priority. METHOD: Sixteen patients with lung cancer participated in a pilot of a multi-component cognitive behavioural intervention with an acceptance-focus. Outcomes assessed included lung cancer stigma; anxiety and depression; cancer-specific distress; QOL; mediators included threat appraisal; social constraints; psychological flexibility. Post-test in depth interviews assessed intervention acceptability. RESULTS: Preliminary results will be presented with a focus on barriers to resolving health-related stigma in a highly distressed patient population. Therapeutic strategies to address distress and health-related stigma in this population will be dis-

cussed. CONCLUSIONS: Interventions to address distress that take into account health-related stigma in lung cancer patients are a priority. ACKNOWLEDGEMENT OF FUNDING: None.

P3-54

Quantifying Facial Expression of Head and Neck Cancer Patients Undergoing Reconstructive Surgery: How Does Smiling Intensity Relate to Psychosocial Functioning?

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BACKGROUND: Head and neck cancer (HNC) and its treatment can result in significant changes to facial morphology and have a critical impact on the formation of facial expressions. Head and neck cancer patients are also at risk of experiencing psychosocial distress and impairment. The objectives of this study are 1) to develop quantitative measures of facial expression (smiling) and 2) to investigate the possible relationship between quantitative measures of smiling intensity and self-reported psychosocial status. METHOD: Maximum smiling intensity of 95 HNC patients (34 females, 65 males) prior to reconstructive surgery was evaluated using 48 quantitative measures calculated from frontal facial photographs with and without a smile. We computed a composite score (z-score) for each patient, which represents how much a patient's maximum smiling intensity deviated from the mean of healthy controls. An array of self-report psychosocial instruments evaluating body image and quality of life outcomes were administered to patients. Nineteen subscale scores were calculated from the psychosocial measures. Spearman rank correlation was conducted to examine the relationships between the composite score and each psychosocial subscale. RESULTS: Increased deviation in smiling intensity was significantly related to increased body image dissatisfaction (Body Image Scale, $r = 0.26$, $p = 0.02$), increased discomfort in social situations (Satisfaction with Appearance - Perceived Social Impact, $r = 0.33$, $p = 0.001$), increased somatic complaints (Brief Symptom Inventory - Somatization subscale, $r = 0.23$, $p = 0.03$) decreased functional ability in the head and neck (FACT-HN head and neck cancer subscale, $r = -0.25$, $p = 0.02$), and decreased general quality of life (FACT-HN total, $r = -0.22$, $p = 0.03$). CONCLUSIONS: We used quantitative measures of smiling intensity and psychosocial outcomes involving body image and quality of life to investigate the relationship between smiling intensity and psychosocial status of HNC patients prior to undergoing initial reconstructive surgery. We found that reduced smiling intensity was associated with

increased body image disturbance (i.e. appearance dissatisfaction and functional impairment) and decreases in many aspects of quality of life. **RESEARCH IMPLICATIONS:** These results have implications for objectively measuring aesthetic outcomes for HNC patients and gaining a better understanding of how facial cancer and its treatment can affect the formation of facial expressions over time. This is also the first study of its kind to report associations between image-based quantification of facial expression and self-reported psychosocial well-being. Future studies are needed to examine these associations over time in cancer patients undergoing facial reconstruction. **CLINICAL IMPLICATIONS:** Impairment in the ability to smile is known to be a source of psychosocial distress for HNC patients. This study shows promise in developing methods to objectively evaluate the manner in which formation of facial expressions is affected during cancer treatment, and in developing an understanding of the relationship between psychosocial outcomes and expression formation. These data can inform the development of body image interventions to maximize adjustment to disfiguring aspects of cancer treatment. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported in part by grant MRS-10-010-01 from the American Cancer Society.

P3-55

Prostate Specific Antigen Utility and Anxiety in the Management of Prostate Cancer by Active Surveillance

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BACKGROUND: Active surveillance (AS) is an alternative treatment strategy for prostate cancer (PCa) and involves regular PSA blood testing and repeat rectal biopsies, the aim of which is to monitor cancer progression and inform appropriate treatment decision-making. Anecdotal evidence suggests that some men experience anxiety when undergoing AS. The primary aim of this study is to establish if PSA test related anxiety exists in this population. A range of secondary aims are also investigated. **METHOD:** Two hundred and sixty-five men with PCa on AS were invited to complete established psychological measures; 104 men (39%,

aged 51–90 years, $M = 68$; $SD \pm 7$) participated and returned data. **RESULTS:** Overall, results indicated that men experienced low general and illness specific anxieties and high HRQoL when compared to published clinical/non-clinical data. Age and trait anxiety emerged as significant predictors of PCa related HRQoL; trait, state anxiety and fear of recurrence were significant predictors of overall HRQoL. While there were significant bivariate relationships between illness perceptions (disease consequences, illness coherence) and HRQoL, these did not contribute significant variance in HRQoL outcomes when analysed in regression models. Finally, 92% and 86% of the sample found the information about PCa and AS (respectively) to be either very or quite helpful and satisfied information needs. **CONCLUSIONS:** Findings highlight the importance of trait anxiety in relation to HRQoL and the benefits of information provision to men with PCa on AS. **ACKNOWLEDGEMENT OF FUNDING:** No funding received in support of this abstract.

P3-56

Pain, Fatigue and Quality of Life in Hong Kong Chinese Women With Early Stage Breast Cancer: Before-Versus-After Adjuvant Radiotherapy

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BACKGROUND: Adjuvant radiotherapy (RT) is a common treatment for breast cancer for its benefit in reducing the risk of local recurrence. However, RT may induce substantial distress in patients and have an adverse impact on their quality of life. The purpose of this abstract was to compare the experiences of pain and fatigue, and the quality of life of Hong Kong Chinese women who had completed RT with those who were awaiting RT. **METHOD:** This analysis comprised of 70 Chinese women diagnosed with stage 0-III primary breast cancer who had joined a larger trial investigating the effects of a psychotherapy program. They were recruited consecutively from two government hospitals and three community centres in Hong Kong. The current data were collected before the program by self-administered questionnaires including the Brief Pain Inventory (BPI), Brief Fatigue Inventory (BFI) and Functional Assessment of Cancer Therapy-Breast (FACT-B). Women were age-matched and grouped by their RT status at enrollment: Pending (preRT, $n = 36$), within a month post-RT (1-postRT, $n = 17$), and over a month post-RT (>1-postRT, $n = 17$, median length = 91 days). **RESULTS:** The three groups were similar clinically and demographically (mean age = 50 years). All had breast surgery and 74% also had chemo-

therapy. In terms of severe pain and severe fatigue, respectively, 17% and 34% of preRT group versus 18% and 41% of 1-postRT group versus 29% and 29% of >1-postRT group had experienced these symptoms. The Kruskal-Wallis tests showed no significant overall group differences in the scores of BPI, BFI, Total FACT-B and subscales except for the FACT-B emotional well-being subscale ($p = 0.04$). In all FACT-B scales, the >1-postRT group scored the highest, the preRT group slightly lower and the 1m-postRT the lowest. **CONCLUSIONS:** Before RT, a significant minority of women were fatigued and had experienced severe pain, suggesting the lingering effects of prior anti-cancer therapies. The occurrence of severe fatigue was more common than severe pain both before RT and shortly after RT completion. About one third of the women who had finished RT months ago still experienced fatigue and/or pain. Patients' quality of life might be undermined in the first month after treatment completion, but the longer-term quality of life after RT seemed comparable with that before RT. **RESEARCH IMPLICATIONS:** The results suggested that the potential impact of RT on quality of life might be minor and temporary. However, our small sample size implied a higher chance of a Type II error. Prospective research with a larger cohort is needed to better understand the effects of RT across the period of treatment and recovery. Research is also indicated to explore the possible causes of severe fatigue or pain in patients who have long completed treatment. **CLINICAL IMPLICATIONS:** Assessment of patients' symptom status prior to RT commencement is important for early intervention, if necessary, to prevent further deterioration of patients' condition as RT progresses. Such an assessment should continue into the post treatment period. **ACKNOWLEDGEMENT OF FUNDING:** This project is funded by the Hong Kong Research Grants Council's General Research Fund (Reference No. 745110).

P3-57

The Life Experience of Patients With Hepatocellular Carcinoma

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BACKGROUND: In Taiwan, HCC incidence was ranked third and which has been the second leading cause of cancer-related death. Compared with other common cancers, hepatocellular carcinoma with poor prognosis. It had the very huge impact of patient's quality of life. The purpose of this study was to explore hepatocellular carcinoma patients'

life experiences after diagnosis. **METHOD:** The phenomenological study employed purposive sampling; six patients were recruited. Data were collected through semi-structured interview guidance, and analyzed according to Giorgi's qualitative method. **RESULTS:** After data analysis, three categories emerged: Learning how to face the uncomfortable of the body and mood to survive (e.g. adjusting the emotion when being informed of the conditions, following with the doctor's suggestions of the treatments, and looking for the way to treat the pain), Fear of progression, to keep a healthy life for living (e.g. selecting the healthy food, adjusting the life style and attitude, Cherishing the life to increase the value of it (e.g. Sigh with emotions of regrets to the family, appreciate their supports and search for the meaning of life). **CONCLUSIONS:** This study results can be provided as reference for nurses to pay attention to the psychological issues, especially the fear of disease progression which is on patients with hepatocellular carcinoma in their life. **RESEARCH IMPLICATIONS:** Longitudinal research will design for tracking the fear of progression change in patients' life, in order to provide proper care to patient at different stages. **CLINICAL IMPLICATIONS:** This study results will help nurses to understand patients' illness and life experience, and accompany help them face and adjust to their situation. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-58

Understanding Mediation Effect of Cancer-Related Rumination Between Physical Symptom Distress and Psychological Distress in Chinese Colorectal Cancer Patients

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BACKGROUND: The age-adjusted incidence of colorectal cancer has increased over the past decade both globally and locally. Physical symptoms distress is known to be an important contributor to psychological distress among cancer patients. In addition, intrusive thoughts are associated with the onset of depression and anxiety. This study aims to examine the possible mediation role of cancer-related rumination between physical symptom distress and depression and anxiety among Chinese Colorectal cancer patients across the cancer journey. **METHOD:** Newly diagnosed colorectal cancer (CRC) patients recruited from a Hong Kong teaching hospital were interviewed three times: 1 day before surgery (T1), 1 month (T2) and 4 months post-surgery (T3) respectively. Patient's anxiety and depression (psychological distress), physical symptom distress, cancer-related rumina-

tion and demographic information were recorded at each of three interviews. Linear Mixed Modelling was adopted to investigate if there was any mediation effect from rumination. **RESULTS:** Overall, 205/219 (93.6%) patients participated in this study. Anxiety ($\beta = -0.41$, $SE = 0.12$, $p = 0.001$), but not depression ($\beta = -0.11$, $SE = 0.13$, $p = 0.395$) levels declined significantly from pre-surgery to 4 months post-surgery. Physical symptom distress was positively related to both anxiety level ($\beta = 2.35$, $SE = 0.37$, $p < 0.001$) and depression level ($\beta = 2.80$, $SE = 0.47$, $p < 0.001$) respectively. In addition, higher physical symptom distress was associated with stronger rumination ($\beta = 0.408$, $SE = 0.46$, $p < 0.001$). Sobel test suggested a significant mediation effect from rumination between physical symptom distress and anxiety ($z = 7.19$, $p < 0.001$) and depression ($z = 5.84$, $p < 0.001$). **CONCLUSIONS:** CRC patients had decreasing anxiety level but maintained fairly stable levels of depression over the time from pre-surgery to 4 months post-surgery. Cancer-related rumination seems to carry some of the impact associated with physical symptom distress on cancer patients' anxiety and depression level. There was a partially mediation effect of cancer-related rumination on the relationship between physical symptom distress and psychological morbidity. This points to the meanings and/or disruption attributed to physical symptoms as potential therapeutic targets. **RESEARCH IMPLICATIONS:** This study revealed the pattern change on psychological distress (depression and anxiety) across the period from pre-surgery to 4 months post-surgery among CRC patients as well as rumination partially affected the relationship between physical symptom distress and depression and anxiety. Further investigation may be needed to reveal if the relationship between physical symptom distress and prolonged psychological distress (e.g. 1 year post-surgery) would also be mediated by rumination. **CLINICAL IMPLICATIONS:** Health care providers need to pay more attention to patients' physical symptoms. Distress arising from physical symptoms appears to be in response to either the potential meanings attributed to those symptoms, or to the disruptive effect of these symptoms on daily life, preventing "forgetting about" cancer that is necessary for return to near normal life. Interventions should address either physical symptoms themselves or ruminative thinking about cancer prompted by these to minimize psychological morbidities. **ACKNOWLEDGEMENT OF FUNDING:** This project was funded by The Health and Health Service Research Fund of the Hong Kong Government, grant number 0708651.

P3-59

Psychiatric Rehabilitation of Patients With Oesophageal Cancer

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BACKGROUND: Patients with cancer mostly have psychiatric problems before and after therapy, especially if they undergo surgery. These psychiatric problems can be due to organic problems (such as secondary symptoms), or functional problems (psychiatric disorders). **METHOD:** First to categorize these problems and then have a definition for each of them, then explain psychiatric modalities for each of them and rehabilitation of patients separately. **Results** In cancer we have two types of psychiatric symptoms or syndromes. If patient develops psychiatric symptoms after cancer, we say he has secondary symptoms, e.g. depression. This is called mood disorder due to GMC. But if after knowing that he/she has cancer he/she developed depression, it is adjustment disorder. Therapy in both is the same; drug therapy, psychotherapy, vocational rehabilitation, family therapy are used for both types. In oesophagostomy special problems are eating and speech problems. These two problems could be due to physical defects that are produced. Intensity of patient reaction to speech lost depends on the defect, personality of patient, preceding stresses, coping of patient, social situation, occupation of patient. **CONCLUSIONS:** These factors should be considered in rehabilitation of patient and therapy processes. Aphony, dysphony, mutism, are speech problems that each of them and rehabilitation of them would be discussed in essay. **RESEARCH IMPLICATIONS:** N/A **CLINICAL IMPLICATIONS:** N/A **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-60

Psychiatric Symptoms & Brain Tumors - Updating

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BACKGROUND: More than 50% of Brain Tumors (BT) present with psychiatric symptoms (PS). 80% are located in the frontal or limbic areas. PS are the BT inaugural manifestation in 18% of patients. Brain metastases (BM) are the most prevalent BT and have the greatest incidence of PS, which is probably related to their scattered distribution in the brain. The aim of this paper is to update information between specific Psychiatric symptoms and brain tumor location. **METHOD:** A comprehensive review of the literature focusing on reports about BT and their eventual PS, through PubMed between January 1970–October 2010. The search-

ing words were *brain tumor, psychiatric symptoms, manifestation, and association*. The authors portray a patient's case report whose severe psychiatric symptoms showed to be secondary to BM and were actually the first clinical manifestation of a primary lung tumor. Patient's medical files and computed tomography (CT) scans were reviewed in detail. **RESULTS:** Neither tumor location or histology proved to be particularly associated with any specific PS. Mood symptoms are the most commonly related to an evolving BT. It seems to be statistically significant the correlation between anorexia without disturbance of body image perception and tumors of hypothalamus. In the reported case, the clinical picture appointed to a sub-acute delirium of unknown etiology. The scan conveyed several right fronto-temporal e thalamo- diencephalic tumors secondary to a disseminated yet so far silent, lung tumor (T1 N2 M1). **CONCLUSIONS:** Instead of classical neurological signs, BT may only present psychiatric symptoms. Both primary care and mental health teams should be alert to this frequent association. Early diagnosis and treatment of BT are determinant for the survival and quality of life of patients. Neuroimaging (CT and MRI scan) should be mandatory for all patients who present in the psychiatry emergency room or psychiatry outpatient clinic with 1) new-onset psychosis, 2) recurrence of previously well-controlled psychiatric symptoms, 3) consistently atypical symptoms or 4) prolonged psychotropic refractory symptoms. **RESEARCH IMPLICATIONS:** Our present comprehension of the neurophysiologic and neuroanatomic correlates of behavior are far from complete. The complex and still partially unknown network linking different regions of the brain turns unlikely any definitive correlation between neuropsychiatric symptoms and site of lesions. Well-designed prospective studies, with large number of patients, matching psychiatric and neuro-oncologic following-up series, are pivotal for a better comprehension and useful diagnosis insight of the psychiatric manifestations into Brain Tumors. **CLINICAL IMPLICATIONS:** The reported case highlights the importance of being aware of a possible oncologic etiology for the new onset, atypical or refractory psychiatric symptoms; whether in primary care or psychiatry clinic setting, the immediate request of brain image exams is mandatory. This routine may be lifesaving for patients with disclosed and possible curable neoplasm that would otherwise evolve undetected and eventually towards a fatal stage. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-61

The Impact of Being Diagnosed With Lung Cancer: A Qualitative Interview Study

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BACKGROUND: Quality of life studies in lung cancer (LC) patients mostly have a quantitative research design and focus on physical symptoms, emotional distress, and treatment effects, whereas the social impact is under-researched. Little is known of the personal experiences of patients studied within a qualitative research design. This study aims to explore patients' personal experiences regarding quality of daily life, with a focus on the psychological and social domain, and patients' supportive care needs. **METHOD:** This qualitative study concerns narrative interviews with 14 LC patients (aged 48–77 years; 8 men and 6 women), diagnosed with non-small cell LC ($n = 10$) or small cell LC ($n = 4$). Patients were recruited during routine outpatient visits, applying a broad sampling strategy regarding disease stage (i.e. palliative/curative treatment, survivorship) and cancer treatment. Interviews were performed in-home using a topic-based interview guide. The audiotaped interviews were transcribed and analyzed conform guidelines for qualitative analysis. To facilitate understanding of the results, the emerging themes and corresponding illustrative quotations were presented to psychosocial professionals involved in supportive care for LC patients. **RESULTS:** Six major themes emerged: reality of LC, impact of LC, sharing the diagnosis with others, maintaining normality, the many faces of hope, and end of life. Communication and information giving about diagnosis, treatment and prognosis was open and honest, but for some not adequately tailored to individual needs. Spousal emotional and practical support was of vital importance in coping with LC. A minority wanted and received professional psychosocial support. Patients had no experiences with organized peer support. Informal peer support, however, did lead to sharing valuable experiences for some patients. For some survivors return-to-work and work disability were important issues. **CONCLUSIONS:** The range in experiences indicates the many faces of living with LC. Patients emphasize the importance of maintaining normality and are trying to live in a mindful manner. For survivors

normality may include vocational rehabilitation although barriers for return-to-work exist. Considering supportive care, patients mobilized their own sources of support. Unexpectedly, only a minority needed professional psychosocial care, despite the high prevalence of symptom and psychological distress known from literature. The need for peer support was also limited, fearing the experience of negative emotions and the notion that being in similar situations does not guarantee sharing the same experiences. **RESEARCH IMPLICATIONS:** New information and communication technologies, such as eHealth, should be explored to get insight in their ability to tailor information to individual needs of LC patients. In addition, research is needed in the area of peer support; the pros and cons of peer-to-peer support in LC, as well as the effects on quality of life. Lastly, the specific problems and long-term difficulties of survivors of LC need investigation. **CLINICAL IMPLICATIONS:** Recent changes in characteristics of the LC population, i.e. more female and younger patients, more never-smokers, increasing proportion of survivors, and the trend of extended time on palliative treatment, impacts quality of daily life and consequently affects supportive needs. Survivors represent a subgroup with specific needs (e.g. return-to-work, long-term functional limitations). The knowledge generated by this exploratory study indicates that communication, information, professional psychosocial support and peer support should be tailored to these needs. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by a grant from the Dutch Federation of Lung cancer patients and the Dutch Cancer Society.

P3-62

“It is Not That Easy to Switch Off to it - The Second Time Round”: Experiences of Patients With a Recurrent Bowel Cancer and Their Partners

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BACKGROUND: Cancer recurrence is a difficult stage of the cancer journey as it challenges patients' hopes that cancer can be cured and emphasises the life threatening nature of illness. It is often associated with physical and psychological difficulties. The impact on partners at this time is also significant. This study aims to explore the psycho-social impact of recurrence of colorectal cancer on the daily lives of patients and their spouses/partners and how they cope with it. **METHOD:** Twelve patients with a diagnosis of bowel cancer recurrence and their partners will be recruited from 4 hospitals in the UK as well as online communities (recruitment in progress). Semi-structured inter-

views are being conducted separately with patients who have had a recurrence and their partners/spouses, within 1–2 months after diagnosis. Data are being analysed using IPA (Interpretative Phenomenological Analysis). **RESULTS:** Preliminary findings from the interviews suggest that patients and partners experience a range of emotions including shock and despair when diagnosed with cancer recurrence as they often thought that they managed to “beat the cancer”. The experience of initial diagnosis provides a reference point for their experiences of recurrence as both patients and partners often compare the initial and the subsequent diagnosis. Continuity in relationship with clinical team was found reassuring for patients especially when breaking bad news. Family members provide both emotional and practical support for patients but they often feel that they lack support from health care professionals. **CONCLUSIONS:** Recommendations on supportive care in colorectal cancer highlight the need to provide care for patients throughout the cancer journey. However, we still have a limited understanding of the issues patients with bowel cancer face when they experience a recurrence of the disease. Partners are important source of support for patients yet their supportive needs are often not attended to. This study contributes to our understanding of the experiences of patients and their partners at this difficult time and will help to inform the further development of health care services to support them. **RESEARCH IMPLICATIONS:** This study provides an insight into patients and partners experiences' of bowel cancer recurrence as to date relatively little psychosocial research has focused on this period, especially in comparison to the medical literature. However, more work is needed on the experiences of patients' with active and advanced disease across different cancer sites. Future studies should also explore what interventions are best suited to address the information and supportive needs of patients and their partners. **CLINICAL IMPLICATIONS:** While continuity of care may act as buffer in their experience of recurrence, receiving a diagnosis of secondary cancer can still be a traumatic experience for patients. The role of Clinical Nurse Specialist was especially highlighted in providing both emotional and practical support. When providing patients and families with information about prognosis, practitioners need to strike a balance between being realistic and maintaining hope, as it may have an impact on their experiences throughout cancer journey. **ACKNOWLEDGEMENT OF FUNDING:** OXFORD BROOKES UNIVERSITY:

P3-63

Quality of Life and Psychosocial Adjustment in Colorectal Cancer Patients With Stoma and Nonstoma

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BACKGROUND: This study had been conducted with the aim to determine quality of life and psychosocial adjustment of colorectal cancer patients with stoma and nonstoma and to evaluate the relationships between these factors. Factors in the study were compared in terms of some sociodemographic and illness factors. **METHOD:** 60 colorectal cancer patients contributed to the study. Participants were given a personal information form, EORTC QLQ-C30 quality of life questionnaire, EORTC QLQ-CR38 quality of life questionnaire and Psychosocial Adjustment to Illness Scale. *T*-test and Mann Whitney-U tests were used in the evaluation of differences among these groups. Spearman correlation was used in the evaluation of relationships between factors. **RESULTS:** According to the results, patients with stoma were found to be different from the nonstoma group in terms of global health status, physical functioning, cognitive functioning, micturition problems, chemo side-effects, gastrointestinal problems and weight loss and in terms of psychosocial adjustment, domestic environment and psychologic distress. Other factors were similar in the two groups. Although psychosocial adjustment of the two group is moderate, patients with stoma is significantly worse than patients without stoma. Patients with stoma have more problems with family and psychological adaptation than nonstoma patients. In addition, there are positive correlations between quality of life and psychosocial adjustment. **CONCLUSIONS:** Patients with stoma were found to be different from the nonstoma group in terms of some quality of life and psychosocial adjustment aspects. Patients with stoma have more problems in quality of life and psychosocial adjustment than nonstoma patients. **RESEARCH IMPLICATIONS:** This study is the first comparing study about stoma and non stoma patients with colorectal cancer in Turkey. We need more study in our country with this subject. **CLINICAL IMPLICATIONS:** Oncology clinics in a multidisciplinary approach to treatment are recommended to include experienced psychologists and psychiatrists about psycho-oncology and taking into account problems during the treatment of cancer patients with stoma, the planning of training and counseling services should be continued by them. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-64

Spiritual Care by Nurses in Curative Cancer Care: Experiences and Expectations of Patients

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BACKGROUND: Each person is assumed to have spiritual needs; the need for love, others, God, the need to find meaning and purpose etc. A life-threatening illness such as cancer can cause these needs to become unfulfilled. Nurses can play a role in fulfilling these needs. Spiritual care mainly takes places in the palliative setting. It is not known if needs and experiences from patients who are treated with curative intent differ from those of palliative patients. **METHOD:** Our study uses a mixed qualitative and quantitative research design. About 80 patients, coming from 9 hospitals spread over the Netherlands, will be approached at the end of curatively intended (adjuvant) treatment with chemotherapy. In the second part of the study we will also interview about 80 nurses. Concerning the patient part, we conduct semi-structured qualitative interviews and ask patients to fill in questionnaires concerning quality of life and spiritual attitude and involvement. All interviews will be transcribed and coded for analysis. Quantitative analysis will be used to investigate which characteristics influence the quantity and quality of nurses' spiritual care. **RESULTS:** At this moment we are transcribing the first 20 patient interviews. On this rich material we are undertaking initial qualitative and quantitative analysis. At this moment (may 2013) it is too early in the process to explicitly mention results. However the first analysis cautiously shows that spiritual care and the need for it in curative cancer care might be different from the spiritual care expected and received by palliative patients. In November 2013 we will be able to give more and more solid results on this interesting topic. **CONCLUSIONS:** Just as with the results, at this moment it's too early in the research process to give voice to conclusions. At the congress in November 2013 we however can present more data that gives an insight in spiritual care to cancer patients treated with a curative intent. **RESEARCH IMPLICATIONS:** Substantial number of cancer patients report unfulfilled spiritual needs. Spiritual care is believed to improve quality of life and may help to cope with illness and treatment. Nurses in palliative care seem to be naturally aware of the spiritual dimension of patients. Yet it is unknown if spiritual care is provided in curative care. This study is intended to investigate the need for spiritual care in curative cancer care from patients' and nurses' perspective. **CLINICAL IMPLICATIONS:** Nurses

are a category of caregivers who have shown an interest in spiritual care training. Furthermore, because of the nature of their job, nurses understand the art of “diluted severity”, passingly talking about serious affairs; by diluting serious topics with triviality, it is more easy to raise them in conversation. If the study shows that spiritual care improvement in the curative sector is needed, our result might relatively easy be trained and implemented in daily care
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P3-65

Writing a Spiritual Autobiography: Inner Dialogue, Life Orientation and Resilience in Cancer Patients

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BACKGROUND: A cancer diagnosis often provokes existential questioning concerning identity, meaning, and spirituality. Clinical practice at VUmc shows that writing a spiritual autobiography - a biography addressing existential and spiritual development - eases this questioning, and strengthens personal life orientation and resilience. Drawing from various philosophical, psychological and theological sources we explore the relationship between writing a spiritual autobiography, personal life orientation, and resilience; especially concerning the role of emplotment and performative inner dialogue. **METHOD:** Effect study ($N = 50$); duration 3,5 years. Cancer patients, diagnosed > 0,5 year previous to study, treated with curative intent, methodically write their spiritual autobiography during 8 group sessions in 4 months period. Quantitative research determines the effect of writing the spiritual autobiography (immediately, 3 months and 9 months after the intervention) by means of validated questionnaires in terms of personal life orientation and resilience. Qualitative research studies the relationship between writing, life orientation and resilience in two steps. First a conceptual framework on the relationship is developed, secondly a content analyses of participants spiritual autobiographies and interviewdata is conducted. **RESULTS:** This study is currently being conducted. It will be completed in two years time and results are therefore forthcoming. However, drawing from fields such as philosophy, psychology and theology, a conceptual framework on the relationship between writing, life orientation and resilience can already be developed. Writing a spiritual autobiography can then be understood as fostering inner and outer performative dialogue, leading to an articulated and appropriated personal

life orientation and consequently to resilience. Specific characteristics of the plot developed in the autobiography determine the manner in which one’s inner dialogue, life orientation, and resilience are affected. **CONCLUSIONS:** Gaining insight in the relationship between writing a spiritual autobiography, life orientation and resilience by means of emplotment and performative inner and outer dialogue, allows for new insight and novel approaches in dealing with existential restlessness and discomfort (e.g. as it relates to stress reduction, self management etc). This is relevant and important to the field of psycho oncology, as it allows for different approaches to improve and understand the (spiritual) quality of life and wellbeing of cancer patients. **RESEARCH IMPLICATIONS:** An increased (multi disciplinary) understanding of the relationship between writing a spiritual autobiography, life orientation and resilience - by studying the role of emplotment and performative inner dialogue - can also lead to new insight and help understand the relationship between e.g. writing, emplotment/inner dialogue and self management; or writing, emplotment/inner dialogue and coping; or writing, emplotment/inner dialogue and stress reduction. **CLINICAL IMPLICATIONS:** An increased (multi disciplinary) understanding of the relationship between writing a spiritual autobiography, emplotment/inner dialogue, life orientation and resilience, could eventually allow for the development of a variety of new clinical tools, instruments and interventions centering around writing and inner dialogue that allow cancer patients to strengthen their resilience, increase their potential for self management and eventually get their life back on track. **ACKNOWLEDGEMENT OF FUNDING:** The research project is funded by Adessium, an independent foundation in the Netherlands.

P3-66

Spirituality/Religious Conviction in Cancer Patients

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BACKGROUND: Numerous studies have shown that spirituality/religious conviction might be a resource in coping with illness contributing to psychosocial adjustment, to patients attitude towards cancer treatments as well as to patients health related quality of life. The aim of this study was to investigate whether 1) the “faith factor” demonstrates effects on anxiety and depression in cancer patients, 2) is spirituality/religion a source of

strength and 3) sociodemographic factors impact spirituality/religious conviction? **METHOD:** 443 patients (56% women, 44% men) diagnosed with cancer at the Clinic for Haematology/Haemostaseology and Oncology of the Medical University of Vienna were interviewed. Based on the bio-psycho-social-spiritual model we used standardized questionnaires like the anxiety and depression scale (HADS), spirituality and religiosity benefit (Büssing) as well as sociodemographic characteristics. Furthermore, we obtained clinical data such as cancer site, presence of metastatic disease, haemoglobin, pain and fatigue; social factors included income, education, employment status, presence of children in the household, marital status, residency (rural vs. urban); and psychological factors: depression, anxiety, distress and previous psychiatric disorders. **RESULTS:** 231 (52%) of the 443 patients studied, referred themselves as spiritual and/or religious (religious 24,4% spiritual 11,1% religious/spiritual 16,7%). We could not demonstrate any significant associations between spirituality/religious conviction and biological or sociodemographic factors. Study data demonstrated towards lower anxiety and depression levels in the spiritual and/or religious group. The highest levels of anxiety and depression were detected in the non-religious, non-spiritual group. **CONCLUSIONS:** These results indicate that spiritual and religious conviction might play an important role in patients dealing with life threatening diseases. Nevertheless it should be mentioned that family back up was the most important support for the patients suffering from cancer. However these are only preliminary data and further results will be presented. **RESEARCH IMPLICATIONS:** Our findings suggest, that spirituality should be included as a factor in quality of life evaluations. Further studies are needed to validate this hypothesis. **CLINICAL IMPLICATIONS:** The major implication of this study is the need for the health care providers to pay more attention to the question whether spirituality/religious conviction serves as a resource to individual cancer patients. Our data indicate that this is the case. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-67

Abstract withdrawn

P3-68

Meaning Making in Cancer Survivors: A Focus Group Study

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BACKGROUND: Confrontation with a life-threatening disease like cancer can evoke existential distress, which can trigger a search for meaning in cancer patients. The purpose of this study is to gain more insight in the meaning making process among cancer survivors. **METHOD:** We conducted four focus groups with 23 cancer survivors on this topic. Participants responded to questions about experienced meaning making, perceived changes in meaning making after cancer and the perceived need for help in this area. **RESULTS:** Most frequently mentioned meaning making themes were *relationships* and *experiences*. We found that, in general, cancer survivors experienced enhanced meaning after cancer through *relationships, experiences, resilience, goal-orientation* and *leaving a legacy*. Some participants, however, also said to have (also) experienced a loss of meaning in their lives through *experiences, social roles, relationships* and *uncertainties about the future*. **CONCLUSIONS:** The results indicated that there is a group of cancer survivors that has succeeded in meaning making efforts, and experienced sometimes even more meaning in life than before diagnosis, while there is also a considerable group of survivors that struggled with meaning making and has an unmet need for help with that. The results of this study contribute to develop a meaning centered intervention for cancer survivors. **RESEARCH IMPLICATIONS:** Meaning making seems to be an important issue in cancer survivors, but much is still unknown about the meaning making process. The results of this study give insight in meaning making processes in cancer survivors and their need for help with issues with meaning and offer targets for future research. **CLINICAL IMPLICATIONS:** Meaning making is important in the adjustment to life after cancer. The results of this study offer more insight in the perceived meaning making issues of cancer survivors and their need for psychological help with this. It also gives examples of how cancer survivors experience meaning in life after cancer. **ACKNOWLEDGEMENT OF FUNDING:** This study is funded by the Dutch Cancer Society / Alpe d'HuZes/KWF Fund.

P3-69

The CHANGE Study: Web-Based Cognitive Behavioral Therapy for Fatigued Breast Cancer Survivors

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BACKGROUND: Approximately 40% of breast cancer survivors suffer from severe fatigue after completion of cancer treatment with curative intent. Individual cognitive behavioral therapy (CBT) especially designed for postcancer fatigue was found to be effective. Unfortunately, treatment capacity is limited. A web-based version of the CBT with minimal therapist support is developed to extend treatment options for postcancer fatigue. The effectiveness of the internet therapy will be determined in the CHANGE study. **METHOD:** The web-based CBT for fatigued breast cancer survivors will be compared to usual care in a randomized controlled trial. Severely fatigued women between 18 and 65 years old, who completed primary breast cancer treatment at least three months ago, can participate in the study. The following research questions will be assessed:

- What are the effects of internet therapy on fatigue compared to usual care?
- What are the effects of internet therapy on functional impairments, psychological distress and quality of life compared to usual care?
- Does time since end of cancer treatment moderate the effects of internet therapy?

RESULTS: The internet therapy includes six modules that coincide with six factors assumed to perpetuate the symptoms of fatigue. These perpetuating factors are: (1) coping with breast cancer and breast cancer treatment; (2) fear of disease recurrence; (3) dysfunctional fatigue-related cognitions; (4) sleep-wake rhythm; (5) activity pattern; and (6) social support. Several assessment tools are used to determine which key modules are applicable to each participant, which makes it possible to provide a tailored treatment. The internet therapy will be demonstrated and the first experiences of patients with the internet therapy (test pilot) will be presented. **CONCLUSIONS:** Web-based CBT is expected to be less time-consuming for therapists than regular CBT, which would result in an increased treatment capacity. Moreover, web-based CBT could provide an additional, easy-accessible

treatment option for fatigued breast cancer survivors. Participants are able to follow the internet therapy at home, at any preferred time, and can go through the modules at their own pace. **RESEARCH IMPLICATIONS:** The CHANGE study will provide insight in the effectiveness of web-based CBT for fatigue in oncology care. The study will demonstrate whether web-based CBT for postcancer fatigue will be effective in reducing fatigue, functional impairments, psychological distress and improving quality of life for breast cancer survivors suffering from severe fatigue after completion of cancer treatment. **CLINICAL IMPLICATIONS:** Web-based CBT is expected to increase the limited treatment capacity of postcancer fatigue. If web-based CBT would be effective, it could provide an additional treatment option for postcancer fatigue that can easily be implemented in regular care. **ACKNOWLEDGEMENT OF FUNDING:** The study is financed by a grant of Pink Ribbon, the Netherlands.

P3-70

Adventure Therapy: A Novel Approach to Increasing Physical Activity and Physical Self-Concept in Young Adult Cancer Survivors

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BACKGROUND: Studies have demonstrated physical activity (PA) is beneficial both physically and psychologically in cancer survivors including young adult cancer survivors (YACS) but it has been challenging to recruit YACS to conventional PA programming. Adventure therapy (AT) uses metaphors to enhance participant's ability to transfer challenges during the expedition to daily life. The purpose of this pilot study is to determine if AT can positively affect physical self-concept and PA in YACS. **METHOD:** YACS diagnosed between the ages of 15–39, who were participating in an AT expedition were asked to complete a survey before and after their expeditions. A group of YACS not participating in AT were given the surveys at the same time points and served as a control group. The survey included the Leisure-Time Exercise Questionnaire and the Physical Self Description Questionnaire-Short Form (PSDQ-S). **RESULTS:** Eight participants responded to both the pre and post survey (4 AT, 4 control). The mean age of the sample was 29.7 ± 4.8 years. Results indicated that there was a greater increase in PA minutes in the AT group (146 minutes/week) than the control group (34 minutes/week). At the

one-week follow-up, scores were higher for the AT group in PSDQ-S subscales of body fat and global physical compared to the control group. **CONCLUSIONS:** To our knowledge, this is the first study exploring the possibility that AT could increase physical self-concept and physical activity in YACS. In this pilot study YACS participating in AT expeditions, had a greater improvement in self-reported PA minutes and improvements in perception of their bodies, on measures of global physical and body fat, than the control group. This indicates that YACS in the AT group were more comfortable with their weight and how they felt about themselves physically. **RESEARCH IMPLICATIONS:** Given the preliminary results that AT may improve how YACS feel about themselves physically and increase their PA minutes, additional research is warranted. Larger studies of different types of ATs and longer follow-up are needed. **CLINICAL IMPLICATIONS:** AT expeditions are becoming more common for YACS and research on their purported benefits are needed. Such research around AT will help oncologists and other health care professionals describe the potential benefits of AT to YACS and make recommendations to their patients about attending these expeditions. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-71

Predictors of Emotional Well-Being of Adolescent Childhood Cancer Survivors

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BACKGROUND: According to some studies, childhood cancer survivors suffer emotional problems, externalized behavioral problems and social withdrawal during adolescence. On the other hand, there are studies on HRQL indicating that despite the wide range of late effects there is no difference in quality of life between childhood cancer survivors and healthy adolescents. The presented study explores the influence of different sets of factors identified as significant predictors of emotional well-being of childhood cancer survivors in adolescence. **METHOD:** Participants were 100 adolescents (47 girls) aged 13–20 years. The Psychological Functioning subscale of MMQL was used as a measure of emotional well-being. Three sets of variables were studied: demographic variables (gender, age), medical data (delay between the end of intensive treatment and psychological assessment, diagnosis, severity of late effects), and information about parent-child interactions (parental involvement, con-

trol, warmth, and inconsistency of parenting). To analyze the influence of independent variables, hierarchical regression analysis was used with demographic variables in the first block of variables, parenting aspects in the second block of variables and medical data in the third block of variables. **RESULTS:** The only predictors of emotional well-being are gender (boys report better emotional well-being) and consistency of parenting (consistency of parenting influences better emotional well-being). No influence of cancer treatment-related problems was found. **CONCLUSIONS:** The study supports findings implying that there are no differences between well-being/quality of life of childhood cancer survivors and healthy (general) population of children and adolescents. More precisely: although there may be differences in the quality of life between cancer survivors and healthy population, the sources of the quality of life of cancer survivors are the same as in the general population. **CLINICAL IMPLICATIONS:** The findings demonstrate the importance of taking into account problems that might be typical for the period of adolescence in general within the psychosocial support for childhood cancer survivors. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by the Czech Science Foundation (Grant No. P407/11/2421) and the Czech Republic's support for long-term strategic development of research organizations (RVO: 68081740).

P3-72

Distress, Problems, and Supportive Care Needs After Hematopoietic Stem Cell Transplantation

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BACKGROUND: It is known that hematological malignancies as well as hematopoietic stem cell transplantations affect patients' health-related quality of life. The problem profile of this patient group needs clarification, however. Moreover, it is unclear for which problems patients need help, and whether their needs are met or unmet. This study aimed to assess distress, problems and corresponding care needs up to 5 years after autologous or allogeneic stem cell transplantation (auto-SCT, allo-SCT). **METHOD:** In this cross-sectional study, patients

treated with auto- or allo-SCT for hematological malignancies completed the Distress Thermometer and corresponding Problem List, to which supplementary questions on supportive care needs were added. Auto-SCT and allo-SCT patients were analyzed separately. To compare problems and needs at different time points after transplantation, we created three groups: patients 0–1 year(s), 1–2.5 years, and 2.5–5.5 years after transplantation. **RESULTS:** In allo-SCT patients, distress and number of problems tended to be lower with longer follow-up. The percentage of patients with distress after auto-SCT was highest at 1–2.5 years after SCT. Overall, patients mainly reported physical problems, followed by cognitive-emotional and practical problems. The physical problems *being out of shape/condition, fatigue, muscle strength, and tingling in hands and feet* were mentioned most, as were the cognitive-emotional problems *concentration, memory, and tension/nervousness*. Despite the relatively high number of reported problems, the minority of patients with problems reported (unmet) care needs. **CONCLUSIONS:** With the current study, we reached a large number of hematopoietic SCT survivors willing to report on their problems and care needs. Consequently, we were able to study the differences between patient groups at consecutive time periods after transplantation. We pointed out the specific problems patients face in the years after auto- and allo-SCT, as well as their needs for additional care. In addition to the usual care as offered nowadays, specific attention should go to problems in the physical, cognitive-emotional, and (somewhat less) practical areas of functioning. **RESEARCH IMPLICATIONS:** Whereas previous studies reported unmet needs to be mainly in the daily living, practical, and psychological domains, our results only partly confirmed these findings. Most unmet needs seemed to be in the physical and cognitive-emotional domain. More research is needed to elucidate these findings. Also, future research should look further into explanations for the relatively small number of patients reporting unmet needs. **CLINICAL IMPLICATIONS:** Judged by prevalence, physical problems are the first priority in supportive care, followed by cognitive-emotional and practical problems. Our results suggest the need for interventions targeting specific problems in these areas of functioning. Physical problems might be targeted by exercise programs. For patients with concentration and memory difficulties, patients could be treated with cognitive rehabilitation, aiming at compensating cognitive impairments. Psychological treatment could help in improving tension/nervousness or depression. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-73

Anxiety and Depression Severity in Colorectal Cancer Survivors: A Comparison With the NESDA-Cohort

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BACKGROUND: There are some indications that colorectal cancer (CRC) survivors suffer from heightened levels of anxiety and depression symptoms, independent of their quality of life (QOL). The present study aimed to (1) assess the prevalence of anxiety and depression symptoms in CRC survivors, (2) compare CRC survivors' anxiety and depression severity to healthy controls and persons with a lifetime diagnosis of anxiety and/or depression disorder, and (3) assess health-related QOL, particularly emotional functioning, in CRC survivors. **METHOD:** In this cross-sectional study, persons diagnosed with CRC 3,5 to 6 years ago were asked to complete a questionnaire package, including the Inventory of Depressive Symptomatology, Beck Anxiety Inventory, and EORTC-QLQ-C30. Descriptive statistics were used to assess the prevalence of anxiety and depression symptoms in CRC survivors. With multiple linear regression analyses, we compared anxiety and depression severity of CRC survivors to data on healthy controls and persons with a lifetime anxiety and/or depression disorder, available in the Netherlands Study of Depression and Anxiety (NESDA). Descriptive statistics were used for assessing health-related QOL. **RESULTS:** Of 132 eligible patients, 91 completed the questionnaire package (response rate 69%). The majority of CRC survivors had no (80,6%) or mild (13,6%) anxiety symptoms; 5% reported moderate or severe symptoms. The majority had no (59,3%) or mild (33,0%) depression symptoms; 7,7% reported moderate symptoms. Controlling for several sociodemographic variables, CRC survivors had significantly lower anxiety and depression severity compared with persons with a lifetime anxiety and/or depression diagnosis. CRC survivors reported significantly higher depression severity than healthy controls, but did not differ on anxiety severity. CRC survivors reported relatively good emotional functioning on the EORTC-QLQ-C30.

CONCLUSIONS: The present study is the first to compare CRC survivors' anxiety and depression severity with person with a lifetime diagnosis of anxiety and/or depressive disorder, as well as with healthy controls. Despite CRC survivors reporting better emotional function than the EORTC-QLQ C30 general population reference group, they reported significantly higher depression severity than healthy controls. However, anxiety and depression severity were significantly lower compared to persons with a lifetime anxiety and/or depressive diagnosis. **RESEARCH IMPLICATIONS:** In CRC survivors, measuring emotional functioning in QOL measurements seems to lead to an underestimation of depression symptoms. Further research is needed to confirm these findings. **CLINICAL IMPLICATIONS:** Even in CRC survivors with good emotional functioning on a QOL questionnaire, clinicians should be aware of potential depression symptoms. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-74

Unemployment Among Breast Cancer Survivors

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BACKGROUND: Even though nearly 80% of breast cancer survivors return to work in the years following treatment, it may be a challenge for cancer survivors to maintain an affiliation to the labor market, as the risk for non-employment has been shown to continue. The majority of studies have, however, been focusing on risk factors for non-working and not explicitly on unemployment. Breast cancer in combination with unemployment might be a substantial challenge to the affected women. **METHOD:** This study is solely based on information from Danish administrative population-based registers. All women diagnosed with breast cancer between 2001 and 2009 were identified. As the outcome of the study was unemployment, we restricted the analysis to women aged 18–63 years and being part of the workforce at the time of diagnosis ending up with a population of 14,749 breast cancer survivors. Using cox proportional hazard models the women were followed from the time of diagnosis until unemployment, death, early retirement, emigration, age 64 years or end of follow-up (last week of March 2011), whatever came first. **RESULTS:** Two years after completion of treatment, 10% of women were unemployed. The risk of unemployment turned out

to depend mostly on history of unemployment with significantly different frequencies of unemployment after diagnosis among survivors with and without a history of unemployment. The risk for unemployment after diagnosis were doubled, if the woman had been unemployed 53–78 weeks before diagnosis (OR: 2.04, 95%CI: 1.78–2.34). Independent of employment status before diagnosis, low socioeconomic position was significantly risk factors for unemployment in the fully adjusted model. Clinical factors and co-morbidity turned out to be of minor importance for the future risk of unemployment. **CONCLUSIONS:** In this study of unemployment among women with breast cancer, we found that unemployment before diagnosis was the single most predictive factor for unemployment in the years following. Risk for unemployment was associated with low socioeconomic status, but not with comorbidity or clinical factors. Depression before diagnosis was a risk factor in the group of women not unemployed before diagnosis. This finding leads to identification of a special vulnerable group of women, who have to struggle with both a history of unemployment and a severe disease. **RESEARCH IMPLICATIONS:** As the prevalence of breast cancer survivors in working age is increasing it is becoming more important to identify different pathways from patient back to normal life. Non-working covers a range of possible states as retired, sickness absence, assisting spouse, leave or unemployed. All these states can be caused by different risk factors. Research in these different risk factors can improve the rehabilitation of cancer survivors. **CLINICAL IMPLICATIONS:** Identifying special vulnerable breast cancer survivors is important in order to help this group of survivors to get back to a normalized life. Rehabilitation under and after treatment has to be tailored to the special needs of the individual, and women with a history of unemployment might have special needs. **ACKNOWLEDGEMENT OF FUNDING:** This work is funded by The Danish Cancer Society and The Novo Nordisk Foundation and is part of The Centre for Integrated Rehabilitation of Cancer Patients (CIRE).

P3-75

Breast Cancer Survivors and Innovative Return and Stay at Work Intervention: A Research Protocol

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BACKGROUND: To reduce the substantial gaps in our understanding of how to develop and

successfully implement survivors centred interventions, our research project aims: 1) To identify the inter related factors influencing the return to work (RTW) and staying at work (SAW), 2) To develop a intervention for a healthy RTW, 3) To evaluate the feasibility of the intervention. **METHOD:** A comparative case study ($n = 2$) will be performed to identify inter related factors influencing RTW and SAW for breast cancer survivors (Obj. 1). The unit of analysis will be the RTW and SAW trajectories. Data will be collected mainly throughout semi-structured interview with breast cancer survivors ($n = 24$), 1 and 3 years after cancer diagnosis. Building on the identified factors, complementary sources of information (literature review and expert panel) will be mobilised to develop a survivors and evidence-based intervention to support RTW and SAW (Obj. 2). The intervention prototype will then be tested for the feasibility (Obj. 3). **RESULTS:** With more woman surviving breast cancer, it has become more likely that these cancer survivors can continue to work for many years following diagnosis and primary treatment. The results of this project will join the specialised oncological rehabilitation programs for cancer survivors to facilitate improvement of functional deficit related to cancer and its treatment, and the health-related quality of life. **CONCLUSIONS:** In order to maximize effective intervention components of RTW and SAW, it must be tailored accounting the complexity of factors which can influence the success or failure of a healthy cancer survivorship. Our study protocol set forth research methods to capture the breast cancer survivors, their families, employers and colleagues issues. **RESEARCH IMPLICATIONS:** The originality of this project resides in the methods used for the elaboration of the intervention. First, the use of a logic modelling approach to conceive the intervention will permit to explain and describe the links between the different components of it. Second, the participative approach will assure that the intervention designed in this study will be patient-centered. **CLINICAL IMPLICATIONS:** Again, the original methodology of this project will make the intervention developed of interest for clinical experts. The logic modelling approach will permit the experts to understand and evaluated the intervention potential effectiveness and the participative approach combine with evidence-based data will assure the relevance of the intervention. **ACKNOWLEDGEMENT OF FUNDING:** Chaire de recherche en réadaptation au travail (J. A. Bombardier et Pratt & Whitney Canada).

P3-76

Relationship of Fatigue, Exercise Intensity, Depression, Physical Status and Fatigue Related Factors in Head and Neck Cancer Survivors in Taiwan

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BACKGROUND: Fatigue is a common symptom in cancer patients caused by active treatment. Some evidence supported exercise could improve cancer patients' fatigue. However, limited research has explored head and neck cancer survivors' fatigue experience related to exercise intensity and depression. Therefore, the purposes of the study were: (1) to explore the relationship of fatigue, exercise intensity, depression and physical status; and (2) to identify the predictors of fatigue in Taiwanese head and neck cancer survivors. **METHOD:** A cross-sectional study with purposive sampling was conducted in a medical center in northern Taiwan. Head and neck cancer patients completed treatment for 3 months to 5 years were included. We assessed patients' fatigue, exercise intensity, depression and physical status by Fatigue Severity Inventory, Godin Leisure-Time Exercise Questionnaire, Depression Subscale of Hospital Anxiety and Depression Scale, and Karnofsky Performance Scale. Pearson's correlation, *T*-test, and ANOVA were used to examine the association among fatigue and variables. The significant variables including age, months since diagnosis, surgery with or without reconstruction, KPS, depression, and exercise intensity were put into the linear regression model. **RESULTS:** A total of 144 eligible patients were recruited. The results showed that: (1) half of patients (52.6%) did moderate leisure activity weekly, then strenuous activity (27.7%) and light exercise (19.7%). (2) Patients had mild fatigue and it was correlated to depression and age ($r = 0.24, -0.33$, respectively; $p < 0.01$). Fatigue severity had significantly difference by exercise intensity ($F = 7.72$; $p < 0.01$). Patients doing strenuous exercise had lower levels of fatigue than patients doing moderate and light exercise. (3) The predictors of fatigue were exercise intensity, depression, age, and reconstruction ($R^2 = 0.26$, $p < 0.05$). **CONCLUSIONS:** The results revealed that patients doing higher intensity exercise may improve their fatigue. Besides, depression is also an important predictor of fatigue. Therefore, healthcare providers should also pay attention to mental health while using exercise program to improve fatigue. Future study should develop effective intervention to manage the fatigue and enhance their quality of life. **RESEARCH IMPLICATIONS:** The finding indicated that patients' fatigue was correlated to mental distress and activity. Also, the different age or complication

resulted from types of surgery lead to the levels of fatigue variedly. It is necessary to understand patients' preference of exercise or activity and physical function status for developing the various exercise guidance for fatigue management in the future. **CLINICAL IMPLICATIONS:** Our results found fatigue still occur in head and neck cancer survivors. The impacts of mental distress and potential physical symptoms caused by treatment are needed to concern continuously in the survivorship. The study suggests assessment of patients' mental and physical status simultaneously may promote fatigue management effectively. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-77

"It Will Never be the Same:" Adjusting to Real Life After Breast Cancer Treatment

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BACKGROUND: Breast cancer patients feel relieved when initial treatment is over and they are keen to back to the life they had before cancer. However, the end of treatment would present patients with changes and new physical, psychological, and psychosocial challenges. This study aimed to explore the whole experience of adjusting to real life after breast cancer treatment among Korean breast cancer patients. **METHOD:** This was a sequential mixed methods study. In Phase I, individual in-depth interviews were conducted with 30 disease free breast cancer survivors to identify difficulties, barriers, and concerns that they experience with adjusting to real life after cancer treatment. In Phase II, 280 breast cancer survivors were surveyed using 60 items in 5 domains that were identified from Phase I study: 1) fear of recurrence; 2) symptoms related to physical and mental condition; 3) roles in family and community; 4) returning to work; and 5) life planning after cancer treatment. **RESULTS:** 87.1% of the study participants worried about fear of recurrence. About one third of the survivors worried about that their children would get cancer because of them (67.1%). They had difficulties to implement or keep health behaviors regardless of their knowledge. Women in 50's experience more challenges in daily life than other age groups which might be due to multiple roles in family and society. Low-income group have more concerns about their working ability than healthy management. Spouse's supports and working and social environment was the key for them to overcome barriers to adjust to reality. **CONCLU-**

SIONS: Survivors experienced on-going problems and challenges regarding daily activities, work-related life, personal relationship, and social activities, and they were not well prepared for the changes. They had both practical and emotional issues with pain and fatigue and their daily activities were disturbed by fear of recurrence and cancer stigma. Lack of information, negative perception, limited family and social support were the key barriers for them to adjust to reality. **CLINICAL IMPLICATIONS:** Health professionals should assess needs of patients when the initial treatment is over and provide appropriate information and psychosocial support to the patients to help them adjust well to daily routine that they enjoyed before the cancer diagnosis. **ACKNOWLEDGEMENT OF FUNDING:** This study was a part of BRAVO program and we would like to thank Goldman Sachs for their support of the BRAVO program.

P3-78

Abstract withdrawn

P3-79

Fear of Cancer Recurrence in Patients With Colorectal Cancer - A Retrospective Study

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BACKGROUND: Fear of cancer recurrence (FCR) is one of the most commonly reported problems amongst colorectal cancer survivors and an important unmet psychosocial need for help. It is a normal and common concern for cancer survivors who have completed treatment and are in remission. However, for some survivors this fear becomes so high that they have difficulties in performing daily activities. This study focuses on the severity and characteristics of FCR in colorectal cancer survivors. **METHOD:** Two hundred fifty four patients diagnosed with colorectal cancer in the period 2003–2010 from the Radboud University Nijmegen Medical Centre in the Netherlands were asked to participate. An information letter was mailed to all colorectal cancer survivors together with questionnaires on demographic variables and medical data, the Cancer Worry Scale (low fear: ≤ 13 , high fear: ≥ 14) and the Fear of Cancer Recurrence Inventory (subscales triggers, psychological distress and functioning impairments). **RESULTS:** One hundred nine patients (43%) returned the questionnaires. Of these, 84 patients

(median age 67.1; range 42–89 years) were disease free and did not have a recurrence or metastasis (time since diagnosis $M = 4.91$ $SD = 2.4$). About a third of these patients (34.5%) experience high levels of FCR that coincide with psychological distress, functioning impairments including work, daily and social activities, the ability to make future plans and triggers that make one think about the possibility of a recurrence. No relation was found between high levels of fear and age, time since diagnosis, gender, stage of disease or having a stoma. **CONCLUSIONS:** A long time after the diagnosis of colorectal cancer, FCR is a problem for a substantial part of survivors. Survivors with high levels of FCR experience significantly more psychological distress, functioning impairments and triggers compared to survivors with low levels of FCR. **RESEARCH IMPLICATIONS:** This research demonstrates that severe FCR is still prevalent in a substantial part of cancer survivors for a long period after the end of primary treatment. More research into the underlying mechanisms of the development of severe FCR is needed to understand this phenomenon. **CLINICAL IMPLICATIONS:** The results implicate that fear of cancer recurrence can have a large impact on survivors' lives. It is important to develop an intervention tailored to this specific fear to reduce the high levels towards more normal levels of fear. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-80

Physical Exercise and Return to Work: Cancer Survivors' Experiences

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BACKGROUND: Cancer survivors often experience problems returning to work. Physical exercise might influence return to work and vice versa. To gain insight into these influences, it is necessary to explore cancer survivors' personal experiences. The goals of this qualitative study are to explore cancer survivors' experiences with 1) return to work and work performance; 2) a physical exercise program after treatment; and 3) the perceived link between physical exercise and work. **METHOD:** Semi-structured face-to-face interviews were held with cancer survivors of working age who had recently been treated with chemotherapy and had afterwards completed a group-based supervised physical exercise program. The interviewer asked open questions and followed a phenomenological approach. All interviews were audio-taped and transcribed verbatim. The text was coded and categorized using MaxQDA. A second assessor was

involved in coding two of the interviews. **RESULTS:** Ten cancer survivors participated, of whom nine were female and seven had breast cancer. Eight participants returned to work. Half of the survivors had difficulties returning to work due to insufficient occupational physician support. Six stated they had suffered cognitive deficits which impaired work performance. Main perceived effects of the exercise program were "improved fitness" and "renewed energy". Most participants thought that physical exercise had likely contributed to return to work, primarily by increasing energy levels. Some believed that physical exercise had facilitated coping with demanding work. A supportive work environment was believed to stimulate the continuation of physical exercise. **CONCLUSIONS:** Cancer survivors experienced a positive influence of physical exercise on return to work and work performance, and a positive influence of return to work on physical exercise. **RESEARCH IMPLICATIONS:** Considering our findings, and the fact that the number of cancer survivors of working age is increasing and their 5-year survival is rising, it would be interesting to find out the implications of sustained physical exercise on return to work and work performance on the longer term. In further research, generalizability should be optimized by including more male cancer survivors and a broader spectrum of cancer types. **CLINICAL IMPLICATIONS:** Clinicians should incorporate supervised physical exercise as a standard component into the rehabilitation process of cancer survivors. Occupational physicians could advise cancer survivors to remain physically active before, during and after return to work. Also, they can advise the employer to create an exercise-friendly environment to stimulate physical exercise and thereby facilitate work performance. **ACKNOWLEDGEMENT OF FUNDING:** We are grateful to the Alpe d'Huzes Foundation/Dutch Cancer Society for funding the study.

P3-81

Women's Experiences of Social Support During the First Year Following Primary Breast Cancer Surgery

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BACKGROUND: Social support is regarded as important in helping women adjust to breast cancer, and varies during their disease and treatment. To be able to improve psychosocial care by using innovative approaches, it is important to understand social support and its significant role

throughout the breast cancer experience. The purpose of this qualitative follow-up study was to describe women's individual experiences of social support during their first year after primary breast cancer surgery. **METHOD:** Individual semi-structured interviews were conducted at a Norwegian university hospital with 10 women (aged 51 to 67 years) 1 year after primary breast cancer surgery. The interviews varied in length from 55 to 100 minutes. The informants were asked and probed about their experiences of social support throughout the first year following breast cancer surgery. The transcripts were analysed using Kvale's method of qualitative meaning condensation analysis. **RESULTS:** Analysis revealed four themes of social support: sharing experiences, continuity, understanding, and information and explanation. Mutual sharing of experiences increased the women's knowledge and experience of support, and minimised rumination. Continuity of care gave feelings of security and trust. To be met with understanding and seen as a person, not just as "a diagnosis being treated", was important in the women's experiences of support. The women felt uncertainty and loss of support after treatment. Knowing that healthcare professionals had time and would provide care if needed was important. Information and explanation about treatment and the possible treatment-related problems were essential. **CONCLUSIONS:** This study illuminates women's experiences of social support during the first year following breast cancer surgery. Sharing mutual experiences appears to be an important coping strategy in women's experiences of social support. The women's psychosocial support needs are essential to include along with medical treatments and procedures. **RESEARCH IMPLICATIONS:** Further research could focus on the following issues: (a) studying social support from healthcare professionals in the first year after breast cancer surgery among samples of women from different cultures; (b) studying whether a nursing intervention (e.g. participation in a support group) during the first year after breast cancer surgery could have beneficial effects on these women's well-being and ability to cope. **CLINICAL IMPLICATIONS:** By understanding women's individual experiences and support needs, healthcare professionals can be an important resource in providing support and information to women. In order to provide holistic healthcare and support, it is essential to include the women's psychosocial support needs along with medical treatment. The results can be both used clinically to understand the women's support needs during the first year following breast cancer surgery, and used in planning and implementing care for these women. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-82

Physical and Psychosocial Problems in Cancer Survivors Beyond Return to Work: A Systematic Review

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BACKGROUND: Attention for the expanding group of cancer survivors at work, and the late effects they are confronted with while working, has been limited. The objective of this systematic review is to identify and summarize studies, exploring ongoing physical and psychosocial problems related to functioning of employees with a history of cancer, beyond their return to work. **METHOD:** Publications were identified through computerized Medline, Psychinfo, Embase and Cinahl searches (January 2000–March 2013). Studies had to be directed at cancer survivors, who were employed during the study. Both qualitative and quantitative studies were included. Two reviewers independently extracted data from each publication, including design, study population, physical and psychosocial problems (e.g. fatigue, cognitive limitations), and outcome measures (e.g. work productivity). Qualitative and quantitative results were extracted. **RESULTS:** The search identified 8979 articles. After exclusion on title and abstract, 64 were retrieved for full text screening, of which 30 met the inclusion criteria. A total of 20 studies reported quantitative and 10 studies reported qualitative results. Regarding psychosocial problems, cognitive limitations were frequently reported to influence work ability; coping issues diverged from dealing with insensitive management to over-protectiveness of supervisors; fatigue was found to be significantly more present in cancer survivors at work than in the general working population. Regarding physical problems, treatment-induced menopausal symptoms were frequently described as being disruptive at work and affecting work performance. **CONCLUSIONS:** Ongoing physical and psychosocial problems are present in occupationally active cancer survivors, which may cause serious difficulties at work. The results of this study may be used as input for developing supportive interventions for these survivors. **RESEARCH IMPLICATIONS:** This comprehensive overview of most explored and reported problems in cancer survivors impacting functioning at work may be a point of departure for research on, for example, presenteeism and sickness absence in occupationally active cancer survivors. **CLINICAL IMPLICATIONS:** (Occupational) health care professionals, but also employers and colleagues,

should be included in the organisation of keeping cancer survivors occupationally active. When employees with a history of cancer are given tailored support, and personal recommendations and work-related adjustments are made, they may be more likely to continue and manage their (former) illness at work. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-83

Early Stage Lung Cancer Survivors' Characteristics and Relevant Factors of Sleep Disturbance

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BACKGROUND: Sleeping disturbance was commonly reported among cancer patients. Cancer symptoms such as pain, anxiety, and depression can interfere with sleeping quality. Advanced lung cancer patients' emotional distress and symptom burden were typically emphasized. Two purposes of this study focused on early stage lung cancer patients at one month after the operation (1) to explore the association among pain severity, psychological burden, and sleeping disturbance, and (2) to identify relevant factors of patients' sleep disturbance. **METHOD:** This was a cross-sectional correlational study in a medical center in the northern Taiwan to recruit early stage lung cancer patients whose tumor was just removed. The time point of Interview was at one month after surgery. The IRB approval was obtained. Pain severity, total number of symptoms, physical exercise, performance, psychological status, and sleep quality were self-reported in the instruments: a 10-point scale for pain, Godin physical activity questionnaire, Karnofsky Performance Scale, Sleep Disturbance Questionnaire, the Hospital Anxiety and Depression Scale-Anxiety, and Mishel's Uncertainty of Illness-Community version. Descriptive analysis, comparison analysis, and linear regression were proceeded for research purposes. **RESULTS:** This study recruited 225 patients with the average of age 59.5 (SD = 11.5). There were 132 female patients. Ninety percent of patients had at least one symptom. The worst pain and average pain were scored lower than 3. Sixty percent of patient maintained physical exercise and that was correlated to less sleep disturbance. Patients reported a lower level of psychological distress on anxiety (mean = 0.56, SD = 0.53), depression, (mean = 0.54, SD = 0.57), and uncertainty (mean = 2.19, SD = 0.58). Regression shows that sleeping distress was predicted by younger age, an increasing number of symptoms and a higher level of uncertainty and anxiety. **CONCLUSIONS:** Early stage lung cancer patients perceived a fewer number of symptoms, less symptom burden, and a

low level of psychological distress that may be because the tumor was removed. Our findings suggest that (1) sufficient physical activity is necessary for sleep quality; (2) patients having more symptoms and psychological problems were more likely to have sleep disturbance. Therefore, strategies about symptom management and alleviating psychological distress are essential to prevent cancer patients from sleep disturbance. **CLINICAL IMPLICATIONS:** Clinical providers should still be aware of the fact that symptoms and psychological distress are still central issue in improving patients' sleep quality, although early stage lung cancer patient did not report great symptom burden. Moreover, Patients in the survivorship are encouraged to maintain daily physical activities to improve sleeping quality. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-84

Fear of Recurrence After Breast Cancer Treatment

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BACKGROUND: More women are faced with the challenges of survival of cancer, such as dealing with fear of recurrence. This study aimed to assess the prevalence of fear of recurrence in curative breast cancer patients. We investigated the relationship between fear of recurrence and distress as well as a number of demographic and disease-related variables. We also examined the statistical qualities of the Concerns About Recurrence Scale - English Language Version for a Flemish audience. **METHOD:** Questionnaires were sent to 159 patients who underwent curative breast cancer treatment in AZ Maria Middelaes, a general hospital in Belgium, during the past 9 years. The patients completed the CARS-DLV and the Distress Barometer. We questioned these patients on a number of personal and disease-related data, and linked this to the data available through the registration of the Multidisciplinary Oncology Consultations. **RESULTS:** The results show that 14.5% of participants report high fear of recurrence, and 61.8% moderate fear of recurrence. We observe a moderate to high correlation between fear of recurrence and distress. Except a negative correlation with age, we find no significant relationship between fear of recurrence and demographic and disease-related variables. The internal consistency of the CARS-DLV is high. **CONCLUSIONS:** We conclude that fear of recurrence after breast cancer treatment is a topic that deserves clinical attention, given the high prevalence and association with distress. There is a need for a broader plan of care for patient follow-up after cancer treat-

ment both, medical (including information about side effects anti-hormonal therapy) and psychosocial. Detection of high levels of fear of recurrence may be an important first step. **RESEARCH IMPLICATIONS:** Most psychosocial interventions are tested and analyzed to help patients during cancer treatment. More research about how to deal with fear of cancer recurrence is needed so that interventions can be developed to further support these patients. **CLINICAL IMPLICATIONS:** Given the high prevalence of fear of cancer recurrence, even years after treatment, and given the association of fear of cancer recurrence with distress, detection of high levels of fear of recurrence is an important first step in psychosocial care after cancer treatment. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-85

A Longitudinal Perspective on Post-Traumatic Growth following the Diagnosis of Breast Cancer: The Mediating Role of Mindfulness and Attachment Security

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BACKGROUND: Research has focused attention on positive change that takes place following a crisis and has examined both immediate responses as well as the long-term effects of severe life stressors on positive growth. However, the scope of these studies is still limited as most studies are descriptive and do not attempt to explain the dynamics that instigate change. Moreover, studies of post-traumatic growth following diagnosis with cancer usually do not examine growth over time. **METHOD:** The current prospective longitudinal study will examine the role of psychological resources on post-traumatic growth. In this study two groups of women will be followed over time: The study group consisting of 30 women between the ages of 40–65 who have been diagnosed with stage I or II breast cancer in the past 12 months and a matched control group of 30 women. Both samples will be studied three times over a period of 2 years and will complete self-report questionnaires and will be interviewed. In addition, medical and demographic information will be obtained from patient hospital records. **RESULTS:** The results of this research are based on two stages of analysis. At the first stage, we conducted a qualitative analysis of the 180 interviews of both the study group and the control group at three times of measurement. In this stage we content-coded responses and extracted 15 unique codes that reveal the effects of a diagnosis of breast cancer on women's self-concept and relational striv-

ings. We are currently conducting a longitudinal quantitative analysis of the data and these findings will be ready for presentation at the time of the conference. **CONCLUSIONS:** This research reveals the profound impact of being diagnosed with breast cancer on the self-concept of survivors. This research is unique in the sense that it represents a prospective longitudinal study of women diagnosed with breast cancer from the time of diagnosis up until 2 years later. Specifically, both the qualitative and quantitative aspects of this research are examined longitudinally and provide us with a unique perspective on the possibility of personal growth over time. **CLINICAL IMPLICATIONS:** This research will provide the basis for the development of clinical interventions designed to help women cope over time with the diagnosis of breast cancer, and will inform clinicians on how to promote growth and an existential sense of meaning in the face of severe adversity. **ACKNOWLEDGEMENT OF FUNDING:** This research was funded by a grant from the Israel Cancer Society.

P3-86

Interventions to Improve the Well-Being of Breast Cancer Survivors at the End of Active Treatment: A Systematic Review of the Literature

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BACKGROUND: Breast cancer is the most commonly diagnosed cancer in the UK. Due to recent diagnostic and treatment improvements, large numbers are now living far beyond the end of active treatment into long-term survivorship. Both physiological and psychological effects of cancer diagnosis and treatment, however, can continue into longer-term survivorship, reducing wellbeing and quality of life. This review aimed to review literature on interventions delivered at the time of transition from active treatment to follow-up. **METHOD:** Standard systematic reviewing procedures were used. Literature searching included electronic databases of published literature, databases of ongoing research in the UK, and hand-searching of relevant conference proceedings. Inclusion screening of search outputs, and all data extraction, were conducted by two reviewers independently. A total of 20 studies were included in this review. Due to heterogeneity of methods and measures used in each study, meta-analysis was not possible and so a narrative synthesis was used. Study methodological quality was assessed according to the CONSORT statement. **RESULTS:** Methodological quality was varied, though none of the included studies was so poor in quality that we felt it important to exclude the findings. Included studies grouped into four

design categories: psychotherapeutic interventions (4 studies), psychoeducational interventions (4 studies), health-related behaviour change interventions (4 studies), and, combination interventions (8 studies). A range of theoretical frameworks was employed including cognitive-behavioural, transactional, trans-theoretical, and mindfulness-based approaches. Some beneficial impact on psychological wellbeing was reported, though different modes of intervention seem more suited to particular outcomes than others. Overall, this evidence is small and somewhat inconsistent with regard to statistical and clinical effectiveness. **CONCLUSIONS:** A wide range of outcome variables were assessed as components of well-being and this review raises the question as to what outcomes are most appropriate for these interventions; some qualitative work with breast cancer survivors at transition from treatment would be helpful to establish what outcomes they think are most important. General trends suggest that psychotherapeutic interventions are more effective for depression; psychoeducational interventions for anxiety; and combination interventions for health behaviour change. All types of intervention seem to have some effectiveness for quality of life and perceived health status, though few studies reported statistically or clinically large effect sizes. **RESEARCH IMPLICATIONS:** One of the difficulties in conducting this review was fully understanding the content of the interventions delivered; reporting was often brief and vague, presumably due to journal word-limits. It is important that additional information is made available through other means. We excluded a large number of potentially relevant studies simply because the mean time between end of treatment and intervention was too large; researchers should strive to reduce this potentially confounding variable in future studies. **CLINICAL IMPLICATIONS:** There is a clear need to be offering interventions to breast cancer survivors at this important transition in their care. However, the evidence to date is unclear about which specific mode of intervention is most suitable. Interventions are unlikely to be able to improve all aspects of well-being and so it is important that any intervention used is matched to individual patient need and desired outcome. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported by a project grant from the UK Big Lottery Fund.

P3-87

The Variance of Physical Activity and Psychological Distress of Patient With Early Stage Lung Cancer Through Three Months After Tumor Removal

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BACKGROUND: Cancer patients are encouraged to maintain their physical activities to improve stamina and strengthen bone and muscles to prevent fall. Early stage lung cancer is removable and that may change patients' daily activities. Prior studies on physical activities addressed alleviation of fatigue and energy conservation for advanced cancer patients. The purpose of this study was to explore the changes of physical activities and psychological distress of early-stage lung cancer patients in three months after surgeries. **METHOD:** This was an longitudinal observational study. The patients who were diagnosed with lung cancer at stage I, II, and IIIA, and received tumor removal were recruited. Three interviews were at (1) before operation, (2) 1 month and (3) 3 months after operation. Variables included patients' leisure-time physical activities, quality to life, sleeping problems, psychological problems, and patients' symptoms. Instruments measured these variables were the Godin leisure-time physical activity questionnaire, EO-RTC-L13, sleep distress questionnaire. The IRB approval was obtained. Descriptive analysis, independent *t* test, Pearson's correlation, and linear regression were proceeded in the SPSS software. **RESULTS:** A total of 188 cancer patients completed three interviews. The mean of age are 59.53 (SD11.50). Half of patients ($N = 97$) had sufficient physical activities (Godin ≥ 24) before diagnosis. Ten percent of all patients were increased into the same activity category after surgery. The scores of depression, anxiety, and depression were low although the scores of three psychological problems before surgery were the highest. Regression showed that physical functional was significantly restricted by patients who were old, had more symptoms and more depression, and decreased physical exercise. Emotional function limitation was mainly predicted by anxiety. **CONCLUSIONS:** Early stage lung cancer patients after tumor removal had less symptom burden, psychological distress, and sleeping disturbance. Most of these cancer survivors constantly performed sufficient physical activities even after surgery. Maintaining physical activity is significantly correlated to improve patients' physical function. Anxiety influences patients' emotional function, while depression may limit physical activity and then influences physical function. Our finding also suggests that patients having a lower number of symptoms can have less restriction on performing physical function. **RESEARCH IMPLICATIONS:** Because early stage lung cancer patients seems to have a low level of anxiety and depression, it is important to develop a qualitative research on understand psychological needs for early stage lung cancer survivors. Current study also shows that physical activity improves patients' physical function. Further research on developing appropriate exercise mode for cancer patients, and using objective measures or equipments to confirm

efficient of patient activities will be encouraged. **CLINICAL IMPLICATIONS:** Clinical providers should still provide symptoms management and psychological support as the core of patient care to prevent cancer survivors from symptom burden and psychological distress. Furthermore, it is important to help these cancer survivors maintain sufficient physical activity to enhance physical function. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-88

Relationship Between Sleep Problem and Anxiety in the Head-And-Neck Cancer Survivors

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BACKGROUND: Head and neck cancer (HNC) patients have highly potency of insomnia. Their sleeping problems may be caused by their psychological distress, cancer-related symptoms, and less flexible movement of their neck result from operation and radiotherapy. Those problems can interfere with patients' sleep quality and furthermore impact their quality of life. The aim of this study was to evaluate the relationship between anxiety and sleep problems in the HNC patients. **METHOD:** A cross-sectional correlation study was conducted in a medical center in northern Taiwan. A total of 159 patients who were diagnosed with head-and-neck cancer and completed treatment for 3 months to 5 years were recruited in this study. Patients' sleep problem and anxiety were measured by the (average sleep time) Medical Outcomes Study-Sleep Scale (MOS-SS), Sleep Disturbance Questionnaire (SDQ), and the Anxiety Subscale of Hospital Anxiety and Depression Scale (HADS). Description analysis was used to describe patients' background information, sleep problem status and anxiety status. Pearson's correlation was conducted to examine the relationship between sleep problem and anxiety. **RESULTS:** The major findings were: (1) patients' mean age was 57 (SD = 11.67) and majority of them were male (69%); (2) Most of patients were nasopharyngeal carcinoma (42.1%) and then oral cancer (30.1%); (3) Even though patients' reported relatively low levels of sleep disturbance. Patients who were reported higher levels of anxiety had worse sleep problems including concerning restlessness/agitation ($r = 0.44$), mental over-activit ($r = 0.46$), and sleep disturbance ($r = 0.31$). The total sleeping hours in average was 6.8 (SD = 1.92) and a low score were reported in each sleeping domain. Unemployed patients ($n = 55$) reported a higher level of sleeping problems and anxiety but that did not reach statistical significance. **CONCLUSIONS:** The age of these HNC patients were at their middle age, which may imply a potential stress

of losing working capability. These patients reported a moderate level of anxiety and sleeping problems. The significant positive correlation between anxiety and sleeping problems may indicate that even a low level of anxiety can influence patients' sleeping quality. **RESEARCH IMPLICATIONS:** The HNC patients in Taiwan reported anxiety at a less than moderate level, that may resulted from a majority of male patients. Investigators should be award of male cancer patients expressing psychological distress regarding the gender difference. Meanwhile, other psychological problems of head and neck patients should be examined to find the association with anxiety and sleep problems, in efficiently improving patient's sleeping quality. **CLINICAL IMPLICATIONS:** Our finding suggest that an integrate psychological assessment for head-and-neck cancer patients' is essential. The positive relationship between anxiety and sleeping problems suggests that clinical providers should help patients to learn self-management about anxiety in improving sleep problems for these patients. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-89

Impact of a Bilingual Education Intervention on the Quality of Life of Latina Breast Cancer Survivors

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BACKGROUND: Breast cancer is the most frequently cancer diagnosed among Latina women. However, research on survivorship outcomes among Latina breast cancer survivorship is lacking. Survivors face a host of physical, emotional, social and spiritual challenges ranging from fear of recurrence to the long term effects of cancer treatment, questions about sexuality issues, uncertainty and social support. Based on culture and contextual factors, the needs of Latina breast cancer survivors are unique. **METHOD:** A two-group, prospective longitudinal randomized controlled trial was used or this pilot study. A cohort of 52 Latina BCSs was recruited. Women were randomly assigned to the experimental or attention control group. Subjects in both groups completed measures of quality of life (QOL), uncertainty, distress and acculturation at baseline, at three and six month's follow-up. The attention control condition involved usual care provided to patients. The experimental group consisted of four one hour face-to-face sessions, either in English or Spanish, delivered by a bilingual nurse researcher. Length of the intervention was tailored to the patient's needs. **RESULTS:** After controlling for acculturation, the four dimensions of QOL increased slightly in both groups or remained unchanged, without significant group by time inter-

action. The social and psychological well-being subscales had the lowest scores for both groups, followed by physical well-being and spiritual well-being. For total QOL, although the group by time interaction was not statistically significant, the post hoc difference between time 2 and time 3 in the experimental group approached significance ($p = 0.052$), with a slight increase in total QOL. **CONCLUSIONS:** The findings suggested that Latina BCSs have multiple QOL and survivorship issues and concerns that may put them at risk for poorer QOL and adjustment to survivorship, particularly when compared to Caucasian BCSs. The findings also provided preliminary insight to the impact of a tailored, bilingual education intervention on the QOL of Latina BCSs. The study adds to the limited body of literature about that population and offers some key directions for guiding the development of culturally and linguistically tailored QOL interventions. Information, support, and resources can assist Latina BCSs in managing their symptoms and QOL issues throughout survivorship. **RESEARCH IMPLICATIONS:** More culturally congruent intervention research is needed to help improve health outcomes of Latina BCSs. Additional studies should aim to test the intervention among larger samples with the statistical power to test for interaction among key variables. More inquiry with the teaching materials would help to revise the intervention to make it stronger. **CLINICAL IMPLICATIONS:** Latina BCSs are likely to benefit from bilingual and culturally congruent interventions that may improve QOL. Non-English-speaking and low-aculturated Latinas are more vulnerable to poor QOL and increased distress and may benefit from bilingual education interventions that consider core cultural values and beliefs. Tremendous cultural differences exist among ethnic groups regarding communication styles, decision-making preferences, adherence to treatment, use of rituals, and willingness to adopt surveillance and health maintenance behaviors post-cancer treatment. **ACKNOWLEDGEMENT OF FUNDING:** Acknowledgement of Funding: This research was supported by a grant from the National Institutes of Health (NIH), National Cancer Institute (K07CA106551-01A2).

P3-90

Post-Cancer Pain in Long-Term Cancer Survivor

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BACKGROUND: Chronic pain has been largely studied in advanced cancer but less is known on the extent to which long term cancer survivors experience pain many years after treatment completion. It

still is a poorly understood issue and data on its incidence and prevalence are lacking. This study is aimed to evaluate patterns of pain in long-term cancer survivors **METHOD:** 178 disease free long-term survivors were enrolled during routine follow up visits at the outpatient unit of the National cancer center “Dar es salaam Tanzania. Through oral interviews, data were collected on pain using the brief pain Inventory. Clinical and socio-demographic variables were collected **RESULTS:** Mean age of the sample was 58 years, mean of years since diagnosis was 10.5. Most of the samples were women [85%] with a diagnosis of breast cancer [73%]. Pain was present in 50% of the sample, mean severity of pain was 5.4 [0–10 scale], mean interference on daily life was 5 [0–10 scale]. Pain location was mainly in the forearm and shoulder joint [39%]. 63% did not use any medication for pain relief. Female patients and those with comorbidities had higher pain severity and patient with a history of lymphomas suffer from higher impairment in daily life. **CONCLUSIONS:** Pain is still a major concern in long-term cancer survivors, both because it can be severe and it interferes with daily life, moreover few survivors had their pain treated. Female survivors those with some comorbid condition and with a history of lymphomas should be routinely asked for the occurrence of pain **RESEARCH IMPLICATIONS:** The reasons why only a minority of survivors receives pain relieving treatments should be investigated in future studies. Moreover it could be longitudinally investigated the onset and the duration pattern of pain in survivors. It should be investigated the efficacy of non medical interventions to prevent the occurrence of pain, such as physical activity or physiotherapy interventions. **CLINICAL IMPLICATIONS:** Given the occurrence of pain, it is necessary to investigate the presence of this symptom also in long-term cancer survivors, especially if they are breast cancer survivors, or have had lymphomas or present multiple comorbidities. **ACKNOWLEDGEMENT OF FUNDING:** Tanzania ministry of health, integrated program in Oncology n. 7: “Medical and psycho-social rehabilitation program for long-term cancer survivors in ocean road hospital.

P3-91

Long Term Effects of Altered Appearance due to Breast Cancer Treatment

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BACKGROUND: Breast cancer survivors report poor body image even several years after treatment. While poor body image is highly correlated with the altered appearance, previous studies were limited to evaluate short-term effect of altered appearance. This study aims to evaluate long term effect of altered appearance due to cancer treatment such as psychosocial distress and body image. We also compared survivors' distress and body image associated with altered appearance with those of general population. **METHOD:** A cross-sectional survey was done with 275 of disease free breast cancer survivors and age matched 315 of women without breast cancer. Survivors were recruited at the community events which held at 23 different areas in Korea and general population were recruited in the community. We asked participants about current status of skin, hair, and body shape and distress, and body image due to those changes at the time of the survey. Distress was assessed using 10 point visual analogue scale and body image was evaluated using selected questions from EORTC-BR23. Exploratory, ANOVA, and multivariate linear regression analyses were performed. **RESULTS:** Survivors report more breast change ($p < 0.01$), hair loss ($p < 0.01$) and skin change ($p < 0.01$) than those of general population. The long term survivors (≥ 5 year) still experienced altered appearance due to treatment. They also had higher distress and poorer body image compared to the general women even they had the same level of altered appearance. Regardless of survivor length, women with breast cancer had similar distress and poor body image due to treatment. Clearly, severer altered appearance was associated with higher distress and lower body image in both patients and general population group controlling all other socio-demographic and clinical characteristics. **CONCLUSIONS:** Our quantitative study confirms that breast cancer survivors experience altered appearance and its distress even several years after treatment. Treatment-induced altered appearances seem not only affect patients' psychological distress and body image but also psychosocial functions. Health professional

should bear in mind that treatment-induced appearance changes could last long and provide appropriate information and education to patients. **ACKNOWLEDGEMENT OF FUNDING:** The research was accomplished by the support from Korea Breast Cancer Foundation.

P3-92

Body Image in Cancer Survivors: A Systematic Review

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BACKGROUND: The fact that cancer treatment can alter the body has stimulated research on body image after cancer. However, studies vary in their conceptualization and measurement of body image and usually focus on sexual-organ related cancers, thereby providing cancer site-specific results only. We review the possible impact of any cancer type on body image and in order to draw conclusions as to whether body image is altered due to cancer, we include case-control studies only. **METHOD:** We searched Medline, Cinahl, Embase, and Psycinfo for studies meeting our search terms: *body image* (also including physical appearance, body satisfaction, attractiveness, etc.) and *cancer* (including neoplasms, etc.). The initial search, after duplicate extraction, yielded 1989 hits and their abstracts are currently screened for eligibility by the first two authors. Eligible studies are published in peer-reviewed journals, include disease-free cancer survivors, measure body image, and are written in English. Full-text screening will further be restrained to studies that include a (healthy) control group. **RESULTS:** The screening is still in progress, but results will be available for presentation at the IPOS conference 2013. We will present studies that compared cancer survivors to (healthy) controls and report effects sizes of differences between groups, as an estimate to whether (significant) differences in body image between survivors and healthy controls are clinically relevant. We will also report the used measures and rate the quality of the included studies. Based on a cursory review of the literature, we estimate to be able to include about 30–40 studies. **CONCLUSIONS:** This will be the first systematic review aggregating knowledge about the possible impact of (any type of) cancer on body image in survivors. **RESEARCH IMPLICATIONS:** Future research should carefully consider which measurement to use when investigating body image while also clearly stating their conceptualization of body image. Controls should be carefully considered and matched to the investigated group of survivors in order to draw valid con-

clusions about differences and their meanings between survivors and controls. **CLINICAL IMPLICATIONS:** Our review can guide future clinical practice as to whether it is important to offer additional information and care to current patients and survivors when body image appears to be impaired. Interventions or additional modules for existing programs might be designed. **ACKNOWLEDGEMENT OF FUNDING:** M. Tuinman works on the basis of a grant from the Dutch Cancer Society, no RUG 2009-4442.

P3-93

Breast Cancer Experience Through the Body – A Consecutive, Six-Year Longitudinal Study of 24 Women

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BACKGROUND: Breast cancer is a disruptive experience, perceived through women's bodies in their everyday life context. However, patients' body experiences in a life context are not sufficiently acknowledged in breast cancer research. Due to the increasing number of breast cancer survivors, longitudinal studies that pay attention to long-term experiences of the body are of vital importance in order to gain knowledge valuable for rehabilitation initiatives. This study is a contribution. **METHOD:** Twenty-four women were consecutively included in a prospective project and repeatedly interviewed during 6 years from ending hospitalised treatment. The qualitative analysis was made by means of thematic narrative analysis. Out of the interviews individual narratives were constructed that reflected each woman's body experience over time. The narratives were repeatedly read to identify possible common thematic elements across participants of how the body appeared to the women and to discern processes of how this developed over time. Three main processes were found in the analysis. **RESULTS:** Common to all women was to initially experience the body as *surviving*. Survival was key target and bodily complaints were thus measured and valued in favour of that. When back to a new everyday life after treatment five women quickly experienced their bodies as *comprehensible*. They had undergone a minimum of treatments. 19 women reported more complaints and experienced the body as broken, fragile and unreliable – as *incomprehensible*. With time and regained function most came to experience their bodies as *comprehensible*. Three women, however, met with more bodily decline than they could reconcile, they eventually *disassociated* from their bodies. **CONCLUSIONS:** This study makes a unique contribution by mapping out how breast cancer patients experience and value their bodies

over 6 years from ending hospitalised treatment. The findings are considered from a phenomenological perspective and reflect how the women “discovered” and handled their bodies as something they had, the bodies were seen as separated from themselves while altering and changing due to side effects. The processes of establishing liveable body relations differed depending on treatment impact and ability to incorporate body changes as part of themselves. The findings are discussed in relation to theories of bodynormativity and biographical continuity. **RESEARCH IMPLICATIONS:** The study clarifies that experiences and valuations of body alterations and side effects shifts over time. It indicates the importance of further studies to carefully consider this transition over time and interpret self-assessments of body experience in relation to treatment (on-going/completed) and overall life context (on sick-leave/working). **CLINICAL IMPLICATIONS:** This study highlights the impact of side effects, especially from endocrine treatment, on breast cancer patients' everyday life. We find it reasonable to suggest that physicians take a quite humble stand when discussing the treatment options. In cases of massive side effects, it must be possible to end treatment without this causing excessive worries for disease progression. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by grants from the Swedish Association for Cancer and Traffic Victims (CTRF).

P3-94

Impact of Active Surveillance, Chlorambucil and Chemo-Immunotherapy on Health-Related Quality of Life in Patients With Chronic Lymphocytic Leukemia in the Netherlands. Results of the Population-Based PHAROS-Registry

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BACKGROUND: The number of Chronic Lymphocytic Leukemia (CLL) patients that live long after their diagnosis is rising. This underpins health-related quality of life (HRQoL) as a relevant endpoint. Few studies have investigated HRQoL in CLL patients, and most were randomized clinical trials. As a consequence, patients with early-stage CLL, elderly patients and patients with comorbidities were underrepresented. The aim of this study was therefore to assess HRQoL in a population-based setting that includes these underrepresented

patients. **METHOD:** 175 patients diagnosed with CLL between 2004 and 2011 and registered in the Eindhoven Cancer Registry received the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core-30 (EORTC QLQ-C30), 136 patients responded (78%). We evaluated HRQoL after different treatment modalities (active surveillance, Chlorambucil and intense chemo/immunotherapy) and among patients on and off treatment and subsequently compared this with an age- and sex-matched normative population to assess the severity of the concerns. Detailed data on stage and treatment were collected within the scope of the Population-based HAematological Registry for Observational Studies (PHAROS); an extension of the Netherlands Cancer Registry. **RESULTS:** Patients treated for CLL reported significantly worse HRQoL than the norm population ($p < 0.01$ and clinically important differences (CID)), while no difference was observed between the normative population and patients under active surveillance. We observed more and larger differences between patients treated with Chlorambucil and patients under active surveillance than between patients treated with other chemo- and/or immunotherapy and those under active surveillance. Both patients on and off treatment scored worse on all functional scales (except cognitive functioning), fatigue and sleeping problems compared to the normative population ($p < 0.01$ and CID). **CONCLUSIONS:** HRQoL of CLL patients was significantly and clinically relevant lower compared to the age- and sex-matched normative population. CLL patients treated with Chlorambucil reported the lowest HRQoL scores. Both patients on and off treatment showed an impaired HRQoL compared to the normative population. Since starting treatment in CLL patients has a drastic and long-lasting effect on HRQoL, it seems to be wise to be restrained in starting treatment, especially in asymptomatic patients, despite the recent success in prolonging survival. **CLINICAL IMPLICATIONS:** Since starting treatment in CLL patients has a drastic and long-lasting effect on HRQoL, it seems to be wise to be restrained in starting treatment, especially in asymptomatic patients, despite the recent success in prolonging survival. **ACKNOWLEDGEMENT OF FUNDING:** This study was financially supported by the Jonker-Driessen Foundation and ZonMW: the Netherlands organization for health research and development, and through PHAROS: Population-based HAematological Registry for Observational Studies (#80-82500-98-01007).

P3-95

Development of a Self-Management Psychosocial Intervention for Men With Prostate Cancer and Their Partners: Lessons Learnt From the “Real World”

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BACKGROUND: The purpose of this feasibility study was to investigate the acceptability of a psychosocial intervention to men with prostate cancer and their partners, and to gain feedback from the facilitators, participants and non-participants to make changes to and enhance the intervention. **METHOD:** The Medical Research Council (MRC) framework for Randomised Controlled Trials of complex interventions guided intervention development. The intervention was assessed in terms of structure, process and outcome. Recruitment strategies, randomisation procedures and acceptability of questionnaires were also tested. The nine week group and telephone intervention commenced following treatment. The intervention focused on symptoms, sexual dysfunction, uncertainty, positive thinking and couple communication. Participants were assessed at baseline, immediately post-intervention and at one and six months post-intervention. Outcome measures included self-efficacy and quality of life. Process evaluation was conducted through a feedback questionnaire and qualitative interviews. **RESULTS:** Over the course of 12 months, 18 couples agreed to participate. There was no significant difference between the age of intervention group (Mean = 64.2, SD = 7.6) and the control group (Mean = 62.3, SD = 5.9; $t = 0.585$, $p = 0.564$). One of the main reasons for declining participation was the group format. The small numbers prevented the determination of the effect of the programme on patient reported outcomes. **CONCLUSIONS:** Participants were satisfied with the information provided, the structure of the programme and the level of support received. They stated it provided a focus and time for reflection, helped them prioritise issues as couples and made them more aware of their behaviour, needs and wants within their relationship. They valued the group format and peer encouragement attained through this. The partners appeared to have particularly gained from the intervention. Further research is needed to enhance recruitment and target “hard to reach” men. **RESEARCH IMPLICATIONS:** Many lessons were learnt during the implementation of the intervention. Despite the adoption of “male friendly” recruitment strategies, getting potential participants to agree to take part in a group was challenging.

The practicalities of organising the groups was difficult given the geographical location of participants (there was no convenient group for some of the men who had agreed to take part) and administrative logistics of getting the facilitators/participants to agree dates. **CLINICAL IMPLICATIONS:** In response to the findings, and in an attempt to address some of the problems highlighted, a Brief-CONNECT intervention is currently being developed, which would involve a tailored one-to-one one off intervention for men on completion of cancer treatment. **ACKNOWLEDGEMENT OF FUNDING:** The study was funded by Cancer Focus Northern Ireland.

P3-96

“Moving Forward”: Developing a New Evidence-Based Information Resource for Breast Cancer Survivors

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BACKGROUND: There are approximately 500,000 breast cancer survivors in the UK (KCL, 2008). For many, becoming a “survivor” following treatment is a time of crisis, abandonment and isolation (Allen, 2009; Smyth et al, 1995), yet few resources are available. The Cancer Reform Strategy (Allberry, 2008) highlights the need to commission services to support patients dealing with long-term consequences of cancer and treatment. This study aimed to design and develop a new resource pack for breast cancer survivors post-treatment. **METHOD:** This qualitative mixed method study consisted of two phases: 1) two focus groups with 12 breast cancer survivors and telephone interviews with 12 healthcare professionals were conducted to identify unmet need and inform resource development; 2) reconvened focus groups and written reviews from healthcare professionals to feedback on the prototype resource. **RESULTS:** Participants described a process of “reconciling a new identity” over time and the need for self-management strategies, peer support and signposting to resources. Participants wanted a personalised resource with practical help for regaining control over their lives. They needed information at the end of treatment on what is normal, signs and symptoms of recurrence, sources of support, written resources and an individual care plan. Format and content of the resource and feedback on the prototype will be fully discussed. **CONCLUSIONS:** People want resources to ease the transition between hospital-based treatment and survivorship. To

move forward, they need information and support around recurrence and coping with social pressures to return to life as it was before. They should also know where to access resources in the absence of hospital support. These resources would help facilitate a “new normal” life after treatment. We believe this resource will play an important role in future breast cancer follow-up care and will assist healthcare professionals in tailoring information and support provision. Results will be discussed within the context of current policy initiatives and NHS information provision. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by UK charity Breast Cancer Care. It was a collaboration with Southampton University.

P3-97

Dispositional Optimism and Fatigue in Breast Cancer Survivors

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BACKGROUND: A substantial proportion of breast cancer survivors experience fatigue. In view of the large body of research demonstrating that optimism (generalized positive expectation) has beneficial effects on people’s well-being and health, one could assume that optimism might also have a protective function in regard to fatigue. The study’s aim was to investigate the association between dispositional optimism and fatigue, when adjusting for known factors associated with fatigue such as: age, psychological distress, and chronic pain. **METHOD:** A nationwide survey of 834 women treated for early-stage breast cancer in Norway up to 6 years before the onset of this study. The women completed the Fatigue Questionnaire, Brief Pain Inventory Questionnaire, the Hospital Anxiety and Depression scale and the Life Orientation Test-Revised. Pearson’s correlation (r), t tests and logistic regression analysis were utilized. **RESULTS:** Of the 834 women 49% had reported fatigue. Women with fatigue scored significantly lower on optimism than women without fatigue, (15.5 vs. 18.2, $p < 0.0001$). Fatigue and optimism were inversely correlated ($r = -0.34$, $p < 0.001$). Logistic regression analysis with fatigue as the dependent variable showed that lower degree of optimism was significantly associated with fatigue (OR 0.96; 95% C.I.0.92–0.99; $p = 0.04$), together with younger age, psychological distress and chronic pain. The model accounted for 35% of the variance in fatigue. Optimism alone explained 10% of the variance. **CONCLUSIONS:** The study confirms that there is an association between fatigue and degree of optimism. It appears that breast cancer survivors with a low degree of optimism have a higher risk for experiencing fatigue than those with a high degree of

optimism. **RESEARCH IMPLICATIONS:** The current study examined fatigue cross-sectionally. Thus we cannot conclude that low optimism is a predictor for fatigue. A longitudinal study should be conducted to investigate if dispositional optimism is a predictor for fatigue, when controlling for age, psychological distress, and chronic pain. **CLINICAL IMPLICATIONS:** For breast cancer survivors, healthcare professionals should pay more attention to the possibility of fatigue in women with low optimism (pessimism), who have chronic pain and psychological distress. If pessimism has a causal impact on fatigue measures, then helping highly pessimistic women become less pessimistic could decrease their experience of fatigue. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-98

“You Shouldn’t be too Suspicious of Your Wellbeing” - Hope and Courage to Face Life in Women Undergoing Ovarian Cancer Surgery

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BACKGROUND: This abstract is dealing with inner resources during severe illness. To involve patient resources has become a mantra in health care, also within the context of cancer care. However, implementing this approach in daily clinical practise has proved to be rather complex, regardless the immense importance that personal resources play for sufferers, and that they may in fact often contribute to a good or bad outcome seen even from a “classical” biomedical success barometer. **METHOD:** Aiming to provide personal perspectives on being newly diagnosed and starting treatment for a serious cancer disease, the lived experiences of women undergoing ovarian cancer surgery were explored. The study period ran from the first visit in the out-patient clinic, till eight weeks later, when the women had either begun their chemotherapy or completed their recovery. Ten women participated in two qualitative research interviews each, before and after their surgery. The interviews were digitally recorded and transcribed verbatim. By applying a phenomenological-hermeneutic text interpretation methodology, the findings were systematically identified, put into meaning-structures, interpreted and critically discussed. **RESULTS:** The results offered insight into the complexity of challenges and personal development over time being a woman with ovarian cancer during her perioperative period: Imminent death was perceived to be a plausible consequence of the treatment being non-effective. Besides constituting a severe strain, this created a strong focus on staying alive. Feelings of hope were initiated by experiencing

physical comfort and mental wellbeing. This was achieved via the fulfilment of basic needs and by being met with a positive attitude from health care professionals. Creating disease-free zones and maintaining everyday life were complementary, significant hope promoting strategies. **CONCLUSIONS:** Hope and courage to face life represent significant personal resources that are created not only in the interplay between body and mind, but also between patients and their health care professionals. The overall finding that it was not simply the women’s physical bodies but rather their whole lives that became impacted by the disease and treatment points towards the importance of maintaining a holistic approach in cancer care, right from the commencement of treatment and in particular during highly specialised fast track regimes. **RESEARCH IMPLICATIONS:** The physical dimension of hope needs to be further studied within a humanistic health research paradigm. The correlation of this phenomenon with the fulfilment of fundamental human needs, and the potential impact of basic care and psychosocial support on this, are suggested as subjects for further investigation. **CLINICAL IMPLICATIONS:** Clinical practise can activate and integrate personal resources by providing adjusted information, psychosocial support and physical optimisation right from the commencement of treatment. The individual level of personal resources seems deeply influenced by personal lifestyle, social conditions, coping strategies and personal experiences. However, by offering targeted family counselling and caring for the general health and wellbeing, hope can be sustained and early cancer rehabilitation initiated. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-99

Predictors of Psychological Well-Being Among Prostate Cancer Survivors

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BACKGROUND: Rising incidence and survival means prostate cancer (PCa) is the most prevalent cancer in men in developed countries. In contrast to 20 years ago, many men with PCa are asymptomatic, diagnosed in primary care through “screening” prostate specific antigen tests. The growing burden and changing routes to diagnosis makes it important to understand how PCa impacts on survivors’ wellbeing. However, information on long-term psychological wellbeing is lacking. We investigated predictors of psychological well-being among PCa survivors. **METHOD:** A postal questionnaire was developed and administered in 2012 to 6,937 PCa (ICD10 C61) survivors 1.5–15 years post-diagnosis,

identified through population-based cancer registries in the Republic of Ireland (RoI) and Northern Ireland (NI). Based on self-reported data, “screen-detected” men were defined as those who were asymptomatic and diagnosed via PSA testing, “symptomatic” men had urinary symptoms at diagnosis. Psychological well-being was assessed using the Depression Anxiety Stress Scales-21. Logistic regression was used to identify associations between method of diagnosis, clinical and socio-demographic factors and depression, anxiety and stress of any severity. This preliminary analysis includes the first 1,402 respondents. **RESULTS:** Response was 58%. Depression, anxiety and stress (any severity) were present in 19%, 14%, 25% of survivors, respectively. 56% were screen-detected. Method of detection was associated with increased risk of negative emotional states in univariate analyses. In adjusted analysis, depression risk was increased in unmarried men (OR = 1.85, 95%CI 1.16–2.96) and those with co-morbidities (OR = 1.57, 95%CI 1.07–2.29); and reduced in survivors without current incontinence (OR = 0.56, 95%CI 0.33–0.97) or fatigue (OR = 0.58, 95%CI 0.36–0.91). Men undergoing watchful waiting/active surveillance had 5-times higher risk of depression than men treated in other ways (OR = 5.01, 95%CI 2.32–11.21). Risk did not vary by time-since-diagnosis. Similar associations were found for anxiety and stress. **CONCLUSIONS:** Prevalence of anxiety and depression was high among PCa survivors. Although method of detection was not associated with psychological wellbeing, risks of depression, anxiety and stress were increased in men with particular persistent treatment after-effects i.e. incontinence and fatigue, and in men who were being managed by watchful waiting/active surveillance. **RESEARCH IMPLICATIONS:** This study shows evidence of poor psychological health in groups of PCa survivors. Given that men are living longer with PCa, further research into factors affecting the psychological well-being of long-term PCa survivors is warranted, and development of interventions to support survivors’ psychological wellbeing should be developed and rigorously evaluated before implementation. **CLINICAL IMPLICATIONS:** Healthcare professionals need to be aware of the prevalence of negative emotional states in PSA survivors. These findings suggest that screening for depression, anxiety and stress should form part of routine follow-up of PCa survivors. **ACKNOWLEDGEMENT OF FUNDING:** This work was funded by the Health Research Board Ireland and the Prostate Cancer Charity UK.

P3-100**Abstract withdrawn****P3-101****A Web-Based Needs Survey of Young Adult Cancer Service Users in Hong Kong**Lee Siu Mei*University of Hong Kong, Hong Kong, Hong Kong*

BACKGROUND: Until 2011, there have been 700 registered users aged 20 to 40 accessing CancerLink Services. And newly registered young adult users occupied 13.2% of the total new users in 2011. With the increasing numbers of young cancer survivors, the need for appropriate information and services tailored to their life stage and needs are important. Hence, we carried out a survey to better understand this population and facilitate the development of more life stage appropriate psychosocial care. **METHOD:** 336 Young adult cancer survivors who had previous engagement with HKCF services were invited via email to complete an online survey, “Young Adult Need Assessment 2012” in July 2012, launched through the HKCF Online Survey System. We felt that the delivery of this survey through a web-based application would be in line with the technology-literate nature of this population. Survey questions included asking the participants to provide information on supportive care needs, distress levels and service preferences. Participants were also asked whether they had utilized the various support services provided by CancerLink and their need for future services. **RESULTS:** 65 young adults responded the survey (approximately 20% response rate). 64% were in rehabilitation stage but 36% had suffered from metastasis. Notable mood and adjustment issues were that 70% of the patients scored 4 or above on a distress thermometer, 54% reported difficulties with work/study, 74% reported problems with worry, 54% reported problems with lethargy and 45% reported problems with memory/concentration. Overall, the top 4 service needs were: psychological groups, exercise classes, nutrition classes and qigong/taichi classes. 50% of young adult cancer survivors indicated that they were interested and wanted to participate in an activity program with therapeutic elements. **CONCLUSIONS:** This survey highlights the need for services with therapeutic elements and which address mood issues, aspects of physical adjustment and work/study issues. However, it can also be seen that young adult survivors were also interested in other health-related, non-therapeutic classes, suggesting a need for a variety of services differing in their levels of therapeutic intensity. The finding that family-based support was the least preferred mode of

intervention is worthy of further investigation.
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P3-102

A Systematic Review of Fertility and Parenthood Issues in Female Cancer Survivors

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BACKGROUND: Progress in cancer treatment led to the significant increase in survival rates. Younger cancer survivors are faced with many issues such as potential impact of diagnosis and treatment on childbearing. Parenthood is important for social identity, especially for women and the inability to fulfill the desire of having a child can have detrimental effects on psychological well-being. The purpose of this systematic review was to evaluate fertility and parenthood issues encountered by female cancer survivors. **METHOD:** Thirteen medical and social science databases were searched for relevant articles using specific keywords related to cancer, fertility, and psychological outcomes. The established inclusion criteria for the papers were based on three factors: the targeted population (reproductive age women diagnosed with any type of cancer and not pregnant at diagnosis), the reported outcomes (short- and long-term psychological outcomes) and the study design (experimental and observational studies). Of a total number of 8040 identified articles, 36 met all the eligibility criteria and were included in the review. **RESULTS:** Cancer-related infertility was found to provoke stress reactions as well as affect survivors' quality of life and sexual functioning. Both fertility counseling by specialists and written or online educational materials aimed at increasing knowledge about cancer-related effects on fertility shown to improve psychological outcomes in female cancer survivors. Reproductive decisions in those patients who did not lose their fertility subsequently to cancer were influenced by multiple fears related to disease course and offspring's health. However, despite those fears, having a child was a desired goal for many women, giving them a sense of normalcy and hope for recovery. **CONCLUSIONS:** The existing evidence suggests that in addition to cancer itself, fertility issues can affect psychological outcomes in female cancer survivors, particularly if having children was an important life goal and cancer interrupted those plans. Counseling and education seem to be beneficial in terms of psychological adjustment to the situation. Nonetheless, psychological impact of cancer-related infertility is yet an understudied area and several limitations to the research exist including small patient samples, retrospective design and predominance of breast cancer survivors across the studies which limit the generalizability of the findings to other cancer sites. **RESEARCH**

IMPLICATIONS: There is a gap in our understanding of the complex associations among cancer, childbearing, and psychological well-being in cancer survivors. We need to identify factors contributing to adverse psychological functioning. Longitudinal studies examining the trajectory of adjustment to infertility and cancer as well as the development of effective interventions are strongly recommended. **CLINICAL IMPLICATIONS:** Cancer-related infertility can be prevented using fertility sparing treatment methods or artificial reproductive technologies. In cases where fertility impairment is unavoidable, provision of reliable information and counseling should be offered to patients. The identification of risk factors leading to worse psychological functioning could guide clinicians through the process of selecting patients most in need for support. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-103

Sexual Function Among Young Breast Cancer Survivors in Japan Correlates With Sexual Communication With Partners

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BACKGROUND: Sexuality is an important component in the quality of life of people with cancer. Since previous research with non-cancer patient samples suggested that better communication about sexual issues in a couple results in better sexual satisfaction, we conducted a survey to reveal the correlation between sexual function among young breast cancer survivors in Japan and their sexual communication with partners. **METHOD:** We conducted an anonymous, cross-sectional survey of outpatients (age 20-45) attending breast oncology clinics of five teaching hospitals in Japan. The questionnaire contained questions regarding: socio-demographic and medical characteristics, Female Sexual Function Index Japanese version (FSFI-J), and The Dyadic Sexual Communication Scale (DSC scale). **RESULTS:** Of the 477 patients who were handed a questionnaire, we received 358 responses (a response rate 75.1%). In this study, we used the data from 110 respondents who were under 40 y.o. at the time of diagnosis, who had an active sexual relationship with their partner before diagnosis, and who had the same partner before and after diagnosis. Mean age of the respondents was 34.2±3.8 y.o.. The FSFI-J total score as well as

all 6 subdomain scores (desire, arousal, lubrication, orgasm, satisfaction, pain) showed statistically significant correlations with the DSC scale score (total score $p = 0.003$). **CONCLUSIONS:** This study revealed that better sexual functions (total and six subdomain scores) measured by FSFI-J were correlated with better verbal communication of sexual issues with a partner measured by DSC scale. **RESEARCH IMPLICATIONS:** This study adds to the literature that, among couples affected by cancer, too, better communication about sexual issues in a couple results in better sexual function. **CLINICAL IMPLICATIONS:** It is important for healthcare professionals to provide survivors and partners with support that facilitates their verbal communication about sexual issues. **ACKNOWLEDGEMENT OF FUNDING:** Health Labour Sciences Research Grant 2009, The Ministry of Health Labour and Welfare, Japan.

P3-104

Variation in Fatigue Among 6011 Cancer Survivors and the Normative Population: A Study From the Population-Based PROFILES Registry

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BACKGROUND: Studies have shown that cancer survivors commonly experience fatigue, probably due to the disease and its treatment. However, few studies have compared the severity of fatigue among patients with different types of cancer or compared fatigue levels with a normative population. **METHOD:** We pooled data from six large cancer survivorship studies conducted through the population-based PROFILES registry. All individuals diagnosed with endometrial (EC, $n = 741$) or colorectal cancer (CRC, $n = 3878$) (1998–2007), thyroid cancer (TC, $n = 306$) (1990–2008), Hodgkin (HL, $n = 150$) or non-Hodgkin lymphoma (NHL, $n = 716$) or multiple myeloma (MM, $n = 120$) (1999–2008) sampled from the Eindhoven Cancer Registry were eligible for participation. Participation rates for the studies ranged from 74–86%. A normative population ($n = 2040$), representative of the Dutch population, was also assessed. All participants completed questionnaires on fatigue (Fatigue Assessment Scale), health status (EORTC QLQ-C30 or SF36) and psychological distress (Hospital Anxiety and Depression Scale). **RESULTS:** Cancer survivors were more often classified as fatigued or very fatigued (EC/CRC:39%; HL:40%; HL:43%; MM:51%; TC:44%) compared with the normative

population (21%; $p < 0.001$). MM survivors reported the highest levels of fatigue and differed significantly from EC and CRC survivors ($p = 0.02$). Small differences were seen between short-term (<5 years post-diagnosis; 41% fatigued) and long-term survivors (≥ 5 years; 39% fatigued; $p = 0.06$) and between younger (≤ 65 years; 42% fatigued) and older survivors (> 65 years; 39% fatigued; $p < 0.01$). Chemotherapy treatment was associated with more fatigue (43% vs. 39%, $p < 0.01$), as was comorbidity (no vs. 1 vs. ≥ 2 : 26%, 35%, 53%, respectively, $p < 0.01$). **CONCLUSIONS:** As expected, cancer survivors were more often fatigued or severely fatigued compared to a normative population. Results suggest that fatigue varies by cancer type. MM survivors were more likely to be fatigued when compared with other cancer groups. Survivors treated with chemotherapy or with more comorbid conditions were also more likely to feel tired. **RESEARCH IMPLICATIONS:** Variation in fatigue per cancer and treatment type suggests that the mechanisms underlying cancer-related fatigue could be different for different cancers. This underlines the need for more detailed research into the underlying pathophysiological mechanisms of fatigue. **CLINICAL IMPLICATIONS:** Since significantly more cancer survivors feel fatigued in comparison with the normal population, it underlines the need for appropriate assessment and interventions like physical training and/or psychological intervention during or after oncologic treatment. More attention should be paid to fatigue in survivors of MM. As chemotherapy is associated with fatigue, patients could benefit from appropriate information on treatment side effects. Furthermore, focus on better control or management of comorbid conditions of cancer survivors is recommended. **ACKNOWLEDGEMENT OF FUNDING:** Part supported by a Veni grant (#451-10-041) from the Netherlands Organization for Scientific Research (NWO) to Floortje Mols, a Cancer Research Award from the Dutch Cancer Society (#UVT-2009-4349) to Lonneke van de Poll-Franse and a Social Psychology Fellowship from the Dutch Cancer Society to Melissa Thong (#UVT2011-4960). Data collection funded by the Comprehensive Cancer Centre South, Eindhoven, The Netherlands; CoRPS, Tilburg University, The Netherlands; and an investment subsidy (#480-08-009) from NWO.

P3-105

Lay Perceptions of Cancer and Attitudes Towards Cancer Survivors in Community: Lay People and Cancer Survivors' Perspectives in Japan

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BACKGROUND: Lay perceptions of cancer may affect attitudes towards cancer survivors. Fatalism

among lay people leads to negative attitudes and to stigmatisation of cancer survivors. These attitudes present a barrier to the development and promotion of home-based palliative care. This preliminary study explores the relationship between lay perceptions and attitudes towards cancer survivors. **METHOD:** Japanese lay adults and cancer survivors were consecutively recruited from community groups or cancer self-help groups. Questionnaires were mailed to 116 lay people and to 145 cancer survivors; 68 lay people (58.6%) and 56 cancer survivors (38.6%) returned completed questionnaires. The questionnaires asked respondents to read vignettes describing recovery from cancer treatment and told it to a person in community, and then to respond to open-ended questions. For lay people, one additional open-ended question was included asking about their perceptions of cancer. The responses were separately analysed across the sample, using a thematic analysis. **RESULTS:** The analysis revealed that lay people perceived cancer as a threatening illness, a curable illness by early detection, or a illness that I may develop. Seven themes were extracted regarding lay people's attitudes towards cancer survivors: understanding and consideration of the condition, a general sympathy for the survivor, watching over them, encouragement, helping the cancer survivor to adjust their role in the community, offering support in daily activities, and unchanged relationships as community members. The analysis extracted the same themes, with one exception – "consideration of my feelings", in cancer survivor. "Offering support in daily activities" was not reported. **CONCLUSIONS:** Although participants have negative and positive perceptions of cancer, the negative perception may not be associated with attitudes towards cancer survivors. Theme comparisons between lay people and cancer survivors revealed that lay people intend to offer problem-solving type support, whereas cancer survivors wanted emotion-focused support. **RESEARCH IMPLICATIONS:** These results suggest that further quantitative epidemiological community study is required to investigate the association between lay perceptions and attitudes towards cancer survivors. **CLINICAL IMPLICATIONS:** There are discrepancies between the support that lay people offer and the support that cancer survivors need. To help develop and promote home-based palliative care, these discrepancies need to be addressed. A community-based educational program may help lay people understand cancer survivors' perspectives and encourage voluntary home-based palliative care in Japan. **ACKNOWLEDGEMENT OF FUNDING:** This research was supported by the Yuumi Memorial Foundation for Home Health Care.

P3-106

The Impact of an Automatically Generated Survivorship Care Plan on Patient Reported Outcomes (ROGY Care): Results of a Pragmatic Cluster Randomized Controlled Trial Among Endometrial Cancer Patients

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BACKGROUND: More patient tailored information for cancer survivors is needed. Evidence on effects of implementing Survivorship Care Plans (SCPs), recommended by the IOM, is limited. Aim of this pragmatic cluster randomized trial is to assess the impact of SCPs in routine clinical practice. An SCP-application was therefore built in the existing regional web-based Registration system Oncological Gynecology (ROGY). Primary endpoint is patient satisfaction with information. Secondary endpoints are QoL and health care use. **METHOD:** Twelve hospitals were randomized to usual care or SCP-care. SCPs were automatically generated by clicking the SCP-icon in ROGY and personally handed to and discussed with the patient. In usual care, gynecologists did not have access to the SCP-application (icon). All newly diagnosed endometrial cancer patients were asked to complete a questionnaire after surgery, 6, 12 and 24 months after diagnosis. The questionnaire included the EORTC-INFO25 and asked whether patients actually received an SCP. We expected 150 endometrial cancer patients: 75 per arm. We hypothesized that patients receiving SCP-care were more satisfied with the information. **RESULTS:** 201 patients (74%) returned a questionnaire after surgery: 109 SCP arm, 92 usual care arm. Of the patients in the SCP arm, 69% reported receiving an SCP. Patients in both arms reported similar scores on all scales of the EORTC-INFO25, including satisfaction with care (87% vs. 82%, SCP vs. usual care, $p = 0.20$). Analyses according to actual care received showed that patients who received SCP-care reported significantly higher scores (4–18 points) on all scales of the INFO25, including satisfaction with care (91% vs. 78%, SCP vs usual care, $p = 0.046$) compared to those who did not receive SCP-care. **CONCLUSIONS:** Even in a situation where SCPs can be automatically generated, still one third does not receive an SCP. But, those who do receive SCP-care report better information provision and satisfaction. Follow-up measures will show whether this

ultimately results in better QoL and decreased health care use. **ACKNOWLEDGEMENT OF FUNDING:** This trial is supported with a study grant from the Dutch Cancer Society (#UVT-2010-4743). Prof. Dr. Lonneke van de Poll-Franse is supported by a Cancer Research Award from the Dutch Cancer Society (#UVT-2009-4349).

P3-107

Managing Fear of Cancer Recurrence With the SWORD Study (Survivors' Worries Of Recurrent Disease)

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BACKGROUND: Fear of Cancer Recurrence (FCR) is a normal and common concern for most cancer survivors. For 9–34% fear becomes a chronic problem. Few studies investigated interventions specifically designed for clinical levels of FCR. We developed and assessed an intervention based on the theoretical model by Lee-Jones (1997), which hypothesizes that an emotional reaction (FCR) can be the result of interpretations of the threat of cancer, triggered by perceptions of internal and/or external cues. **METHOD:** In a two-arm randomized controlled trial, among breast, prostate and colorectal cancer survivors, the efficacy and cost-effectiveness of blended care will be compared to treatment as usual in managing FCR and thereby reducing related functional and psychological consequences. The intervention is based on principles of cognitive behavior therapy (CBT) and is directed at change of the cognitions and behaviors managing FCR. It is designed as blended care, combining face-to-face CBT with online activities. Primary and secondary outcome measures are severity of FCR, quality of life and cost-effectiveness. Moderators and mediators of treatment effects will be determined as well. **RESULTS:** The intervention will consist of six to eight CBT sessions over a three-month period. Key factors of FCR will be determined for each patient and the intervention will be tailored to a patient's needs. The first five sessions will be face-to-face communication with a therapist, in the last sessions (six–eight) shared decision-making will take place on how to continue therapy: face-to-face or via the interactive website (web-based CBT with psycho-education, assignments and email contact). The development of the intervention was secured by patient participation, a multidisciplinary reading committee and a small pilot study. **CONCLUSIONS:** The SWORD study tackles FCR with one of the most frequently used

psychotherapeutic interventions nowadays (CBT) and complements this with the latest developments in the field of E-health. At this moment, the (cost-) effectiveness of the intervention is evaluated in a randomized controlled trial carried out in the Netherlands. **RESEARCH IMPLICATIONS:** To guide the next generation of studies (and to inform clinical applications) the proposed study also includes information on moderators and mediators of treatment effects. This will help to increase our understanding of the nature of FCR. **CLINICAL IMPLICATIONS:** With the current study an appropriate evidence-based and cost-effective intervention to treat FCR can become available. Hereby, the SWORD study will improve quality of life and quality of care in breast, colorectal and prostate cancer survivors and contributes to an optimal adjustment to a severe disease like cancer. In the future, evidence-based results of the proposed study can be used to manage high levels of FCR in patients with other cancer diagnoses. **ACKNOWLEDGEMENT OF FUNDING:** The SWORD study was supported with a grant of the Dutch Cancer Society (KWF Kankerbestrijding), the Netherlands.

P3-108

Work Status and Work Disability in Colorectal Cancer Survivors: A Population-Based Study

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BACKGROUND: Colorectal (CRC) cancer is one of the most common cancers and the prevalence of long-term survivorship increases because of steadily survival improvement. After treatment, patients are expected to re-establish structure of daily life. However, a substantial number does not return-to-work. Previous studies did not examine if a difference exists between colon cancer (CC) and rectal cancer (RC). Aim of this study was to explore work status and work disability in CC and RC survivors separately. **METHOD:** This population-based cross-sectional survey included 212 CC and 137 RC survivors of working age (<65 years), diagnosed between 1998–2007, as registered in the Eindhoven Cancer Registry (response 82%). Questionnaires assessed work status (paid job vs. non-working, i.e.

unemployed, early retired, work disabled, homemaker). Forty-six percent of CC survivors were male (RC 59%), 55% received surgery only (RC 17%), 58% had a comorbid condition (RC 66%), 6% had a stoma (RC 37%), and time since diagnosis was 3.7 years (RC 3.9 years). Logistic regression analysis investigated the effect of type of cancer on work status, adjusted for demographic and clinical characteristics. **RESULTS:** 55% of CC survivors had a paid job (60% fulltime) and 42% of RC survivors (64% fulltime). Of the non-working CC survivors, 48% reported early retirement, 7% unemployed, 25% work disabled, and 21% homemaker; for RC survivors, respectively 45%, 4%, 26%, and 25%. The difference in work status between CC and RC was significant ($p = 0.01$). The unadjusted odds ratio (OR) of type of cancer was 1.73 (95% CI: 1.12–2.67; $p < 0.05$). However, this was not significant in multivariate analysis (OR 1.03, 95% CI: 0.50–2.67; $p = 0.95$) due to confounding by primary treatment. Age, gender and comorbidity significantly affected work status (p values < 0.001). **CONCLUSIONS:** Half of the CC survivors and about four out of ten RC survivors of working age are employed at long-term follow-up. The main reason for not working is early retirement and work disability. Compared to CC, RC survivors are less often employed. Investigation of factors associated with work status indicates the complex associations between demographic and clinical characteristics in their impact on work status. **RESEARCH IMPLICATIONS:** The limited studies on work status mostly merged CC and RC patients into one study population. Our findings indicate that work status among RC is less favorable compared to CC. This may be related to treatment differences between CC and RC, which may negatively impact work ability and in turn affect the opportunity of return-to-work. Factors of work status need to be investigated within each group separately to elucidate if CC and RC are similar. **CLINICAL IMPLICATIONS:** The relative negative outcome for RC survivors indicates that this group is more vulnerable to drop-out of work. From the societal perspective, this is an indirect cost of cancer in terms of productivity loss. Health care professionals can play a role in assessing work-related problems. Special attention should be paid to negative effects of treatment and comorbidity on work ability. Cooperation with vocational rehabilitation specialists may lead to reduction of drop-out of work. **ACKNOWLEDGEMENT OF FUNDING:** The first author received a Fellowship from the Dutch Cancer Society (DCS). Furthermore, this study was partly supported by a Veni grant (Netherlands Organization for Scientific Research, NWO; #451-10-041) to Floortje Mols, a Cancer Research Award (DCS; #UVT-2009-4349) to Lonneke van de Poll-Franse, and a Social Psychology Fellowship (DCS; #UVT2011-4960) to Melissa

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P3-109

Breast Cancer Survivors' Physical and Psychosocial Profiles and Their Relationship to the Need for Information and Support After Primary Medical Treatment: A Cluster-Analytic Approach

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BACKGROUND: Like the period of diagnosis and treatment, cancer survivorship is a time in which needs for information and support are prevalent. Survivors' needs must be adequately picked up by clinicians. Physicians and nurses, however, tend to underestimate cancer patients' distress. By defining the characteristics of survivors in need for information and support after completion of treatment, the identification of subgroups of survivors, vulnerable to a struggling reintegration after treatment, can be enhanced. **METHOD:** The goal of this study was to determine whether physical and psychosocial profiles of breast cancer survivors differ in post-treatment needs for information and support. Breast cancer survivors ($n = 440$) were clustered on the basis of 19 variables assessing survivors' physical and psychological functioning, illness representations, social support and coping strategies. **RESULTS:** The four emerging clusters were characterized by means of survivors' level of distress and way of dealing with the current situation: (1) "low distress - active approach" (21.2%), (2) "low distress - resigned approach" (32.3%), (3) "high distress - active approach" (24.2%), and (4) "high distress - emotional approach" (22.2%). Survivors in both "high distress" clusters reported significantly higher needs for information and support. **CONCLUSIONS:** With respect to care needs, survivors' levels of distress are paramount to their approach of the situation. Therefore, screening for distress could allow for the identification of survivors in need. **RESEARCH IMPLICATIONS:** Survivors can be classified into four profiles based on a wide range of physical and psychosocial features. Taking into account the connections between these features within each profile, the four profiles are characterized by means of survivors' level of distress and their way of dealing with the situation. The elaborate characterization of the profiles of survivors in need for information and support after treatment allows to gain a clear insight into this subgroup's distinctive features. **CLINICAL IMPLICATIONS:** The results emphasize the varying patterns of adjustment of breast cancer

survivors. Moreover, elaborate characterization of the profiles of survivors in need for information and support after treatment allows to gain a clear insight into this subgroup's distinctive features. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by The Flamish League against Cancer (Vlaamse Liga tegen Kanker).

P3-110

Evaluation of Group Medical Consultations in The Follow-Up of Breast Cancer: A Randomized Controlled Pilot Study

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BACKGROUND: During follow-up of breast cancer survivors (BCS) there is a high need for psychosocial support and information. A group medical consultation (GMC) provides individual medical visits conducted within a group of 4–8 patients. Expected advantages for patients are additional time with the clinician as well as extra information or support from peer-patients. The aim of this pilot study was to evaluate the effectiveness and acceptability of GMCs compared to standard individual consultations. **METHOD:** In this randomized controlled pilot trial 69 BCS, maximally 5 years after treatment, are included. The intervention group ($n = 38$) participated in a GMC once, while the control group ($n = 31$) received usual care. Besides a medical professional, a behavioral health professional was present as discussion leader. Primary outcomes, measured at baseline (T0) and one week post GMC (T1), were distress (SCL-90) and empowerment (CEQ). Additional secondary outcomes were cancer worry, quality of life, patient satisfaction, information needs and received information. Intention-to-treat analyses with ANCOVAs ($n = 64$) were used to compare differences in SCL-90 and CEQ of T0 and T1 between both groups. **RESULTS:** Differences in distress ($F(1,58) = 2.83$, $p = 0.10$) and empowerment ($F(1,59) = 1.018$, $p = 0.32$), did not significantly differ between both groups, nor did quality of life and cancer worry levels. In both groups patients were equally satisfied and positive about the content of the consultations, concerning the professional's approach, communication and personal symptoms. Patients in the control group were more satisfied about the available time from the medical professional. At T1 patients reported more discussed themes in GMCs than in individual consultations, while information needs prior to the consultation were the same for both groups. Sixty-nine percent

experienced support from other participants in the GMC. **CONCLUSIONS:** GMCs did not improve patients' distress or empowerment. Patient satisfaction was equal in both groups. Although in GMCs more total time with the medical professional is available, patients were more satisfied about the amount of time in an individual visit. However, since information provision was higher in GMCs compared to individual care, GMCs may be a good alternative for follow-up care of BCS. **RESEARCH IMPLICATIONS:** This study has shown the acceptability of GMCs in the follow-up of BCS. The power of the pilot study was probably too small to find any significant differences. Moreover, a onetime GMC is a minimal intervention, which makes it difficult to show an effect. Therefore, a current RCT is focusing on the effectiveness of GMCs combined with online GMCs via dedicated iPads. **CLINICAL IMPLICATIONS:** GMCs are being implemented in several outpatient clinics for BCS in The Netherlands. This study indicated no psychological benefits of GMCs. However, information provision and support from peer patients did improve compared to standard individual care. Therefore, implementation of GMCs as part of standard care may be an alternative for BCS. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-111

Neuropathic Symptoms Among Colorectal Cancer Patients With Diabetes: Results From the Population-Based PROFILES Registry

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BACKGROUND: It has been previously found that chemotherapy induced-neuropathy is common among cancer patients. In addition, neuropathic symptoms are frequently reported among diabetes patients, due to high blood glucose levels which affect the nerve cells. As today up to one in five CRC patients also has diabetes we aimed to assess the prevalence and severity of neuropathic symptoms among patients with both cancer and diabetes and compare this with patients without diabetes. **METHOD:** Data from a population-based survey conducted in 2011 among CRC patients, 2–11 years after cancer diagnosis, was used. The prevalence of diabetes was based on self-report using the Self-Administered Comorbidity Questionnaire. CRC patients with diabetes where matched on age and gender to CRC patients without diabetes. Neuropathy was measured using the EORTC-QLQ-CIPN20.

The differences on individual items from the EORTC-QLQ-CIPN20 between CRC patients with and without diabetes were assessed. RESULTS: 218 (13%) from the 1643 responders reported having diabetes and were matched to 982 CRC patients without diabetes. A few differences in neuropathic symptoms were detected with more CRC patients with diabetes reporting tingling fingers or hands (12% vs. 8%, p -value = 0.05), troubles with handling small objects (9% vs. 6%, p -value = 0.05), troubles with walking stairs or standing up (13% vs. 9%, p -value = 0.03) and erection problems among males (67% vs. 52%, p -value = 0.0007) compared with CRC patients without diabetes. No differences in clinical characteristics including chemotherapy treatment were observed. Due to the low number of neuropathic symptoms no multivariate analyses were conducted. CONCLUSIONS: In general the prevalence of neuropathic symptoms was low and only a few marginally significant differences were observed between CRC patients with and without diabetes. Interestingly, chemotherapy treatment among CRC patients with diabetes was comparable with CRC patients without diabetes. RESEARCH IMPLICATIONS: Since this study is the first in addressing neuropathic symptoms among patients with both cancer and diabetes, more research is needed. Future research should also focus on chemotherapy type and dosage administered and their effects on neuropathic symptoms. CLINICAL IMPLICATIONS: Based on current results patients with both colorectal cancer and diabetes seem to tolerate chemotherapy well because there is not a higher prevalence of neuropathic symptoms compared to the colorectal cancer patients without diabetes. ACKNOWLEDGEMENT OF FUNDING: Part of the research was supported by a Veni grant (#451-10-041) from the Netherlands Organization for Scientific Research (NWO) to Floortje Mols, a Cancer Research Award from the Dutch Cancer Society (#UVT-2009-4349) to Lonneke van de Poll-Franse and a Social Psychology Fellowship from the Dutch Cancer Society to Melissa Thong (#UVT2011-4960). Data collection was funded by the Comprehensive Cancer Centre South, Eindhoven, CoRPS, Tilburg University, The Netherlands; and an investment subsidy (#480-08-009) of the NWO.

P3-112

The Individual and Combined Effects of Colorectal Cancer and Diabetes on Health-Related Quality of Life and Sexual Functioning: 1+1=3?

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BACKGROUND: This study compares persons without colorectal cancer and diabetes mellitus (CRC-DM-), persons with only diabetes (CRC-DM+), persons with only colorectal cancer (CRC+DM-), and persons with both colorectal cancer and diabetes (CRC+DM+) on Health-Related Quality of Life (HRQoL) and sexual functioning. To study whether 1 + 1 = 3, the additive interaction effect of cancer and diabetes was tested. METHOD: Persons older than 60 years who participated in a survey in 2010 among patients with colorectal cancer or among a normative Dutch population, were included. Having diabetes was self-reported. Both samples completed the EORTC-QLQ-C30 and four scales of the EORTC-QLQ-C38 to assess HRQoL and sexual functioning, respectively. Associations were analyzed using multivariate linear and logistic regression models. Standardized beta's and odds ratios (OR) were reported. RESULTS: 624 CRC-DM-, 78 CRC-DM+, 1726 CRC+DM-, and 328 CRC+DM+ persons were included in the analysis. No additive interaction effect of cancer and diabetes was observed on any of the HRQoL subscales, except for pain (CRC-DM- 18; CRC-DM+ 13; CRC+DM- 16; CRC+DM+ 18). CRC patients reported lower scores on all HRQoL subscales, except global health and pain, while DM patients reported less favorable scores on global health, physical functioning, fatigue and dyspnoea. More erection problems were reported among CRC+DM+ persons (OR=6.5) and CRC+DM- persons (OR=4.7) compared with CRC-DM- persons. Moreover, more male CRC+DM+ persons reported ejaculation problems compared with CRC+DM- persons (OR=1.6). CONCLUSIONS: CRC or its treatment but not DM seems to contribute to a decreased HRQoL and sexual functioning compared with the normative population. No additive interaction between cancer and diabetes was found, except for pain. Thus having cancer and diabetes does not

result in a worse HRQoL and sexual functioning than the sum of both individual effects. **RESEARCH IMPLICATIONS:** Recently, much attention has been paid to the association between cancer and diabetes on incidence and survival rates. However, limited attention is being paid to the HRQoL of the increasing number of patients with both diseases, whereas today up to one in five colorectal cancer patients also has diabetes. More studies are needed to disentangle the complex interaction between both cancer and diabetes on HRQoL and sexual functioning. **CLINICAL IMPLICATIONS:** To improve quality of care, clinicians should become more aware of the long term HRQoL and sexual functioning problems among patients with cancer and comorbid diabetes. **ACKNOWLEDGEMENT OF FUNDING:** Part of the research was supported by a Cancer Research Award from the Dutch Cancer Society (#UVT-2009-4349) to Lonneke van de Poll-Franse and a Social Psychology Fellowship from the Dutch Cancer Society to Melissa Thong (#UVT2011-4960). Data collection was funded by the Comprehensive Cancer Centre South, Eindhoven, CoRPS, Tilburg University, The Netherlands; and an investment subsidy (#480-08-009) from the Dutch Organization for Scientific Research.

P3-113

Information and Support Needs Among a Diverse Sample of Adult Cancer Survivors in the First Year After Completion of Their Primary Treatment

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BACKGROUND: Cancer is a life-threatening disease which causes psychosocial and physical problems that may continue after the primary treatment has been completed successfully. However, the current aftercare available does not sufficiently meet cancer survivors' needs. In order to develop an online tailored intervention to support cancer survivors on their primary needs, we conducted a survey research to assess the most prominent information and support needs among cancer survivors. **METHOD:** Cancer survivors were recruited through eight hospitals in the Netherlands. Hospital staff handed out the survey, which participants could fill in and send to the Open University. After 4-6 weeks, participants were invited by the Open University to participate in a second survey. Validated measures were used to assess unmet needs and psychosocial and lifestyle concepts, such as quality of life, coping and self-management skills, social support, fatigue, returning to work, and lifestyle behaviours (physical activity, smoking, and

nutrition). The purpose of the second survey was to test the reliability of the translated Cancer Survivors Unmet Needs (CaSUN) measurement. **RESULTS:** In total, 278 cancer survivors participated in the study. Mean age of the participants was 60.2 years (SD = 10.46); 30.9% was male. Most important unmet needs reported were needs in the psychosocial (need for emotional support, dealing with fear of recurrence, contact with fellow survivors) and medical domain (dealing with complications, need for up to date information, need for the best medical care). The reliability of the Dutch version of the CaSUN and the relationships of information needs with concepts such as coping, self-management and quality of life were studied and will be presented at the conference. **CONCLUSIONS:** After primary treatment has finished, cancer survivors experience a wide range of needs, of which an important part consist of unmet needs. Since the number of cancer survivors will increase over the upcoming decade, cancer survivors should acquire the skills to fulfil their most important needs. Current guidelines state that it is important to improve self-management in cancer survivors. The results of the study were used to develop an online tailored intervention, the "Kanker Nazorg Wijzer" (Cancer Aftercare Guide), to improve these skills and teach cancer survivors to manage issues on the psychosocial, physical and lifestyle domain. **RESEARCH IMPLICATIONS:** The results of the survey research provide information on the most prominent information and support needs of cancer survivors, and on the degree that these needs are being met. Information on the relationship between these needs on the secondary outcomes coping, self-management, illness perception, perceived social support and lifestyle behaviour, and on the primary outcomes quality of life and psychological distress will give insight in future directions for research and interventions for former cancer patient. **CLINICAL IMPLICATIONS:** The results of the study give an indication of the most prominent met and unmet needs of cancer survivors and give suggestions for future directions in the patients' aftercare. The results of the study are used in the development of an online tailored intervention aimed at encouraging self-management in cancer survivors, in order to help them to deal with psychosocial and lifestyle problems they encounter in their recovery from cancer. **ACKNOWLEDGEMENT OF FUNDING:** This research project is funded by the Dutch Cancer Society (KWF Kankerbestrijding).

P3-114

Yoga on Psychological Recovery From “Object Loss” for Breast Cancer Survivors – Results From a Pilot StudyYayoi Yamauchi¹, Yoshio Nakamura²¹Graduate school of Waseda University, Tokorozawa, Saitama, Japan, ²Faculty of Sport Sciences, Waseda University, Tokorozawa, Saitama, Japan

BACKGROUND: There are an increasing number of breast cancer survivors in Japan. Many studies about yoga for cancer survivors have shown their effectiveness on physical and psychosocial QOL quantitatively. It is gradually accepted that applications of yoga to be helpful for grieving process. We consider breast cancer diagnosis as “object loss” directly impact on their QOL. This preliminary study focused on psychological defense mechanisms, aimed to figure out how they recover from their diagnosis and treatment. **METHOD:** 20 Japanese breast cancer survivors aged over 20 were recruited as participants for 12 weeks yoga intervention program. A 75 minutes yoga session consists of warm up, basic yoga postures, breath work and resting posture. All participants were encouraged to practice at home as well as weekly group session. Group interviews and QOL assessments (FACT-B) were conducted at baseline and after 12 weeks intervention. All interviews were audiotaped with consent, and transcribed to analyze. The recovery stages were assessed and identified by a certified psychotherapist, a psychoanalyst and the first author individually, then made it into a consensus. **RESULTS:** 18 participants aged 36 to 53 (mean: 46.6) completed 12 weeks program. Mean attendance was 11.3 of 12 classes. No serious adverse events were reported through intervention. We found that psychoanalytic defense mechanism “denial” was used commonly in participants and the appearance of “denial” related words was decreased after intervention. We also found the QOL score and appearance of “denial” related words had significant correlations. Participants who tended to make denial related words before intervention more likely to decrease QOL score after intervention; 5 cases out of 7 (71%), and it appeared only 10% in participants who improved. **CONCLUSIONS:** Our results indicated that yoga is a safe, feasible intervention for breast cancer survivors particularly in psychological recovery process to help them progress the recovery stages. Consequently yoga could lead to improve their long-term QOL. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-115

The Contribution of Attachment to Psychological Adjustment in Women Facing Breast CancerSarah Cairo Notari¹, Nicolas Favez¹, Linda Charvoz¹, Luca Notari¹, Bénédicte Panes-Ruedin¹, Jean-François Delaloye²¹NCCR Lives & FPSE, University of Geneva, Geneva, Switzerland, ²CHUV, University of Lausanne, Lausanne, Switzerland

BACKGROUND: Attachment theory provides a general model for understanding the way individuals emotionally react when stressed. Two main dimensions of attachment have been identified: anxiety (to exacerbate the emotional needs and dependence to others) and avoidance (to downplay threat and distress). This study examines the association between treatment-related physical symptoms of breast cancer, anxious or avoidant attachment, and psychological distress in women. **METHOD:** This study is part of a larger project on the role of social support in women facing cancer. Women were recruited during hospitalisation at the Breast Centre of the University Hospital of Lausanne. For this study, we used data from 72 women. Their mean age is 53.73 (SD = 12.17). After surgery, women completed the following self-reported questionnaires: the European Organization for Research and Treatment of Cancer (EORTC-QLQ BR23) for physical symptoms; the Experiences in Close Relationships-revised (ECR-R) for adult attachment; and the Brief Symptoms Inventory (BSI-18) for psychological distress. Several socio-demographic and medical data were used as control variables. **RESULTS:** Different multiple regression models have been tested to examine the link between physical symptoms, attachment styles and psychological distress. Contrarily to our hypothesis, anxiety does not moderate but instead directly predicts distress. On the contrary, avoidant attachment has a moderating effect on the link between physical symptoms and distress. Nevertheless, the best-fit model includes physical symptoms, anxious attachment and neoadjuvant treatment (control variable) as predictors; this model accounts for 50.7% of the variance in distress. In this model no direct nor moderating effect for avoidant attachment was found. **CONCLUSIONS:** Our study shows that attachment plays a role in adjustment to breast cancer. This result demonstrates that women’s response to stress is not only determined by disease-specific variables but also by their general way of regulating emotions which is a trait of their personality. Interventions aiming at helping women to cope with breast cancer should take into account individual variability in emotion regulation to be more efficient. **ACKNOWLEDGEMENT OF FUNDING:** This study benefited from the support of the Swiss National Centre of Competence in Research

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P3-116

A 1-Year Follow-Up of Post-Traumatic Stress Disorder (PTSD) Symptoms and Social Support Perceived in Cancer

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BACKGROUND: Prevalence rates of cancer's PTSD symptoms varied from 3% to 19%, depending on the timing of the assessment of the PTSD symptoms done during these studies. Social support is considered a buffering variable in the cancer treatment. The purpose of this study was to explore the relation between PTSD symptoms with the perceived social support at specific times between the diagnosis and the treatment of the cancer. **METHOD:** These studies consider three diagnoses of cancer, breast, head and neck, and colorectal cancer. The point times of the assessment considered in the study were, preliminary time of oncology treatment (T1), at the end of the treatment (T2), at 6 months post-treatment (T3) and 1 year following post-treatment in each type of tumour (T4). The presence of PTSD symptoms was assessed with the PTSD Checklist - Civilian version (PCL-C). Social support was evaluated with the Medical Outcomes Study Social Support Survey (MOS-SSS). Multivariate analyses were used to assess the associations of social support perceived with PTSD symptoms at the four time points considered. **RESULTS:** 67 patients participated in this study. The sample consisted of breast cancer (53.7%), head and neck (25.4%) and colorectal cancer (20.9%). At T1, 9% of the sample was identified as suggestive of PTSD. The patients with clinical PTSD are increased at T2 to 12.7%, and these are reduced to 10% of patients at T3 and T4. At T1 and T2 time, social support perceived was related with re-experiencing ($p < 0.00$) and numbing ($p < 0.00$) symptoms. At T3, social support was related with all symptoms of PTSD ($p < 0.00$). At T4, social support was related only with numbing symptoms ($p < 0.00$) of PTSD. **CONCLUSIONS:** No evidence of significant differences with regards to suggestive PTSD at follow-up times in cancer treatment could be found. The association of social

support perceived with different PTSD symptoms varied across follow-up time. Numbing and re-experiencing symptoms of PTSD was found to be related with social support perceived through diagnosis and cancer treatment. **RESEARCH IMPLICATIONS:** Longitudinal research examining temporal changes of PTSD symptoms in cancer is limited. Changes of suggestive PTSD were evaluated across 1-year post-treatment. Moreover, it was evaluated how specifically PTSD symptoms were associated with social support at follow-up. However, these findings included a small sample size, and it was possible to examine only some of the key variables used to assess changes in psychological distress across cancer treatment. Therefore, more investigation is required to confirm these results. **CLINICAL IMPLICATIONS:** This study has important clinical implications for assessment and treatment of psychological distress in cancer. Specifically, the findings highlights that social support perceived was linked differently with symptoms of PTSD in follow-up times of cancer treatment. As such, the patients may need different psychosocial support by follow-up time of post-treatment cancer. **ACKNOWLEDGEMENT OF FUNDING:** This research was supported by the *Catalan Agency for Health Technology Assessment and Research* (Nº. 102/19/2004).

P3-117

Personality Factors in Adhesion to Tobacco Cessation After Lung Cancer Diagnosis

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BACKGROUND: Persistent smoking after lung cancer has been the subject of medical, therapeutic and epidemiological publications for 20 years of research. Continued persistent smoking is all the more a problem for oncologists as there is evidence that smoking cessation, with lung cancer, gives therapeutic benefit. Quitting smoking can improve the response to treatments (chemotherapy, radiotherapy, surgery), quality of life and overall survival. However many patients refuse adhesion to tobacco cessation. A qualitative study has been launched. **METHOD:** A comparative and prospective single-center study is being conducted in the Department of thoracic oncology of Strasbourg University Hospital. 50 patients are included, men and women, 18 years or+, with active smoking at disclosure of lung cancer. A week after receiving the diagnosis and having signed an informed consent, a research interview is conducted, then 2 to

4 months later, tests (Fagerström, Q-MAT, H.A.D.S, SCL 90-R), another research interview and projective methods (T.A.T, Rorschach) complete the data. Two groups are therefore compared, one with patients who maintain an active smoking and the other with those who stopped. **RESULTS:** Initial results indicate that adherence differences aren't related to the denial of medical information, nor to resignation or to nicotine dependence. Patients who continue smoking seem to face a form of impossibility to wean. Cigarette is felt as part of their body in their narration and description of their body image (cigarette-identity). Cigarette is invested as a companion of daily life (cigarette-relationship). But smoking also gives the impression that it's the last pleasure that remains and helps them not to collapse (cigarette-drug). Cigarette justifies an unconventional choice, in opposition to the medical standard. **CONCLUSIONS:** Lung cancer is the biggest cause of death by cancer and all the more so as there's a continuation of smoking. Nevertheless many patients maintain active smoking after cancer diagnosis. Our results suggest the existence of a psychological functioning in which smoking takes part in the smoker's identity, his way of functioning and his self-therapy attempts. It also appears that smoking persistence reveals a choice that confirms the smoker's personality against society, medicine and doctors. **RESEARCH IMPLICATIONS:** Persistent smoking despite medical recommendations questions the concept of adherence. Evading the doctor's recommendations also raises the question of the effects of therapeutic alliance and prescription ethics. Despite medical evidence, could medicine decide for the unconscious desire of the subject? This questioning of persistent smoking could be generalized to non-cancer patients (myocardial stroke, COPD, asthma). **CLINICAL IMPLICATIONS:** Persistent smoking has long been unexplored and patients have been stuck by guilt-speech in their therapeutic management or in the words of their caregivers. A better knowledge of the psychopathology of smoking cancer patients could improve physicians' relation to their patients. Having in mind the unconscious aspects of continued smoking will help to maintain the link between doctors and patients, and help the patients to change their attitude towards smoking. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-118

Psycho-Social Correlates of Fatigue in Chronic Myeloid Leukemia

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BACKGROUND: Fatigue is the most common under recognized symptom in cancer and ranked

greater than pain, nausea and depression in terms of its effect on the quality of life. Fatigue is commonly reported at diagnosis in Chronic Myeloid Leukemia (CML). Fatigue is also a well documented side effect of CML patients receiving long term Imatinib treatment. The objective of this study is to understand fatigue and its psycho-social correlates in CML patients treated with Imatinib. **METHOD:** CML patients ($n = 71$, age ($M = 40.38$, $SD = 12.15$)) reporting for their follow-up visit to the out-patient clinic were assessed for fatigue and their hemoglobin readings were gathered from routine hemogram investigations. A smaller group of CML patients ($n = 44$, age ($M = 40.1$ $SD = 12.9$)) were also administered the Cancer Institute Quality of Life (QOL), Hospital Anxiety and Depression Scale (HADS) and the Memorial Symptom Assessment Scale (MSAS). Information on Imatinib Dosage and Disease status (achievement of complete cytogenetic response) was also collected. **RESULTS:** Fatigue correlated significantly with QOL ($r = -0.62$, $p < 0.01$), Anxiety ($r = 0.41$, $p < 0.01$), Depression ($r = 0.69$, $p < 0.01$), MSAS ($r = 0.7$, $p < 0.01$) but not with Hb ($r = -.1$, $p > 0.05$) and dosage ($r = 0.09$, $p > 0.05$). Fatigued patients had significantly greater distressing symptoms ($t(42) = -4.23$, $p < 0.01$), anxiety ($t(42) = -2.53$, $p < 0.05$), depressed ($t(42) = -5.35$, $p < 0.001$) and had poorer quality of life ($t(42) = 3.944$, $p < 0.001$). Fatigued and non-fatigued patients did not differ on disease status ($t(31) = -1.85$, $p > 0.05$), Hb ($t(27) = 0.84$, $p > 0.05$) and Imatinib dosage ($t(31) = 0.042$, $p > 0.05$). A multiple regression analysis indicated depression ($B = 0.58$, $SE = 0.2$, $p = 0.006$) and MSAS ($B = 11.214$, $SE = 3.4$, $p = 0.003$) as variables significantly predicting fatigue ($F(2,41) = 28.63$, $p < 0.001$, $R^2 = 0.58$). **CONCLUSIONS:** Fatigue was reported by CML patients treated with Imatinib. Fatigued cancer patients are more anxious, depressed and experience greater symptom distress. Fatigue is a significant contributor to poor quality of life. Depression and Symptom distress were found to be significant predictors of fatigue. **RESEARCH IMPLICATIONS:** Fatigue in CML does not seem to be related to disease and dosage status. Cognitive and other psycho-social variables that may influence fatigue needs to be explored. The complex relationship between depression and fatigue needs to be explored further. **CLINICAL IMPLICATIONS:** Fatigue is a significant and distressing symptom experienced by CML patients treated with Imatinib. This study demonstrates this in a population where no previous data of this nature exists. Since fatigue has the capacity to significantly lower quality of life clinicians should focus on identifying and implementing interventions to reduce fatigue. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-119

Personality Traits and Coping Styles Explain Anxiety in Lung Cancer Patients to a Greater Extent Than Other Factors

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BACKGROUND: Although various factors thought to be associated with anxiety in cancer patients, relative importance of each factors were unknown. We tested our hypothesis that personality traits and coping styles explain anxiety in lung cancer patients to a greater extent than other factors. **METHOD:** A total of 1334 consecutively recruited lung cancer patients were selected, and data on cancer-related variables, demographic characteristics, health behaviors, physical symptoms, and psychological factors consisting of personality traits and coping styles were obtained. The participants were divided into groups with or without a significant anxiety using the Hospital Anxiety and Depression Scale-Anxiety, and a binary logistic regression analysis was used to identify factors associated with significant anxiety using a multivariate model. **RESULTS:** Among the recruited patients, 440 (33.0%) had significant anxiety. The binary logistic regression analysis revealed a coefficient of determination (overall R^2) of 39.0%, and the explanation for psychological factors was much higher (30.7%) than those for cancer-related variables (1.1%), demographic characteristics (2.1%), health behaviors (0.8%), and physical symptoms (4.3%). Four specific factors remained significant in a multivariate model. A neurotic personality trait, a coping style of helplessness/hopelessness, and a female sex were positively associated with significant anxiety, while a coping style of fatalism was negatively associated. **CONCLUSIONS:** Our hypothesis was supported, and anxiety was strongly linked with personality trait and coping style. **RESEARCH IMPLICATIONS:** Although trait anxiety is stable and invariable from a conceptual point of view, our previous report suggests that anxious patients tend to be more likely to respond negatively on other self-reported questionnaires, such as the EPQ-R or MACS. Consequently, a longitudinal study in which trait anxiety is assessed before the onset of cancer and that analyzes to what extent the trait of anxiety predicts the state of anxiety after cancer diagnosis is needed. **CLINICAL IMPLICATIONS:** The use of screening instruments to identify these factors and the implementation of cognitive behavioral interventions focusing on coping styles could be effective for reducing anxiety. **ACKNOWLEDGEMENT OF FUNDING:** This work was supported in part by a Grant-in-aid for Cancer Research, Clinical Cancer Research (H22-033) to KS and Third Term Comprehensive 10-year Strategy for Cancer Control (H22-036) to

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P3-120

Comparison Between Patients With Hepatocellular Carcinoma and Hepatitis C in Fatigue and Psychological Distress Before Receiving Treatment

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BACKGROUND: Hepatocellular carcinoma (HCC) and Hepatitis C virus (HCV) infection are two major health problems in Taiwan. Fatigue and depression were the most distress experienced by these two groups. However, there is no study to compare the status of fatigue and depression among these two groups. Therefore, the aim of this study was to compare the differences in fatigue and depression between patients with HCV and HCC before receiving treatments in the past week. **METHOD:** A cross-sectional design was used to recruit the participants. Eligible participants were hospitalized patients with HCC before receiving non-surgical treatments; meanwhile, patients with HCV infection were outpatients scheduled to receive interferon combined ribavirin therapy. Disease information was collected from chart and a set of structured questionnaires was used to assess patients' fatigue, symptom distress, anxiety, and depression. The *t* test was used to examine the differences between the two groups. **RESULTS:** The participants with HCC ($n = 114$) and HCV infection ($n = 96$) all reported fatigue was the most distressed symptom in the past week of treatment. Compared to the patients with HCC, those with HCV infection had higher level of fatigue intensity and its interference with functioning and anxiety. However, the same level of depression between the two groups. **CONCLUSIONS:** Before treatments, fatigue was the most distress problem in the two populations. The patients with HCV had the higher level of fatigue, and anxiety but the same level of depression compared to the patients with HCC. **RESEARCH IMPLICATIONS:** Conducting fatigue management before treatment for two groups is needed. The intervention of anxiety reduction for patients with HCV before receiving interferon therapy is suggested. **CLINICAL IMPLICATIONS:** Health care providers should offer fatigue management program for both of them before receiving treatment. However, more anxiety reduction intervention for HCV patients before treatment and psychological management for dealing with depression for the two groups are needed. **ACKNOWLEDGEMENT OF FUNDING:** Thank you for the grant support

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P3-121

Shared Decision Making in Dermato-Oncology – Preference for Involvement of Melanoma Patients

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BACKGROUND: Involving patients in treatment decisions is frequently requested in oncology for medical, ethical and sociological reasons. For that purpose the implementation of Shared Decision Making (SDM) as a clinical decision-making model, in which doctors and patients are seen as partners who reach a mutually accepted decision, is promoted. In dermato-oncology, however, it has not been investigated how patients want to be involved in treatment decisions or to what extent SDM is realized in clinical practice. **METHOD:** The aim of this study is to assess melanoma patients' preference for involvement in treatment decisions and to test if this preference changes over time. This was investigated in consecutively recruited melanoma patients (stages I-III) in two German Skin Cancer Centers, as part of a longitudinal questionnaire study. The Control Preference Scale (CPS) assessed patients' preferences at baseline ($n = 405$) and was re-administered 1 year later ($n = 314$) to detect potential changes. Additionally, the perceived realization of SDM in the adjuvant interferon-alpha treatment decision was investigated in a subgroup of patients ($n=108$), using the 9-item Shared Decision Making Questionnaire (SDM-Q-9). **RESULTS:** Almost half of the 405 melanoma patients prefer shared decision making (49%), 34% want to decide autonomously and only 17% want to delegate their decision to the doctor. We found a significant preference shift within the 1-year assessment period predominantly towards more active involvement. The mean SDM-Q-9 score suggests that the patients in general felt moderately involved by their physicians in the Skin Cancer Centers in Freiburg and Cologne. The single item analysis revealed that the individual SDM process steps vary in their degree of realization perceived by patients. **CONCLUSIONS:** The majority of melanoma patients want to play an active role (autonomous or shared) in treatment decisions and only a small percentage wants the doctor to decide on the treatment. Over time this preference for an active involvement even increases. Our findings

indicate that the implementation of SDM in the adjuvant treatment situation is improvable. This underlines the importance to enhance the implementation of SDM in dermato-oncology. **RESEARCH IMPLICATIONS:** To our knowledge this study is the first to investigate patients' preferences for involvement of melanoma patients and their perceived participation in the adjuvant treatment situation in routine clinical practice so far. It would be desirable to support the observed results with further research on SDM in dermato-oncology since melanoma patients show a high preference for SDM. **CLINICAL IMPLICATIONS:** Our data show that over 80% of melanoma patients want to play an active role in their treatment decisions and that their preference for an active involvement even increases over time. Thus, it is vital that physicians enable patients to play an active role in treatment decision-making. The implementation of SDM could be further enhanced for example via SDM physician training programs or the implementation of a decision aid. **ACKNOWLEDGEMENT OF FUNDING:** We thank MSD Pharma for co-funding this research project.

P3-122

The Involvement Of Breast Cancer Patients During Oncological Consultations. A Multi-Centre Randomized Controlled Trial. The INCA Study Protocol.

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BACKGROUND: Studies on patient involvement show that physicians make few attempts to involve

their patients who ask few questions if not facilitated. Patients who participate in the decision making process show greater treatment adherence and have better health outcomes. The aims of the present study are to 1) assess the effects of a pre-consultation intervention to increase involvement of breast cancer patients during the consultation, 2) explore the role of attending companions in the information exchange. **METHOD:** All first patients with breast cancer at an early stage, aged 18–75 years who attend the Oncology Out-patient Services are asked to participate the study. The intervention consists in the presentation of a list of relevant illness-related questions. The main outcome measures are: (a) the number of questions asked by patients during the consultation, (b) the involvement of the patient, (c) patient's perceived achievement of her informative needs. The intervention study was preceded by an observational phase to explore the information exchange between patient and oncologist. **RESULTS:** The observational phase has been completed. We recruited 77 patients (mean age of 57). The majority (66%) attended with relative. Patients asked a mean of 17 questions. The intervention is considered efficacious if it increases the number of questions by 30%. The sample size required in order to demonstrate such difference would therefore require at least 45 control and 45 experimental patients (Pocock 1983). **CONCLUSIONS:** It is expected that the use of a list of printed questions facilitates the participation of the Italian patients with breast cancer in the information exchange and in the decisional processes. Considering the informative needs of the family members may open new and interesting perspectives. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-123

Are They Crazy to Refuse Chemotherapy? Treatment Refusal: Does it Result From Autonomism Movement in Western Societies or Does it Reveal Problems in the Physician-Patient Relationship?

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BACKGROUND: International literature is rarely interested into treatment refusal. We explored adaptation and unconscious defense mechanisms in female patients when adjuvant chemotherapy was proposed after surgery of their breast cancer. **METHOD:** This is a comparative and longitudinal clinical research of the medical consultation. Our research includes 50 patients affected from breast cancer and 3 oncologists. Following the curative surgery adjuvant chemotherapy is proposed to all patients. Their decision-making allowed distributing

the patients in two groups: refusal and acceptance. Patient's psychological factors of the refusal has been registered and analyzed. Furthermore, the physician-patient communication (verbal and non-verbal) and Risk-Benefit ratio of adjuvant chemotherapy have been studied. **RESULTS:** 82% of patients have accepted adjuvant chemotherapy while 18% refused it. In front of this anxiogenic medical proposal, Adhesive patients suppressed their emotions. On the contrary, Refusal patients expressed their feelings. The psychological elaboration to refuse the therapeutic protocol is determined by structure of personality and strategies of adaptation of patient, acquired during her psychological development (The social influence was not studied here). The verbal communication also led to the Refusal patient. Conversely, the physician's unconscious non-verbal communication as well as risk of dying from breast cancer in coming 10 years for patients did not influence the choice of patients. **CONCLUSIONS:** The main conclusion is to consider structure of personality, coping and defense mechanisms of the patients in their therapeutic decision. Our results highlight the subjectivity of person and its experiences in the most extreme situation. This thesis brings clinical and research perspectives in front of the physician-patient relationship which often reduced to their social roles. In this context, physician-patient relationship is a meeting between two persons with different social status with peculiar structure of personality, in a stressful situation. **RESEARCH IMPLICATIONS:** This model of research features the lack of studies about the refusal of treatment. To adhere to the treatment is not synonymous of active participation of patient. To participate during the care does not mean participating in the therapeutic decision. Likewise, the non-verbal communication of oncologist needs more investigation. **CLINICAL IMPLICATIONS:** In the oncology care a better knowledge about psychopathology of patients could facilitate their level of participation to their therapeutic protocol. We propose a pre-disclosure consultation with a clinical psychologist. This psychological interview would allow a multidisciplinary reflection to take into account the psychopathology of patient in medical consultation. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-124

Dutch Oncologists' Views On and Self-Reported Use of Risk Prediction Models in the Breast Cancer Setting

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BACKGROUND: Deciding whether or not to undergo hormonal and/or chemotherapy is a difficult balancing act of benefits versus side-effects. Risk prediction models (RPM) that quantify survival gains of treatment options, e.g. Adjuvant!, appear to be increasingly used during consultations with breast cancer patients. However, most RPM were not originally designed for such use. Studies have shown that patients have difficulty understanding information from RPM. We investigated why and how oncologists use RPM during consultations with patients. **METHOD:** There is limited literature on this subject, therefore, we first conducted structured interviews and online-focus-groups with medical oncologists from academic and general hospitals in the Netherlands. This data was independently coded by two researchers. We used the findings from the interviews and the focus-groups to develop an online-questionnaire that could be filled in anonymously. All medical oncologists, surgeons, nurse practitioners and nurses member of the breast cancer workgroups of the Comprehensive Cancer Centers the Netherlands were approached via e-mail and asked to complete the questionnaire. A reminder was sent after one month. The data was analyzed using SPSS 20 software. **RESULTS:** 87 respondents (partially) completed the questionnaire (30% medical oncologists, 29% surgeons and 41% specialized nurses). Adjuvant! is the best known (95%) and most frequently used RPM. Surgeons mainly use Adjuvant! during the consultation to explain why referral to the medical oncologist is necessary. Medical oncologists most often use Adjuvant! during consultations to inform and help patients decide about treatment or persuade them to follow the proposed course of treatment. Specialized nurses have a supportive role, checking whether patients correctly understood the information. The majority of respondents (>75%) believe that using Adjuvant! helps patients to better understand their prognosis. **CONCLUSIONS:** RPM have found a place in daily practice, especially Adjuvant!. Moreover, oncologists believe that using RPM, such as Adjuvant!, helps patients understand their prognosis better. However, some small studies have found that this is not always the case. Communicating risks is not straightforward, and if not done properly it could backfire and cause

patients unnecessary anxiety for example. Thus it is becoming increasingly important to explore whether patients understand the information provided by RPM, how they evaluate their use during consultations and whether this affects decision-making. **RESEARCH IMPLICATIONS:** Before RPM should undergo widespread implementation, insight is needed in the process and outcomes of risk communication using RPM, to ensure that RPM and associated risk communication will benefit patients rather than provide a source of unwanted cognitive burden or anxiety. The current study is a first step in exploring these issues. Next we will explore patient understanding of estimates provided by Adjuvant! and their evaluation of its use during consultations. **CLINICAL IMPLICATIONS:** RPM could be valuable tools in clinical practice, promoting more open discussion between patients and oncologists on prognosis and potential treatment benefits. However, it is important that this is done appropriately. More insights are needed on how best to communicate estimates from RPM to patients. We will use the data we obtain in the second phase to provide recommendations to oncologists. **ACKNOWLEDGEMENT OF FUNDING:** This project is funded by a grant from the Dutch Cancer Society. We would like to thank all the participants that generously donated their time, Cora Bakker-van der Zon and her colleagues from the Comprehensive Cancer Centers The Netherlands for their help distributing our questionnaire.

P3-125

Pilot Study of a Decision Aid About Fertility Preservation for Breast Cancer Patients

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BACKGROUND: In order to improve the information provision about fertility preservation (FP) and to support informed decision making for young women with breast cancer, a web-based decision aid (DA) with explicit values clarification exercise (VCE) was developed. The aim of this study is to compare the effectiveness of this DA with treatment as usual (a brochure) with regard to the decision making processes and outcomes in a patient population. **METHOD:** A multicenter (26 centers) RCT is conducted in the Netherlands. Eligible participants are female breast cancer patients (18–40 years old) with an unfulfilled child wish. Participants are randomized between the DA and

brochures about FP. Measurements are done by online self-report questionnaires at diagnosis (T0), after 6 weeks (T1) and after 6 months (T2). We will report on results from the baseline and T1 measurement. Primary outcome is decisional conflict. Secondary outcomes are knowledge of FP, ability to decide, DA-use (webstats). **RESULTS:** At time of abstract submission for T0 26 (13 controls, 13 intervention), and for T1 24 (12 controls, 12 intervention) questionnaires were available. Of the intervention group, 8 women logged into the DA (62%), 7 (88%) used the VCE. Mean time spent on the website was 27.4 minutes (0.5–73.6 minutes). There were no differences in knowledge, decisional conflict, or ability to decide between arms, but a marginal difference in effective decision making ($p = 0.051$). Mean absolute knowledge increase was 20–25% between baseline and T1 ($F(1,19) = 8.09$ $p < 0.01$). There was a positive correlation between VCE-use and knowledge at T1 ($R = 0.660$, $p < 0.05$). **CONCLUSIONS:** Both informational sources lead to improved knowledge about FP, and enabled patients to make a decision. We did not find differences with regard to decision processes and outcomes between the groups except for effective decision making; women in the DA-arm scored somewhat better on effective decision making compared to the control group. So far no specific beneficial effects of the DA-arm compared to the control arm were found, but an update with more participants should provide more insight in the effectiveness of this DA. **RESEARCH IMPLICATIONS:** This study offers a starting point for future research with more participants, after the effectiveness of this DA specifically, and the effectiveness of DAs and VCEs in general on decision making outcomes and processes. **CLINICAL IMPLICATIONS:** The effectiveness of this DA about FP compared to brochures has not yet been recognized in this study, but there are indications that its use might be beneficiary for knowledge increase and effective decision making. We should enable future patients to decide for themselves which source they prefer to use (brochures or a webbased DA) by offering both. **ACKNOWLEDGEMENT OF FUNDING:** DSW Health Insurance, Schiedam, The Netherlands.

P3-126

Use of a Values Clarification Exercise About Fertility Preservation Leads to More Clarity About Values and More Knowledge in Healthy Participants

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BACKGROUND: To improve information provision about fertility preservation (FP) and support informed decision making for young breast cancer patients, a decision aid (DA) with explicit values clarification exercise (VCE) was developed. We found that healthy respondents who used the VCE reported less decisional conflict compared to those who did not, but few respondents had used the VCE. The current experiment studies the relation between personality, DA-use and decisional conflict with or without referral to the VCE. **METHOD:** Healthy participants ($n = 193$) were randomized between information only (VCE-), information+VCE without referral to the VCE (VCE+), or information+VCE with referral to the VCE (VCE++) and were asked to make a hypothetical decision regarding FP. Measures were personality traits (neuroticism, conscientiousness, monitoring, blunting), DA-use (time spent, pages viewed, VCE-use), decisional conflict (including subscales), and knowledge. **RESULTS:** More women in VCE++ used the VCE (85%) compared to VCE+ (57%; $OR = 4.47$, $p < 0.001$). There were no differences in decisional conflict or knowledge between conditions ($\pm/++$), mean absolute knowledge between baseline and post-DA was 40%. Secondary analyses revealed that blunting was univariately associated with fewer pages viewed ($B = -0.734$ $SE = 0.23$, $p < 0.01$), monitoring with more time spent on the DA ($B = 21.01$ $SE = 9.75$ $p < 0.05$). Within VCE+/, VCE-use was related to more values clarity ($M = 37.1$ ($SD = 14.3$); $M = 31.1$ ($SD = 14.7$) $p < 0.05$). There was an interaction between group x conscientiousness and VCE-use ($OR = 4.3$ $p = 0.038$); conscientiousness was positively related to VCE-use in VCE++, and not related to VCE-use in VCE+. **CONCLUSIONS:** Our DA leads to increased knowledge in a healthy population making a hypothetical decision. There were no differences with regard to knowledge or decisional conflict. Secondary analyses suggest a relation between VCE-use and values clarity, and between conscientiousness and VCE-use in the referred group. The extent of use of the total DA was related to monitoring and blunting information

seeking styles. Therefore, personality (with regard to information seeking) might be an important factor explaining the extent to which a DA is used, and the effectiveness of DAs. ACKNOWLEDGEMENT OF FUNDING: DSW Health Insurance, Schiedam, The Netherlands.

P3-127

Beliefs About Medicines Among Cancer Patients: An International Study

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BACKGROUND: A few data are available regarding cancer patients' compliance on treatment in psycho-oncology literature. As a part of a larger European study, the aim of the present report was to identify the association of between patients' orientation/convictions towards medical treatment and cognitive representation about medicines with psychosocial and relational variables. **METHOD:** 284 cancer patients aged 18–65 years, with no cognitive deficits, Karnofsky Score >60 and a life expectancy > 6 months, participated in a multicenter European study involving Italy, Austria, Spain. Each patient was administered a booklet for the evaluation of several variables, including, for the purpose of the present report, the Beliefs about Medicines Questionnaire (BMQ) to assess patients' beliefs about medicines (General-GEN and Specific-SPEC beliefs); the Patient Satisfaction with Doctor Questionnaire (PSQ-MD), the Anxious Preoccupation and Hopelessness subscales of the Mini-MAC; and the 0-10 NCCN Emotional Distress Thermometer. **RESULTS:** The study confirmed the existence of two sub-factors on the BMQ-SPEC (Necessity-NEC, i.e. beliefs about the necessity of prescribed medication for controlling illness; Concerns-CON) (i.e. concerns about the potential adverse consequences of taking medicines); and two sub-factors on the BMQ-GEN, General Overuse (GO) (i.e. the tendency to perceive an overuse of

drugs by doctors) and General Harm (GH) (i.e. the tendency to consider drugs dangerous and poisoning). BMQ-GO and BMQ-GH were related to high scores on PSQ-MD Physician Disengagement ($r = 0.29, p = 0.01$; $r = 0.19, p = 0.01$, respectively), and low scores on Physician Support. Anxious Preoccupation ($r = 0.24, p = 0.01$), Hopelessness ($r = 0.27, p = 0.01$) and DT ($r = 0.22, p = 0.01$) were related to BMQ-CON. **CONCLUSIONS:** The study indicated that cancer patients' beliefs about medicines and cognitive representations about treatment are both related to maladaptive coping styles, such as a tendency to be concerned about their illness (Anxious Preoccupation) or to be hopeless about it (Hopelessness) and emotional stress symptoms. Furthermore characteristics of doctor-patients relationship, especially physician disengagement and low empathy and support were related to distorted convictions about medicines, including sense of harm and danger in following doctors' prescriptions. **RESEARCH IMPLICATIONS:** Results suggest the importance of further exploring doctor-patient communication and relationship as an area influencing cognitive representations about medicines and possibly adherence to treatment. **CLINICAL IMPLICATIONS:** The data collected suggest the necessity and the importance of specific and institutional programs for physician to increase their communication skills in order to create supportive and more engaged relationships with their patients. **ACKNOWLEDGEMENT OF FUNDING:** Istituto Oncologico Romagnolo (IOR), Forlì, Italy; FAR Project, University of Ferrara, Italy.

P3-128

Patients' Views on Shared Decision Making Concerning a New Treatment Approach for Early Stage Lung Cancer - A Mixed Methods Study

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BACKGROUND: An important new choice problem in oncology is the treatment of stage I non-small cell lung cancer (NSCLC). For patients with stage I NSCLC there are currently two curative treatment options available, namely surgical resection and stereotactic ablative radiotherapy (SABR). The purpose of this study is to retrospectively investigate the views of patients with stage I NSCLC in the treatment decision making process, in order to explore possibilities for supporting shared decision making. **METHOD:** A two-phased mixed methods approach was used. First, qualitative interviews with patients who had made an earlier decision between SABR and curative surgery (N=11) were undertaken. We used both an open and semi-struct-

tured phase, whereby in the open interviews, a visual timeline was used to facilitate the process of telling stories. We assessed main themes describing patients' experiences and their views of the decision process. Second, postal questionnaires about shared decision making and their understanding of this concept were sent to patients who had made an earlier decision between SABR and surgery. **RESULTS:** Most patients wanted to be involved in the decision making process to some extent. However, although most patients wanted to be actively involved, some patients explained participation exclusively in terms of being informed and agreeing with the physician. They searched for information and had their own preferences about treatment options. Although physicians appeared to respect patients' preferences (if expressed by patients), patients did not always experience having a choice as their physicians provided firm recommendations regarding treatment. Data collection of the postal questionnaire is currently ongoing and findings will be available at the time of the meeting. **CONCLUSIONS:** Although patients wanted to be involved in the decision process, their actual experiences indicated that physicians were actively directing the decision making process from an early stage. In order to improve shared decision making for stage I NSCLC, physicians could provide more detailed information on both treatment options and explicitly provide a choice. Furthermore, good quality websites and patient decision aids could support both patients and physicians in making shared decisions. **RESEARCH IMPLICATIONS:** This type of mixed-methods approach could be used more frequently in the future to explain and verify a quantitatively developed model with qualitative data. **CLINICAL IMPLICATIONS:** For clinicians it is important to know whether lung cancer patients want to participate in treatment decision making and to what extent. Furthermore, it is imperative to know what definition patients have of shared decision making, to make sure that both clinicians and patients speak the same language in order to make a good treatment decision. **ACKNOWLEDGEMENT OF FUNDING:** None.

P3-129

Human-Centred Research and its Application to the Rapid and Iterative Design of Digital Treatment-Decision-Making Support Tools

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BACKGROUND: Individuals diagnosed with early stage breast or prostate cancer have multiple treatment options but a lack of decision support. They are often left overwhelmed and confused or

have already consented to treatment before exploring their options. We present a human-centred design approach to create a decision support tool and its subsequent evaluation by prostate and breast cancer patients. We evaluated: wording of content, data visualization, amount of content displayed, overall look, and user interface. **METHOD:** In-home ethnographies with 2 men diagnosed with prostate cancer and 3 women diagnosed with breast cancer (USA), focused on past experiences and current perceptions of treatment decision making. We conducted a series of informal interviews with physicians and subject matter experts (Canada) to understand the clinical point of view of decision making and the clinician's role within this. Leveraging our research insights and design principles, we prototyped tool concepts and designs through collaborative iterations with University of Toronto Biomedical Communications department. From this we created a functional, web-based, educational treatment decision tool which we evaluated with users in their homes. **RESULTS:** Wording: no consensus between conversational versus clinical tone, some liked narratives, others did not. Data visualization (using same dataset): no one preferred the randomized icon array display, and there was a split preference for a survival curve and non-randomized icon array display. Amount of content displayed: most liked the "click more" function, and having images and text together to support learning. User interface: no preference for a graphically enhanced version versus a standard web-form version. Men and women were equally engaged in the information, however, women were more likely to respond to the look and feel of the tool. **CONCLUSIONS:** Ingoing thoughts about crafting a single presentation format were refocused when our research showed that no cookie-cutter solution could meet the way various people feel, internalize, use, and acquire information. Our tools had to be flexible to accommodate individual needs through preferred formats. Collaboration with other disciplines (software designers, health communicators) helped consider the impact of information interactivity and presentation. As patients become more familiar with digital tools, and HCPs shift from paternalistic to shared models of decision making, we must prepare for how people attain knowledge through digital formats to engage with their HCPs and support network. **RESEARCH IMPLICATIONS:** Information sharing should not be limited by the static application of text to digital formats as these may cause passive reading and less engagement, thereby failing to meet users' multiple needs. Technology must improve communication by creating systems that are more dynamic and personalized. To get digital tools closer to real-person interactions and into user's hands more quickly, iterative and participatory rapid prototyping is essential. **CLINICAL**

IMPLICATIONS: Digital tools are not intended to replace the interactions between patients and HCPs but rather to complement the growing pool of experience-focused solutions that ultimately improve patient outcomes. To arm patients with the most relevant and valid information, clinicians should contribute to tool development, and vet and distribute these tools. **ACKNOWLEDGEMENT OF FUNDING:** The Oncology Experience/TheraChoice work was self-funded by Bridgeable, with the assistance of financial grants from the Applied Research Commercialization Program from the Federal Development Agency for Southern Ontario (FedDev ARC), the Mitacs Enterprise Program, and the National Research Council Industry Research Assistance Program (NRC-IRAP)

P3-130

Advance Directives in Romania - Accepted or Not?

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BACKGROUND: The advance directive (AD) represents an extension of patient's autonomy when losing decision-making capacity, a way to respect patient's dignity. In Romania, during communism, doctor-patient relationship was paternalistic, a tendency that persists, even the Patient's Law is now centered on patient's autonomy. European Union recommends all member countries to legislate end-of-life decision-making. We present a study analysing the attitude of the Romanian people toward AD, identifying the utility of implementing AD, considering social-cultural specifics. **METHOD:** Transversal descriptive study, using the questionnaire that included 16 questions and was pretested on 10% of the total amount of subjects and then validated. The target group: the population over 18 years old from Romania, without psychological affections. The randomised representative sample included 828 persons. The error margin was $\pm 3.4\%$, for a 95% level of confidence. The subjects participated in the study voluntarily and signed an informed consent before filling the questionnaire. The data was processed by classification, codification, tabulation and statistical analysis using SPSS 16.0. The study had the approval of a National University Ethical Committee. **RESULTS:** 51.4% of the subjects consider AD useful. The perception is not statistically different from the age point of view (χ^2 test = 4.229, $p = 0.376$) or the gender point of view (χ^2 test = 1.792, $p = 0.408$). The trend to see the usefulness of AD is higher for educated subjects (Spear-

man Coefficient = -0.108 , $p = 0.002$). Health state didn't influence the opinion about AD (χ^2 test = 6.105, $p = 0.806$), neither the degree of satisfaction with respect to medical services (χ^2 test = 10.374, $p = 0.240$) or religious factor (χ^2 test = 2.604, $p = 0.626$). The paper will present other factors influencing the opinion about AD and the subjects' motivations considering AD as necessary or not. **CONCLUSIONS:** Higher levels education persons have a higher interest in the AD and consider that it must be regulated. The main advantages of such a document evidenced by the subjects that agree with it are respecting the patient's right to decide and improve the treatment, while the ones who do not agree with implementing AD see as main risk the premature death of the patient. Furthermore, most persons that had a cancer patient in their family consider AD useful in respecting the patient's dignity and autonomy. **RESEARCH IMPLICATIONS:** Considering the ethical dilemmas of end-of-life decision making, the financial implications of the medical care at the end-of-life, the recommendation of European Union to introduce AD, future studies are recommended to identify the attitude of the Health System deciders and providers of medical services in Romania about AD, in comparison with the attitude of the patients. **CLINICAL IMPLICATIONS:** In Romania (and in other ex-communist countries) is necessary to encourage the active involvement of adults in advance care planning and to start educational programmes regarding the usefulness of the AD. There is also a need to improve and adapt to the social and cultural specifics the communication between patients and the medical staff concerning the medical decisions. **ACKNOWLEDGEMENT OF FUNDING:** This paper is a part of POSDRU/89/1.5/61879 Project ("Postdoctoral Studies in Health Policy Ethics") cofinanced from European Social Funds through Human Resources Development Sectorial Operational Program 2007-2013.

P3-131

College Males HPV Vaccine Decision-Making in The Post-Recommendation Era

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BACKGROUND: HPV is the most common sexually transmitted infection, accounting for 90% of genital warts and 5.2% of the worldwide cancer burden due to its association with cervical, anal,

penile, vaginal and oropharyngeal cancers. Recommended for females since 2006, the HPV vaccine has only recently been approved and recommended for males (January 2012). Given this change in policy, we examined knowledge, attitudes and beliefs about the HPV and the HPV vaccine among a sample of Canadian males. **METHOD:** We conducted a pilot study (February-April, 2013) in which 82 males were recruited from Montreal universities to complete an anonymous, on-line questionnaire. Using the Precaution Adoption Process Model (a six stage model of health behavior change), participants were classified according to their stage of adoption with respect to the HPV vaccine. These stages are: Stage 1 = *unaware*, Stage 2 = *unengaged*, Stage 3 = *undecided*, Stage 4 = *decided not to act*, Stage 5 = *decided to act*, Stage 6 = *acting/vaccinated*. Depending on participants' level of awareness, relevant knowledge questions were completed. All participants answered questions regarding their sexual health, attitudes and beliefs. **RESULTS:** Our sample consisted of 61 males (Mean age = 20.7). 47 males were aware of HPV, 35 were of the HPV vaccine, and 18 were unaware of the male recommendation (Stage 1). Ten males were aware of the vaccine recommendation for males, but had not considered vaccination (Stage 2), 2 intended to receive (Stage 5) and 5 had already received the HPV vaccine (Stage 6). Average HPV knowledge and HPV vaccine knowledge scores were 14.5/26 (55.8%) and 5.7/10 (57%) respectively. Eighty-three percent of those who had heard about the HPV vaccine reported that their HCP had never discussed the vaccine. **CONCLUSIONS:** Awareness and knowledge about HPV and the HPV vaccine was rather low in this sample of college males, which is consistent with the literature pre-male vaccine recommendation. Furthermore, subjects in stages 2, 5 or 6 did not necessarily have higher levels of knowledge than those who were unaware that they were eligible for the vaccine, suggesting that knowledge is not the sole determining factor when considering to get vaccinated. Further, although the opinion of HCPs seems important to these men, most HCPs had not discussed HPV vaccination with them. **RESEARCH IMPLICATIONS:** In order to increase uptake of the HPV vaccine in males, basic awareness of the vaccine is essential. The findings show that even among an educated sample of university males, only one third were aware that there was an HPV vaccine available for them. Subsequent research efforts should implement strategies to increase awareness about HPV while aiming to understand what additional factors drive vaccine decisions among this specific population. **CLINICAL IMPLICATIONS:** HPV is an increasing public health issue that can be prevented through vaccination. Although national guidelines are in place that recommend vaccine uptake for males, barriers continue to exist. More large-scale

research focusing on effective knowledge translation and factors that guide HPV vaccine decision-making (especially the importance of the HCP recommendation) is needed. The results from this initial study indicate that these efforts are encouraging. **ACKNOWLEDGEMENT OF FUNDING:** Supported by an operating grant from the Canadian Institutes of Health Research to Zeev Rosberger and Fellowship support from the Fonds du Recherches en Santé du Québec to Samara Perez

P3-132

Information to Design a Surgical Decision Aid for Young Breast Cancer Patients

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BACKGROUND: Breast cancer is the most commonly diagnosed cancer in young women. Treatment at a young age can have significant impact on fertility and child-rearing, prompting the onset of early menopause and ovarian decline. It is not known if young patients diagnosed with breast cancer have specific information needs associated with effects of treatment. Results of an on-going qualitative study to design a decision aid tailored to breast cancer patients diagnosed under 40 years is reported. **METHOD:** In order to explore young women's information needs, twenty in-depth semi-structured interviews with patients who had a diagnosis of breast cancer at 40 years old or younger were conducted. Findings from the interviews were further explored in two focus groups with five patients each. Audio-recorded interviews and focus groups were transcribed verbatim and analysed under a thematic framework approach. **RESULTS:** Information that young women identified was required to support treatment decision-making was categorized in five themes: types of breast cancer, surgical treatments, non-surgical treatments, fertility, and preparing for surgery: before and after. Themes including side effects of treatment, fertility preservation and options for reconstructive surgery were identified as areas that need improvement, emphasising that more information on types of reconstruction and impact of early menopause would have been useful to have. The most important advantage for an online decision aid was access to reliable information that supports understanding of complex facts and risks. **CONCLUSIONS:** Women identified information relevant to them at the time of treatment decision-making as well as information that might have been useful. An online decision aid tailored for young women is relevant considering age-related needs that influence surgical treatment for breast cancer. **RESEARCH IMPLICATIONS:** This study has

identified ambiguity in the definition of young age for breast cancer patients, ranging between 40 up to 50 years old. This variation may be a factor in the ways that other aspects of treatment are presented to patients, including fertility preservation and options of immediate or delayed reconstruction. There is a need to determine an age threshold for young patients, which may be applicable at international level. **CLINICAL IMPLICATIONS:** Patients with access to the most relevant information to them at the time of making a treatment decision may choose to play a role in their treatment, supporting a shared-decision making model. Clinicians may face potential changes in the patient-provider relationship from the paternalistic model to one where patients will feel more prepared to voice their concerns, values and preferences on the treatment path chosen. **ACKNOWLEDGEMENT OF FUNDING:** This study has been funded by the National Institute for Health Research under the Research for Patients Benefit Programme.

P3-133

Parental Decision-Making About the Human Papillomavirus (HPV) Vaccine For Their Daughters

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BACKGROUND: The human papillomavirus (HPV) vaccine is an effective prevention measure for HPV-causing cancers and genital warts. For children and adolescents, the uptake of the vaccine is contingent on parental vaccination consent. This study aimed to identify key differences between parents who accept and parents who refuse the HPV vaccine for their daughters. This study also examined if the health belief model (HBM), a theoretical framework, is an adequate framework for guiding understanding of parental vaccination decision-making. **METHOD:** In the context of a free, universal, school-based HPV vaccination program, a random sample of 2,500 Québec parents of 9–10 year-old girls were invited to participate in the study by mail. Participants completed a mail-in questionnaire based on the theoretical constructs of the HBM. Additional factors previously identified in the literature were also examined. Of the 834 parents who completed the questionnaire (33% response rate), 88.2% reported accepting the HPV vaccine for their daughter. The outcome measure of the study, HPV vaccine uptake, was assessed with

the question: "Has your daughter received the HPV vaccine?" using a dichotomous yes/no response. **RESULTS:** The HBM constructs (perceived susceptibility of daughters to HPV infection, perceived benefits of the vaccine, perceived barriers, and cues to action) distinguished between parents who accepted and parents who refused the HPV vaccine. In particular, parental perception of vaccine safety was the strongest factor associated with acceptance and was a significant independent contributor beyond all other HBM constructs. Other significant factors associated with parental vaccination acceptance were general vaccination attitudes, anticipated regret, adherence to other routinely recommended vaccines, social norms, and positive media influence. **CONCLUSIONS:** The results of this study provide further support for the relationship between individual cognitive variables proposed by the HBM and uptake of the HPV vaccine. In particular, parental perception of vaccine safety appears to be a pre-requisite for vaccine acceptance. While most parents in this study had their daughters vaccinated, safety concerns were significantly related to vaccination refusal. This suggests that some parents may be reluctant to vaccinate their children when they perceive that a vaccine may cause negative outcomes, even though the disease that would be prevented is worse. **RESEARCH IMPLICATIONS:** The results of this study show that other factors not included in the HBM (such as anticipated regret) were also associated with vaccination uptake. The HBM is a linear, static model that does not specify how different beliefs influence one another. These results suggest that the HBM may be useful but not sufficient to fully explain parental vaccination decision-making. Researchers should consider conceptual frameworks that are dynamic and longitudinal (e.g. stage models). **CLINICAL IMPLICATIONS:** Parental HPV vaccination decision-making is a multifactorial process and vaccination safety appears to be a critical factor in the process. In Quebec, most parents have chosen to vaccinate their daughters, but this must be considered in the context of a free, school-based, government-supported program, whereas some provinces experienced poorer uptake. Targeted educational interventions focusing on the multivariate factors influencing parents' decision-making can help dispel myths, improve the success of future vaccination programs and ultimately reduce cancer incidence. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by grant # 94479 from the Canadian Institute for Health Research (CIHR).

P3-134

Exploring the Association of Patient Age and Symptom Presentation on Physician Diagnostic Decisions for Colorectal Cancer

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BACKGROUND: Colorectal cancer (CRC) is the third leading cause of cancer death in the U.S. and 2nd in the EU, despite treatment success with early diagnosis. Although primarily a concern for adults >50 years, incidence is increasing among younger adults. US screening guidelines discourage routine screening among individuals <50 years, relying on diagnosis via symptom investigation. We examined how patient age and symptom presentation influenced diagnostic testing approaches in patients who presented with symptoms of CRC. **METHOD:** We used a 2x2 factorial experimental design that presented clinical vignettes to a sample of 128 primary care physicians in Virginia, USA. Physicians read and evaluated two patient vignette scenarios. The vignettes were identical except for two factors, patient age (40 vs. 60 years) and symptom type (diarrhea/constipation [DC] vs. rectal bleeding [RB]). Each vignette closed with a series of questions designed to elicit the physician's differential diagnosis and tests they would order. **RESULTS:** The most common tests reported were blood work (91%), colonoscopy (58%), and ultrasound (67%). Colonoscopy was ordered more often for vignettes with older patients [67% $X^2(1) = 7.9; =0.005$] and RB [69%; $X^2(1) = 47.4; p < 0.000$] as compared to younger patients [49%] or DC [32%]. Ultrasounds were reported more often for DC [64%; $X^2(1) = 37.8; p < 0.000$] as compared to RB [36%]. FOBT was ordered for 38% of vignettes, but no significant differences were found. A differential diagnosis of CRC was provided for 42% of vignettes, with significantly more occurring among the RB vignette as compared to DC [51.6%; $X^2(1) = 9.4; p = 0.002$]; no age differences were found. **CONCLUSIONS:** This study provides evidence that patient age may be influencing physician decision-making among patients presenting with CRC symptoms. Colonoscopies were ordered more often for the vignettes describing older patients and the patients experiencing rectal bleeding as compared to the younger patients or those experiencing diarrhea/constipation. FOBT was not reported very often despite being a less costly and less risky alternative to colonoscopy. **RESEARCH IMPLICATIONS:** Given the ambiguity of many of symptoms associated with CRC, greater health education emphasis on the signs and symptoms of CRC is needed to empower patients to better identify and report the onset and progression of their symptoms. This may be particularly important

among younger adults. **CLINICAL IMPLICATIONS:** The current emphasis on age (>50 years) for CRC screening may inadvertently influence physicians' diagnostic test selection resulting in unequal distribution of cancer diagnostic services (i.e. less referrals) among younger patients. This may have implications for the timely diagnosis of colorectal cancer among younger adults. **ACKNOWLEDGEMENT OF FUNDING:** National Institutes of Health/National Cancer Institute Grant # 5R01CA124607-05; Canadian Institute of Health Research.

P3-135

Patients' Decision-Making in a Multidisciplinary Approach: Met and Unmet Needs

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BACKGROUND: Patients diagnosed with prostate cancer (PCa) may experience uncertainty due to the opportunity to choose among the multiple but equally effective therapeutic/observational options. Multidisciplinary (MD) approach represents a suitable trail to help patients make the decision. However, what are their met and unmet needs in the MD setting? The aim of our study was to explore PCa-related decisional process when using a decision aid (DA) tool after a MD visit. **METHOD:** A qualitative study was conducted between February and May 2012. Ten patients with low/intermediate risk PCa accessing a MD visit at the Prostate Cancer Program of Milan National Cancer Institute were recruited. The Ottawa Personal Decision Guide, a structured DA grid, was administered by a psycho-oncologist after the MD visit in the form a semi-structured interview. The DA structure focused on (a) clarifying the decision; (b) identifying patients' decisional needs and (c) exploring those needs. Interviews were audio-recorded and verbatim transcriptions were made. Content analysis was performed by using a text analysis software (T-LAB). **RESULTS:** Patients' mean age was 65 years ($SD = 5.6$, range 54–72). Four were external referrals, three were internal and three requested the MD visit based on personal choice. The text analysis showed the following: (a) despite patients reported to be well informed about the medical options, most of them felt the need for further specifics; (b) most relevant decisional needs were to understand risks and benefits of each option and more involvement from physicians' side; (c) the

patients explained to consider physician's recommendations as a crucial factor for the choice and emphasized the importance of higher engagement from the physicians' side. **CONCLUSIONS:** PCa patients perceived the treatment decision making as a challenging complex experience involving the evaluation of medical information as well as psycho-social factors. Patients reported to have adequate information after the MD visit in order to make an informed choice. Nonetheless, they also highlighted their need for higher participation from the physicians' side and a more engaging interpersonal approach. Patients and their families enter in the territory of cancer without a psychosocial map. Hence, clinicians are called to inform patients and also to guide them in developing a subjective representation of their needs and values related to the choice. **RESEARCH IMPLICATIONS:** This study highlighted the main areas that need to be explored to facilitate the decision-making process from the patients' perspective. The research on decision-making processes in a MD setting needs to be further explored as it entails clinical, organizational and interpersonal factors that interact and that contribute to the effectiveness of MD visits in terms of patients' acquisition of information, decisional conflict and disease-related anxiety. **CLINICAL IMPLICATIONS:** Our results confirmed that the MD approach represents a suitable and effective care management model: it allows patients to collect adequate and reliable information they can base their choice on. Differently, patients attend several consultations with different specialists, which entails dealing with ambivalent and sometimes confusing information. The use of a DA tool may support patients in wrapping up the data gathered during the MD visit and developing a representation of their preferences and values. **ACKNOWLEDGEMENT OF FUNDING:** Foundation I. Monzino and Foundation ProADAMO Onlus for support to the project Per un sentire condiviso: l'uomo e il tumore alla prostata.

P3-136

Children's and Adolescents' Experiences in Pediatric Oncology Treatment Decision Making

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BACKGROUND: Several pediatric organisations and the UN Convention on Children's Rights advocate for inclusion of children and adolescents in decisions that concern them. The importance of active participation of minors that are capable to

be involved in treatment decision making has been widely acknowledged. However, competent children and adolescents often face obstacles that keep them from participating and voicing their views. Especially in oncology, clinicians and parents may refrain from inclusion for various reasons. **METHOD:** Semi-structured interviews are conducted with children and adolescents from 9 to 17 years old that were diagnosed with cancer. Participant recruitment takes place in eight centers of the Swiss Pediatric Oncology Group (SPOG) in Switzerland. Questions concern their experiences with involvement in decision making at several points in time during the course of their illness. Interviews are analysed using content analysis to code for children's and adolescents' experiences with inclusion or exclusion during decision making and their attitudes and feelings towards these experiences. **RESULTS:** The on-going analysis revealed several themes related to participation of the minor patients: extent of participation, delegation of decision making powers, satisfaction with participation, conflict situations in decision making. **CONCLUSIONS:** Participation of children and adolescents in treatment decision making in pediatric oncology seems to have been achieved to some degree. However, sometimes conflicts arise and have to be dissolved. It seems important to learn more about these situations of conflict in order to be able to optimally help patients, parents, and physicians to find solutions and move on with the care. **RESEARCH IMPLICATIONS:** These preliminary findings point researchers towards an important area where more information is needed. Decision making is a challenging process and the involvement of three parties adds an additional layer of complexity. More research is needed to explore how treatment decisions including minor cancer patients are made, identify potential pitfalls of the process and suggest validated solutions to optimise inclusion of children and adolescents. **CLINICAL IMPLICATIONS:** Clinicians need to be aware of the communication needs of minor patients in pediatric oncology and the extent to which they wish to be included. There may be situations where young patients feel overwhelmed and wish to be included to a lesser extent and delegate decision making power to parents and physicians. Some potential of conflict is associated with inclusion of minor patients that needs to be identified and carefully taken into consideration. **ACKNOWLEDGEMENT OF FUNDING:** The study is funded by the Swiss National Science Foundation (SNF).

P3-138

Effectiveness of Dutch Psycho-social Interventions for Oncology Patients: Balancing Between Research Facts and Health Care Policy

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BACKGROUND: : An increasing number of people with cancer and their proxies use psychosocial care facilities e.g. (self) reference to psychologists, psychiatrist and psychosocial oncology centres. The government intendeds to reduce the costs of the often still free of charge therapies and asked an advice Dutch Board of Health Insurance (CVZ). In a literature study we reviewed the reimbursement of psychosocial support for people with cancer according to the effectiveness principles of the CVZ. **METHOD:** : This study is a literature research in the Cochrane Library, PubMed and sEURch for (systematic) reviews and meta-analyses on existing evidence regarding the effectiveness of the following therapies which are often applied in the Dutch psychosocial cancer care: individual psychotherapy, group counseling, haptotherapy, art therapy and mindfulness-based stress reduction courses. This included too a comparison of the psycho oncology literature with the offered psychosocial care at the Dutch Institutes of Psycho-oncology. **RESULTS:** : The literature review found 11 studies of EBM level A1 and 2 studies of EBM level B. Almost all reviews show positive improvements in different outcome measures: anxiety,

depression, quality of life, fatigue and social well-being. The reviews indicated that there were only few RCTs and recommend additional RCT research in the field of psychosocial cancer to improve the strength of the outcomes of studies. Only the mindfulness-based stress reduction courses as offered at that particular institutes show accepted effectiveness. Effectiveness research done by the institutions itself does not meet the requirements of the CVZ. **CONCLUSIONS:** : The psychosocial therapies offered at the Dutch institutes of psychosocial cancer care mostly do not comply with the effectiveness requirements for reimbursement of the CVZ. If there is evidence for the effectiveness of psychosocial cancer care, the institutes should adapt their current protocols for psychosocial cancer care. Alternatively the Dutch psychosocial cancer care institutes need to perform their own effectiveness studies, meeting the criteria of RCTs. **RESEARCH IMPLICATIONS:** : The psychosocial therapies offered at the Dutch institutes of psychosocial cancer care mostly do not comply with the effectiveness requirements for reimbursement of the CVZ. If there is evidence for the effectiveness of psychosocial cancer care, the institutes should adapt their current protocols for psychosocial cancer care. Alternatively the Dutch psychosocial cancer care institutes need to perform their own effectiveness studies, meeting the criteria of RCTs. **CLINICAL IMPLICATIONS:** : Health care costs have increased enormously in the Netherlands over the past decades. To make the health care costs more manageable, the CVZ will introduce a more stringent package management, also for the psychosocial oncology. Because effectiveness of care is part of the criteria of insured care, it is important to prove the effectiveness of psychosocial support for people with cancer. **ACKNOWLEDGEMENT OF FUNDING:** : None.

IPOS 15th World Congress of Psycho-Oncology Abstract Author Index

The following pages display the authors of the abstracts selected for the IPOS Abstract book together with their abstract numbers.

Aalfs C	H-4, P1-74	Antonini T	A-5	Battles H	A-4
Aaronson N	H-3, N-3, O-1, P1-76, P2-8, X-4, Z-2, P2-91	Applebaum A	P1-11	Bauernhofer T	P1-86
Aarts M	S13-2	Aranda S	R-2	Bauwens S	P1-61, P2-31, P2-61
Aarts MJ	P1-27	Araujo TCCF	P1-116, P3-23	Beaulen A	P1-66, P3-113
Abma F	P1-131	Arcusa À	P2-101, P2-132	Beaumont J	P2-52
Abou Abdou S	P1-10	Arellano M	P1-44	Becker A	T-4
Abrahams H	P3-69	Armes J	M-2, S10-1	Beckers J	Y-5
Acel A	F-4, P1-70	Armstrong G	P1-105	Beck V	E-2
Acquati C	Y-1	Arraras J	P1-100	Beekman A	P3-72, S10-2, P3-27
Adduci A	P1-24	Arts D	P1-62	Belanger LJ	P3-70
Admiraal JM	O-4	Asai M	P1-1, P1-2	Belkora J	U-4
Adorno G	P1-84	Ashley L	S13-3	Bellardita L	P3-135, U-5
Aeijelts Averink R	P3-31	Asribabayan Y	P1-51	Bellè M	P1-17, P2-129, P3-127
Agar M	A-1	Astorga D	P1-44		
Aguilar C	Y-1	Asuzu C	R-5		
Aguilar Ponce JL	P1-102, P3-32	Atherton J	P2-4		
Ahmad Sabki Z	P1-125	Atly Özbas A	P2-60	Bellemore F	B-1
Ahmed S	P2-86	ATLI ÖZBA ^a A	P1-12, P2-59	Bell M	N-1, N-5
Ahmed S	S10-4	Auriemma A	P3-122	Benjet C	P1-102, P3-32
Aina OF	P2-109	Ausems M	H-1, H-2, H-3, O-1, P1-73, P1-76	Benoit Y	P2-58
Ait el haj M	P1-69			Bensouda Y	P1-69
Akabayashi A	P3-37	The Australian Ovarian Cancer Study Group	N-5	Beraldi GH	P2-65
Akamine GK	P2-65	The Australian Ovarian Cancer Study Quality of Life Investigators	N-5	Berardi MA	P1-17, P2-129, P3-127
Akdeniz E	P1-28	Azaiza F	P-5	Bereza M	P2-28
Akechi T	K-1	Azoulay L	P2-87	Bergerot CD	P1-116, P3-23, P3-24, P3-25
Akizuki N	P1-1			Bergerot PG	P3-24
Alam M	L-3			Bergstraesser E	S3-1
Albada A	H-1	Baars J	P1-73	Bertelli T	P2-129
Albrecht K	P1-126, P3-121	Baciuchka-Palmaro M	P3-28	Berti C	P1-91, P2-46
Alder J	P2-90	Bacqué MF	P1-14, P2-111, P3-117, P3-123, P3-28	Bertrand A	P3-13
Aldridge L	N-1, S14-2			Best M	S14-1, S14-2
Allart P	P1-79			Beutel ME	F-5
Alon S	P1-133			Biasco G	P2-46
Alvarado Aguilar S	P1-102, P3-32	Badarau DO	P3-136	Biasoni D	P3-135
Álvarez Avitia MÁ	P1-102, P3-32	Baider L	S5-2	Biassoni V	P1-24
Alvisi MF	U-5	Baillon C	P2-31	Bidstrup P	S12-3
Ambergen T	S2-3	Bakker R	S4-4	Bighelli I	P1-99, P3-122, Q-3
Amir Z	I-3	Ballarin M	P1-99, P3-122, T-3	Bingen K	S6-3
Ananyeva E	P2-66	Ballester Arnal R	P3-116	Bissoli L	T-3
Ander M	P2-67	Ballinger R	G-2	Black A	P2-85
Andersen KK	S7-4	Banerjee A	P1-87	Black M	D-3, P2-4
Anderson J	P3-55	Bangma CH	P2-27	Blasco T	P2-101, P2-132
Andreassen Rix B	P1-9	Barbosa A	P1-127	Blatný M	P2-50, P3-71
Andritsch E	P1-17, P1-85, P1-86, P2-129, P3-127	Barbosa F	P1-127	Blazeby J	P2-5
Andrykowski M	S13-2, S8-1	Barerra M	S3-4	Blažkova T	P2-50
Andryszak P	P1-96	Barlow-Stewart K	H-5	Bleijenberg G	S1-4, S8-3, S8-4
Anema J	P3-82	Barrera M	Y-4		
Anema JR	P2-122, Z-1	Barthel Y	F-5		
Anglim M	P3-39, P3-40	Bartlett S	P3-129	Bleiker E	H-2, H-3, O-1, P1-73, P1-76, P3-49
Anne B	P1-101	Bartsch HH	I-4, P2-2		
		Barutti C	T-3		
		Basek A	P2-28	Blencowe N	P2-5
		Batist G	P2-87	Bloch S	F-2, P1-34

Block R	Y-1	Brunet J	P2-68	Carroll L	E-4
Bloom J	Y-3	Bruun DM	P3-12	Carter W	S10-4
Blows E	P3-96	Bruynzeel AM	T-4	Carver C	S12-2
Bodner D	U-1	Bryant J	P1-128,	Casañas i Comabella C	P1-65
Boele F	U-3		P1-56	Casellas A	P1-88
Bogaarts M	P3-29	Bryant RA	S6-1	Castle D	P2-75
Bogdanic A	P1-18	Büchi S	P1-35	Cats A	H-2
Bøge P	P1-3, P1-4, P1-5, P1-9	Buffart L	I-2, P2-8, P3-15	Catt S	J-1
			P2-24	Cavana L	P1-17, P2-129, P3-127
Bohlmeijer E	S-2, T-4	Buffart LM	P3-122		
Boiangiu I	P2-86	Buizza C	P3-2	Cenic O	F-4, P1-70
Bojan A	P2-15	Bulotiene G	P1-131	Cernvall M	P1-32
Bokil K	P2-17	Bültmann U	P3-34	Chakrabarti B	P3-51, P3-52
Bolla M	Z-2	Bultz B	P2-75	Chambers S	P3-53, R-2
Boll D	J-2, J-3, P3-106	Burchell J	P2-68	Chan CKP	P1-67, P2-12
		Burke S	P3-55	Chan CLW	P1-33, P1-47, P1-53, P1-54, P1-55, P1-67, P1-97, P2-12, P2-69, P2-88
Bolle S	P2-25, Q-5	Burney S	P1-29, P1-30, P2-30		
Bolman C	P1-59	Burns W	S9-2	Chan CT	P1-95
Bolman C	P1-66, P3-113		P1-91	Chan F	S9-3, S9-4
Bol N	P1-63	Burton C	P2-46	Chang CL	P3-83, P3-87
Bomhof-Roordink H	L-5, P3-27	Busa F	P1-116,	Chang O	P2-126
Borgstein P	H-3	Busa F	P3-23, P3-25	Chan JSM	P1-33, P1-47, P1-54, P1-55, P1-97, P2-69
Börjesson E	X-5	Buso MM	P3-66		
Borochoy L	P1-121		P1-125	Chan M	G-4
Borras J	K-5	Büssing A	C-4	Chan THY	P1-33, P1-47, P1-53, P1-54, P1-55, P1-97, P2-69
Bossenbroek L	X-3	Bustam AZ	B-1, C-4, K-2, L-3, N-1, N-4, N-5, P1-13, P1-31, P2-39, Q-4, S11-2, S14-1, S14-2, S14-3, W-4	Charles C	P1-31
Bottacini A	P1-99, P3-122, Q-3	Bu S		Charles C	P1-117, P1-118
		Butow P		Charlier C	I-5, P3-109
Bottomley A	X-4			Charvoz L	A-5, P3-115
Bouhnik AD	P1-130	Caillier M	L-2, P1-26, W-2	Chatterjee T	P3-51, P3-52
Boulton M	P3-62, Y-2		A-5, P3-115	Cheli S	P1-98
Bouma W	H-3	Cairo Notari S	P1-98	Cheng CT	P2-63, P3-48
Bowyer D	U-4	Caligiani L	P3-122	Chen JS	P3-87
Boyages J	G-3	Caliolo C	S10-1	Chen KY	P1-16
Boyes A	P1-128	Calman L	G-3	Chen YJ	P2-133, P3-76, P3-88
Braakman A	P2-7	Cameron L	M-1		
Braam K	P2-121	Campbell D	X-3	Cheung IKM	P1-67, P1-97, P2-12
Braamse A	L-5, P3-72, P3-73	Candido I	P1-23		
		Canino F	C-1	Chin A Paw M	I-2, P2-8, P3-15
Bradley L	P3-70	Canivet D	S12-2	Ching Hui C	P2-71
Braeken A	S2-3	Cannady R	P3-28	Chiiodera F	P3-122
Brähler E	F-5	Cannone P	P2-85	Chirico A	P2-46
Brakenhoff R	P2-24	Cantwell M	P1-91, P2-46, P3-7	Chiu CY	S9-4
Bramwell R	N-2, P1-115	Capovilla E	P3-7	Chiu SC	P1-16
Brancart C	C-1		P1-92	Chochinov HM	A-1
Brandes K	P1-13	Capozza D	P1-17, P2-129, P3-127	Choi EK	P2-126, P3-77, P3-91
Brechtel A	P2-127	Carbonara A	P2-36	Cho J	P2-126, P3-77, P3-91
Breckons M	S10-1		P2-85	Chow SF	K-3
Brédart A	L-4, P1-6, P1-7, P2-30, P1-100, P1-101	Cárdenas-López G	J-4, P1-128, P3-10	Chung FOY	P2-72
		Cardwell C	P3-74	Chung OKJ	W-3
Breen S	O-5	Carey M	P2-75, S7-3	Cipek Z	P1-18
Bree R	P2-24		P1-77	Civilotti C	P2-73
Breitbart W	L-1, P1-11, P3-68		D-3	Clarke D	R-2
			P3-13, P3-75	Clark KL	P3-25
Bressan Y	P1-14		M-5	Clayton J	B-1, C-4, S14-3
Brinkman T	P1-105, P2-51				
Brinksma A	P2-57, V-2				
Brock C	A-1				
Brom L	B-5				
Brooker J	P3-55				
Brouwer T	H-3, P1-76				
Brower D	E-1				
Brown P	G-3				
Brown R	P3-122				
Brug J	I-2, P2-8, P3-15				

Cleary S	P3-39, P3-40	Dahl AA	P3-17	Deveugele M	P-3
Cleijne W	U-3	Dallifard S	P2-119	de Vries H	P1-59
Clemmen E	P2-31	Dalton SO	S7-4, P3-74	de Vries J	P3-104, P3-29, S4-2
Clerici CA	P1-24	Dam A	P1-87	de Vries M	P3-126
Clinton-McHarg T	J-4, P3-10	Damman O	P1-60, P3-128	De Wilt H	M-4, P3-79
Clover K	K-2	Damodaran D	P1-109	de Wit R	Z-2
Clutton S	P3-53	Dany L	P3-28	Diagne Akonde FB	B-2
Clymer J	S3-4	Darcy T	P3-39, P3-40	Diamond E	P1-11
Coebergh JW	P3-94	Darlington AS	P1-50	Dieng M	S-1, W-4
Cohen M	P1-83, P-5, S1-1	Dauchy S	P1-117, P1-118	Diez A	E-5
Cohen SR	P2-87	David AM	P1-129	Dige J	P1-3, P1-4, P1-5, P1-9
Cohn RJ	S6-1, S6-2	Davidson P	B-1	Dijkstra G	P3-61
Cohort G	P1-21	Davies S	S6-3	Dijkstra H	H-1
Coleman N	P2-74	De Boer A	P3-108, P3-80, S9-1	Di Nicola D	P1-23
Cole S	Y-1	de Boer M	H-2	Diouf MN	B-2
Colistro MC	P1-17	De Bourdeaudhuij I	I-5, P3-109	Distelmans W	P1-61, P2-31, P2-61
Collins A	F-2, P1-34	de Bree R	O-3, S10-2	Djajadiningrat R	N-3
Compas B	Y-4	de Chalvron S	P1-41, P1-79, P3-43	Dobbins T	H-5
Cooke L	P2-104, P2-83	de Die-Smulders C	G-1, P1-75	Does-Den Heijer A	P2-82
Cook S	D-1	de Fazio A	N-1, N-5	Dogan S	P2-78, P2-79
Cooper M	W-1	De Figueiredo M	C-5	Dolbeault S	L-4, P1-100, P1-101, P1-6, P1-7, P2-30
Cordaro E	P1-23	de Geus E	P1-74	Doll R	S7-3
Corner G	P1-11	Dégi CL	P3-30	Donaldson-Feilder E	P3-16, P3-22, T-5
Corner J	S10-1	de Groot G	P3-73	Donnelly M	P2-85
Cornford P	D-1	de Groot M	U-3	Doolan EL	S6-1, S6-2
Cornish S	U-2	de Haes H	P1-62, P1-74, P2-5, P3-124, Q-4, P1-19	Dorland H	P1-131
Corry J	P2-75	De Jager Meezenbroek E	P2-81	Dorval M	P1-21
Corsini L	P1-42	De Jesus S	P2-76, U-2	Douma K	H-4, R-3, S11-1
Cortini P	P2-117	Dekker E	H-4	Douw L	U-3
Coskun I	P1-64	Dekker J	L-5, P3-27, P3-72, P3-73, S2-2	Drabe N	P1-35
Costa D	W-4	Dekker M	P3-20	Drageset J	P1-80
Costa M	P2-64	de Klerk C	C-3, P-4	Drageset S	P3-81
Costa-Requena G	P3-116	de Kroon C	S4-4	Dromea K	S1-1
Coste O	P2-119	Delaloye JF	A-5, P3-115	Drosdowsky A	O-5
Coucke P	Q-1	Del Bianco P	P1-91, P2-46	Drossaert C	S-2
Couper J	F-2, P1-34, P2-75, U-5	Deledda G	P1-99, P2-77, P3-122, Q-3, T-3	Drumea K	P1-83
Courneya KS	P2-8, P3-70	de Leeuw R	F-1	Drummond F	P3-99
Court D	P3-6	Delevallez F	L-2, P1-26, Q-1, W-2	Duarte S	P2-80
Cousson-Gélie F	P1-41, P1-79, P2-119, P3-43	Dell'Olivo C	P2-117	Dubé E	P3-133
Covarrubias-Gómez A	P2-37	Del Piccolo L	P1-99, P3-122, Q-3, T-3	Duchesne G	F-2, P1-34
Cox K	L-3	Deltour I	P1-9	Duijts S	P3-82
Coyne J	O-2, S2-1, S11-3	Delvaux N	C-1, Q-1	Duijts SFA	P2-122, Z-1
Craig A	S13-3	Delver J	P3-65	Dumitras S	P3-130
Craig M	W-1	Demyttenaere K	P1-72	Duncan A	K-4
Cramp A	U-2	Dencker A	P1-3, P1-4, P1-5, P1-9	Dunn G	D-1
Crijns M	P3-49	Den Heijer M	P1-130	Dunn J	P3-53
Crombez G	P3-84	den Oudsten BL	P3-112	Dunsiger S	S12-1
Cruz Nieto MH	P1-102	Den Oudsten B	P3-29, S4-2	Durand MJ	P3-13, P3-75
Cuijpers P	L-1, O-3, P3-68, S10-2, T-4	Deodhar J	P1-36, P2-1	Durieux J-F	P1-26
Cuijpers W	E-3	Derks-Smeets IAP	G-1, P1-75	Duvdevany I	P1-83
Cunha MJ	P2-48, P2-64, P2-80	de Roos M	H-3	Dyregrov A	P1-9
Cust AE	S-1, W-4	DeRosa A	P1-11	Eccles D	P3-132
Custers J	M-4, P3-79	Deshmukh S	P2-17	Eddes EH	Q-4
Cutress R	P3-132	D'Este C	P1-104, Z-5	Edery L	P3-123
Daeter L	P2-123			Edwards L	P3-35
Dagan E	A-3			Eeckhout G	S10-2
Dagan M	S5-4			Eekers D	S2-3
Daghbashyan S	P2-130			Eelen S	P1-61, P2-61
				Eeltink C	T-4

Efficace F	P1-100, Z-2	Fingeret M	P3-54	Garvelink M	P3-125,
Eide GE	P1-80	Fioretto L	P1-98		P3-126
Eijzena W	O-1	Fiorio E	P1-99,	Gary F	D-4, P-1
Elangovan V	P1-106,		P3-122, T-3	Gascon S	P2-64
	P2-26,	Fischer MJ	P2-82, P3-14,	Gavin A	P3-99
	P3-118, V-5		P3-31	Geller D	E-1
Elger B	P3-136	Fisher P	D-1	Gemke RJJ	V-1
Ellien F	P1-117,	Fiszer C	L-4, P1-101	Geraedts J	P1-75
	P1-118	Fitzgeorge L	P2-76	Geraedts JPM	G-1
Ellis SJ	S6-1, S6-2	Fitzsimmons D	P1-50, X-4	Gerat-Muller V	P3-33
EL Malla H	P1-15, S-4	Flahault C	P1-6, P1-7	Gerbino S	B-3
El Sayed Elborai Y	P1-15, S-4	Flannelly G	P3-39, P3-40	Gerhardt C	S3-4, Y-4
Emami S	P2-107	Flechl B	P1-70	Gerty S	P3-132
Embry L	Y-1	Fleer J	P2-57, P2-6,	Ghilardi A	P3-122
Emery J	H-5		V-2	Ghorbani R	P1-89
Enache A	P3-130	Fletcher J	P3-55	Gianinazzi M	S3-1, Z-4
Enevold Bistrup P	P1-9	Flight I	K-4	Gibon AS	C-1, Q-1
Engelbrecht P	P1-9	Flyger H	S7-4	Gielissen M	M-4, P3-69,
Engelhardt E	P3-124	Flynn S	P1-115, P3-86		P3-79, S1-4,
Epstein R	B-1	Fobair P	P1-58		S8-3, S10-5
Ernst J	P1-48	Focardi F	P1-98	Gielissen MFM	P3-107,
Errihani H	P1-69	Fogazzi G	P2-73		P3-42
Espenschied J	P2-104	Folbrecht J	P2-105,	Giese-Davis J	M-1, P2-108
Esplen MJ	P1-42		P2-83	Giesler JM	I-4, P1-103
Essink-Bot ML	P1-114, P2-27	Foley E	P3-53	Gietel-Habets JGG	G-1
Estapé J	E-5, P1-81	Fong C	I-3	Gietel-Habets J	P1-75
Estapé T	E-5, P1-81	Fong TCT	P2-88	Gijzen B	I-1
Etienne AM	Q-1	Font A	P1-132,	Gilca V	P3-133
Eva G	S9-2		P1-88	Gil F	P3-116
Evans DG	P1-130	Fosså SD	Z-2, P3-17	Gill JS	P1-43
Eversole M	Y-4	Foster C	P3-132, S10-1	Gilmer MJo	Y-4
Everts FZ	P1-57, P2-81	Foster T	Y-4	Girgis A	X-2
Ewertz M	P3-74	Foxwell R	P2-84	Giske T	P3-81
Ezendam N	D-2, J-2,	Fransen M	P1-114	Gisslinger H	F-4, P1-70
	J-3, P1-114,	Fransen MP	P1-27	Goedendorp M	P3-69, S1-4,
	P3-106	Frégeac B	P2-119		S8-1, S8-3,
Ezendam NPM	P1-27	Frenkiel S	D-3, P2-4		S8-4
		Friederich HC	P2-127,	Goedendorp MM	P2-44
			P2-33	Gokal K	P2-86
Facchi F	P2-73	Fried G	P1-83, S1-1	Goldblatt H	P-5
Fadipe B	P2-109	Friedlander M	N-1, N-5	Goldzweig G	P1-133, P2-3,
Fairclough D	S3-4, Y-4	Frings-Dresen M	P3-80, S9-1		S5-2
Fallowfield L	G-2, J-1	Fritzsche K	C-5	Golsteijn RHJ	P1-59
Fang CK	P1-16, P2-62	Frydenberg M	P3-55	Gomez-Garcia E	G-1, P1-75
Fang YY	P3-76	Ftanou M	P2-75	Gonzales-Puell S	P2-128
Farah N	P3-39, P3-40	Fu A	U-1	Goodwin A	H-5
Farcas A	P2-15	Fujimori M	P1-1	Göransson P	X-5
Fardell J	N-1	Fukuuchi A	P3-103	Gordon N	U-1
Farhadi M	P1-89	Fulginiti K	P2-105	Gori S	P2-77
Fasciano K	F-3			Goss C	P1-99,
Fasse L	P1-6, P1-7				P3-122, Q-3,
Faul A	Y-1	Gaab J	P2-90		T-3
Favez N	A-5, P3-115	Gafni A	P1-31	Goswami S	P1-36, P2-1
Feldt S	E-2	Gaiger A	F-4, P1-70,	Gotlieb W	P2-87
Fenemore J	P3-45		P3-66	Gotto J	P2-104
Feng AC	P3-48	Gajwani R	P3-46	Götze H	P2-32
Fenlon D	S10-1, P3-96	Galabova M	P1-108,	Gough K	O-5
Fergus K	S10-4		P1-110	Gouveia L	P2-30
Fernandez J	P1-44	Galindo Vázquez O	P1-102,	Grabowska-Markowska J	P2-28
Fernandez M	P2-83		P3-32	Graffi J	P3-117
Ferreira C	P1-127	Galvão D	I-2	Gamma R	P3-130
Ferrell B	P3-89	Galway K	P2-85	Grandi F	P2-117
Ferring D	P2-11	Ganesan P	P2-14, P3-21	Granström B	T-1
Field A	P2-36	Ganzevoort R	P3-65	Grant L	P1-37
Fielding R	G-4, K-1,	Gardner D	B-3	Grant M	P2-104
	P1-82, P3-58,	Gardner S	S10-4	Grassi L	P1-17,
	X-2	Garssen B	P3-64, R-4,		P2-129,
Filippi E	T-3		S7-1		P3-127

Greenfield B	D-3	Helm Ylitalo N	P1-15, S-4	Hulbert-Williams L	P1-115
Greer JA	P2-36	Hendrick E	S-5	Hulbert-Williams N	M-3, N-2,
Greimel E	X-4	Hennus E	P1-38		P1-115,
Grimison P	K-2, L-3	Henry M	D-3, P2-4,		P3-45, P3-86
Grimmett C	S10-1		P2-87	Hulme C	S10-1
Grocott M	P2-68	Henselmans I	P1-19, P1-62,	Hummel SB	P2-91
Groeneveld I	P3-80		P2-5, R-3,	Humphries G	P3-45
Groenvold M	X-4		S11-1	Hung CT	P3-83, P3-87,
Groff S	P2-10, P3-34	Henskens F	P1-56		P3-88
Grootenhuys M	P2-56, V-4,	Herman S	L-2	Hung YJ	P3-88
	S6-4, P2-121	Hermens H	P3-20	Hurria A	P3-89
Groot M	P3-64	Herzog W	P1-120	Husson O	P1-27,
Grubic M	P1-18	Hesselink M	X-3		P1-114,
Grunfeld B	P2-23	Hession N	P2-74		P3-104
Grypdonck M	P-3	Heyland D	P2-87	Hvidt NC	P3-98
Gschwendtner K	P2-2	Heymans M	P2-8	Hydle Kvalsvik G	P3-18
G. Tedeschi R	P2-113	Hier M	D-3, P2-4	Hylen Ranhoff A	P1-80
Guddal MH	P3-17	Hilders C	P3-125		
Guethlin C	P2-2	Hillen M	Q-4, R-3		
Guglieri I	P2-46	Hirai K	P2-103	Ichikura K	P2-35, P2-92
Guha A	P2-17	Hirschberger N	P3-85	Ihara C	P1-90
Guinan EC	S6-3	Hjalgrim H	P1-9	Imruck BH	F-5
Guldbrandsen G	P3-18	Ho A	D-3	Im YH	P2-126
Gündel H	P1-48	Hoekstra-Weebers J	O-2, O-4, V-3	INCA Group	Q-3
Gurney H	L-3	Hoffmann M	P2-11	Incrocci L	S4-1
Gurney JG	P2-51	Hogervorst F	H-3	Ingleson E	S13-3
Gustafson DH	S6-3	Holcombe C	D-1	Ioan B	P3-130
		Holmberg C	P2-2	Isaksson J	T-1
		Holm M	S12-3	Ishida M	P1-8
Haasbeek C	P1-60	Holroyd-Leduc J	P3-34	Isik, Isil	P2-93
Hacking B	U-4	Holtkamp K	P1-78	Iskandarsyah A	C-3, P-4
Haeems G	P3-35	Holzner B	X-4, Z-2	Isquin B	P1-117,
Hagedoorn M	S5-4, Z-3,	Honig A	P3-27		P1-118
	P3-92	Hönig K	P1-48	Iverson D	P1-92
Hahm BJ	P2-100,	Hoogendoorn A	P3-27	Izdebski P	P1-96
	P3-41	Hoogerbrugge PM	V-1, V-4		
Hahn D	H-2, H-3,	Hopkinson J	P1-50	Jack S	P2-68
	O-1, P1-76	Hopman P	P2-89	Jacobsen P	P2-8, S8-1,
Hailing J	P2-18	Hopmans W	P1-60,		S8-2
Hakobyan Y	P2-130		P3-128	Jacobs E	P1-61, P2-61
Hall A	J-4, P1-104,	Ho RTH	P2-88,	Jacobs M	P1-62, P2-5
	Z-5		P1-67, P2-12,	Jacobs	P3-47
Hamberg K	P3-93		P3-56	Jäger D	P2-127
Hamilton J	P1-42	Hordijk GJ	F-1	Jäger U	F-4, P1-70
Han YS	P3-83	Horenblas S	N-3	Jankowska M	P1-68
Harcourt D	G-3	Horevoorts N	S13-1, S13-4	Janse M	P2-57, P2-6
Harder H	G-2	Horie T	P3-37	Jansen F	P2-7, P3-15
Harding S	M-2	Hosie A	B-4	Jansen L	P1-72
Hargraves M	R-2	Hosseini S	P1-63	Janssen S	P3-79
Harrington C	P1-80	Houben R	S2-3	Jelinek M	P2-50, P3-71
Harris H	P1-130	Houngaard L	P3-98	Jenewein J	P1-35
Hartig A	H-2	Hou YC	P2-63, P3-48	Jenkinson J	P3-129
Hartmann M	P1-120,	Hovey E	L-3	Jenkins V	J-1
	P2-127,	Hoving C	P1-78	Jeyaram S	P1-106,
	P2-33	Howard R	P2-23		P3-118
Hasson-Ohayon I	P1-133, P2-3	Howell D	P1-25	Jim H	S8-1, S8-2
Haun M	P1-120,	Ho WM	X-2	Johansen C	P1-9, S12-3,
	P2-33	Hruby G	L-3		S7-4
Hauspie S	P3-84	Hsu SH	P1-16, P2-63,	Johnson C	P1-50
Haverman L	S6-4		P3-48	Jones K	P1-128
Hawalдар R	P1-36, P2-1	Huang IC	P1-105	Joseph D	I-2
Hayashi A	P3-36	Hubbard G	P2-115	Jovell E	P2-101,
Hayes-Lattin B	Y-1	Hudson MM	P2-51		P2-132
Heaton-Brown L	P3-86	Hudson P	W-5	Juang YY	P1-16
Heg-Bachar Z	Z-4	Huggenberger H	P2-90	Juan Linares E	P1-17,
Heimans J	U-3	Huijgens P	P3-72		P2-129,
Hellings J	P3-44	Huijsman F	X-3		P3-127
Hellmann A	P1-120	Huisman J	P2-121		

Juárez García F	P1-102, P3-32	Kirk J	H-5	Kurokawa M	P3-37
Juarez G	P3-89	Kishimoto S	P2-92	Kurvers R	P3-20
Julian-Reynier C	P1-130, P1-21	Kiss A	P3-50	Kwan T	P3-56
Jung D	P2-100	Kiss E	D-5	Kwong A	G-4, X-2
Junkang L	P2-18	Kissane D	P2-75	Kyle R	P2-115
Juraskova I	P1-31	Kitano A	P3-103		
Ju V	D-4	Kiyoto S	P1-46		
		Klaghofer R	P1-35	Labelle L	P1-42
		Klassen O	S1-3	Lacey J	A-1, B-4
		Kleijn G	T-4	Ladelund S	P1-77
		Kleijn WC	P2-82	Lafaye A	P1-41
Kaats E	P1-76	Klein E	U-1	Laidsaar-Powell R	P1-31
Kabbani M	P1-52	Klein G	P2-2	Lai JS	P2-52
Kai I	P2-99	Klein M	U-3	Lai YH	K-1, P3-83, P3-87, P3-88, P2-133, P2-38, P2-9, P3-120, P3-76
Kaimukilwa D	P3-90	Klein Poelhuis E	X-3		
Kalawsky K	P3-16, P3-22, T-5	Klemt-Kropp M	P3-73		
Kállay É	P3-30	Klikovac T	P2-49		
Kalter J	P2-8	Klinkenbijn J	Q-4		
Kam Fung W	P3-38	Kluijt I	H-2, O-1	Laizner A	P1-42
Kampshoff C	P3-15	Knäuper B	P3-133	Lambert S	D-3
Kamps WA	P2-57, V-2, V-3	Knight C	P2-115	Lampert C	P2-2
Kancherla K	P2-86	Knipscheer K	T-4	Lam T	G-3
Kanera I	P1-66, P3-113	Knipscheer-Kuipers K	L-1	Lam W	P1-31
Kang D	P2-126, P3-77, P3-91	Knoop H	P2-44, P3-69, S1-4, S8-3	Lam WWT	G-4, K-1, P1-82, P3-58, X-2
Kaptein AA	P2-82, P3-14, P3-31	Kobayashi M	P1-45, P2-35, P2-97		
Karlsen RV	S7-4, S12-3	Kocaman Yildirim N	P1-12	Landa-Ramírez E	P2-36, P2-37
Kars M	P1-73	Koga H	P1-22	Lane L	A-1
Kasparian NA	S-1, W-4	Köhler N	S-2	Lane L	P1-92
Kaspers GJL	P2-121	Köhler N	P2-32	Lang M	M-1, P1-40, P3-70
Kassianos A	P2-131	Koller M	P3-50	Langridge C	G-2, J-1
Katz R	S1-1	Komárková I	P3-71	Lapointe B	P2-87
Kaufman B	P2-3	Koning H	P3-64	Lapointe J	P1-21, P2-10
Kawada S	P1-8	Koole R	F-1	Lareyre O	P1-41
Ka Yuk W	P3-38	Kop, JL	P1-100	Larkin M	P2-23
Kazanjan A	P-2	Kopp M	P3-30	Laron A	P1-121
Keall R	S14-3	Korfage IJ	P2-27	Laroya B	P2-106
Keam B	P2-100	Kornek G	F-4	Laurell G	T-1
Kearsley J	A-1, B-4	Kossert A	U-2	Lau S	P2-87
Kelly B	A-1, R-2, W-5	Kost K	D-3, P2-4	Lavender V	Y-2
Kelly N	P2-105	Koutná V	P2-50	Laven M	P1-78
Kempen G	S2-3	Kowalczyk JR	P2-54	Law WL	P1-82, P3-58
Kenter G	S4-4	Koyama A	P2-41, P2-98	Lea B	P1-121
Kepák T	P2-50, P3-71	Kozłowska K	S13-3	Leal I	P2-113
Kerkhof Ad	P2-45	Krawczyk A	P3-133	Lechner L	P1-59, P1-66, P3-113, P3-47, S2-3
Kero A	P3-93	Krebbber AM	O-3, S10-2		
Keszte J	A-2	Kreicbergs U	P1-15, S-4		
Kets M	P1-75	Kreps GL	P1-20, P1-63	Ledesma D	P2-99
Khanna P	P1-87	Kreševic D	U-1	Lee E	N-2
Kharmoum S	P1-69	Kretsch M	Q-2	Lee JE	P2-126
Khatib J	P2-34	Krishnasamy M	O-5, P2-75	Lee JY	P2-100
Khmamouche R	P1-69	Kroep JR	P3-31	Lee J	P-2, P3-54
Kieffer J	N-3	Krol-Warmerdam EMM	P3-14, P3-31	Leemans CR	E-3, O-3, P2-24, S10-2
Kil P	T-2	Kruitwagen R	D-2, J-2, P3-106		
Kim IR	P2-126, P3-77, P3-91	Kruizinga R	S14-4	Leemans R	T-4
Kim JH	P3-41	Krull K	P1-105, P2-51, S3-2	Lee PWF	K-3
Kim K	E-1	Kuehni C	Z-4	Lee SK	P2-126
Kim P	P1-20	Kuenen M	P1-76, P3-49	Lee T	P1-33, P1-47, P1-53, P1-54, P1-55, P1-97, P2-69
Kim Y	S12-2	Kühne T	P3-136		
King L	P3-131	Kuhnt S	F-5	Leeuwen van R	P3-64
King M	L-3	Kuiken S	P3-73	Lee YH	P2-38, P2-9, P3-76, P3-87, P3-88
King M	L-3	Kumar N	P1-87		
Kinnear H	P3-99	Kunisato Y	P1-22		
Kinoshita H	P1-1	Kunneman M	C-2		
		Kupst MJ	S3-4, S6-3		

Lehmann V	P3-92	MacDonald C	D-3, P2-4	Meggiolaro E	P1-17, P2-129,
Lelorain S	P2-30	Macefield R	P2-5		P3-127
Leman J	P-3	Macip-Billbe M	M-5	Mehnert A	A-2, P1-48,
Lemiere J	P2-58	MacKenzie G	P1-42		P1-93, S11-4
Lemmens V	T-2	Maffei F	P2-112	Meijer-Hoogeveen M	G-1
Lenotti M	T-3	Magnani T	P3-135, U-5	Meijer-van den Bergh EMM	V-1
León C	P2-101,	Mahgoub N	P1-112	Meiser B	H-5
	P2-132	Makabe R	P3-1, P3-5	Meiss F	P1-126,
Lessing J	P2-11	Makimura C	P2-41, P2-98		P3-121
Leuteritz K	F-5	Malova Y	P2-53	Menko F	P1-74
Levi R	P2-3	Manassa R	P-5	Menzies SW	W-4
Levkovich I	P1-83, S1-1	Mandragona R	T-3	Merckaert I	P1-26
Lewis E	P2-84	Mane A	P2-17	Merckaert I	L-2, Q-1,
Lewis F	L-2, W-2	Man J	P3-129		W-2, Y-5
Leys R	P1-94	Mann GJ	S-1, W-4	Merims S	S5-2
Liao WY	P2-38, P2-9	Manring S	Y-4	Merluzzi TV	P2-46
Liao YC	P2-38, P2-9	Marafioti L	P1-23	Mesters I	P1-66,
Liauw W	A-1, B-4	Marchal S	Q-1		P3-113
Libert Y	L-2, Q-1,	Marcoux S	P1-29	Meyer A	A-2
	W-2, Y-5,	Mardanshah M	P2-107	Michaux G	P2-11
	P1-26	Marek K	P2-28	Michel G	S3-1, Z-4
Lichtenthal W	S11-1	Marengi C	U-5	Midtgaard J	P3-11, P3-12
Liénard A	L-2, Q-1,	Marete J	P2-40	Mikulincer M	P3-85
	W-2, P1-26	Marijnen CAM	C-2	Mills M	P2-85
Li HCW	W-3	Markey M	P3-54	Mirapeix R	P2-101,
Li IF	P3-57	Marosi C	F-4, P1-70		P2-132
Lili T	P2-124	Marrocco L	P1-23	Mirsu-Paun A	P3-3
Lilliehorn S	P3-93	Marsh W	E-1	Mirsu-Paun C	P3-3
Limperg P	S6-4	Martin C	P3-39,	Misiti B	S3-4, Y-4
Lindahl Norberg A	P2-67		P3-40	Mitchell AJ	J-5, P1-43,
Lindström TC	P3-81	Masclee AA	P1-78		S2-4, S-3
Links M	A-1	Massel D	P2-76	Mitura-Lesiuk M	P2-54
Linn A	P1-13	Massimino M	P1-24	Mlynarek A	D-3, P2-4
Lin P	P2-63	Mastroianni C	P1-23	Mobaraky G	P2-107,
Li PY	P2-62	Masuda N	P3-103		P2-13, P3-59
Lister S	P1-37	Matheson L	Y-2	Modiano-Gattegno S	A-3
Liu C	P3-120	Matoba M	P1-45	Mohammadabadi MH	P2-107
Liu WL	P2-133	Matsuda A	P2-35	Moisa S	P3-130
Li WWY	K-1, P1-82,	Matsui T	P2-103	Molard A	P3-117
	P3-58	Matsui Y	P1-1, P1-2	Molema J	S7-2
Ljungman G	P2-67	Matsuoka H	P2-41, P2-98	Molino A	P1-99,
Lkhoyaali S	P1-69	Matsushima E	P2-35, P2-92		P3-122, Q-3,
Lobb E	A-1, B-4,	Matsushita T	P2-35		T-3
	P2-39	Mattsson E	P2-67	Mols F	J-3, P3-104,
Lobbestael J	P3-47	Matuiziene J	P3-2		P3-108,
Lockwood D	U-2	Maurice-Stam H	S6-4		S13-1, S13-2,
Loffeld R	P3-73	May A	F-1		S13-4
Loiselle CG	P2-10,	May C	S10-1	Mols FM	P3-111
	P2-102	Mayer DK	S6-3	Mondal NR	P3-51, P3-52
Lombardo A	P1-23	Mayorga L	P2-104,	Monson K	J-1
Longo C	P2-4		P2-105,	Monteiro L	P1-107,
Lo PHY	P1-67,		P2-106		P1-122,
	P2-12	Mazza D	H-5		P3-60
Loscalzo M	P3-25	Mazzei L	P2-112	Montel S	Q-2
Loucas C	A-4	Mazzi MA	P1-99,	Montesi A	P3-127
Louwé L	P3-125		P3-122, Q-3	Mooney S	P3-4
Love AW	F-2, P1-34,	Mazzi M	T-3	Moon M	P2-100
	U-5	McCaughan E	P3-95	Moore S	U-1
Lubberding S	E-3	McCune M	P3-129	Morabito F	P1-23
Luce J	Y-3	McGowan E	P3-70	Moraes, ÉN de S	P2-65
Lucette A	S12-2	McGowan N	N-1, P2-39	Moreira C	B-2
Luckett T	L-3	McGregor D	N-4	Morris B	P3-53
Luk MY	P1-67, P2-12	McLeod D	P1-42, S10-4	Morton RL	S-1, W-4
Lunter S	I-1	McSorley O	P3-95	Mota C	P1-127
Lybeert M	J-3	McTavish F	S6-3	Moucheux A	P1-26
Lynagh M	P1-104, Z-5	Meaney M	P2-4	Mowl Jane	A-1, P2-39
Lynch J	A-1	Mechelen van W	P3-15	Muccini M	P1-17, P2-129,
Lynn R	P2-104	Meeske KA	Y-1		P3-127

Raats M	P2-131	Rose S	P3-10	Sawatzky R	P-2
Raderer M	F-4, P1-70	Ros W	F-1	Scalliet P	Q-1
Radford K	S9-2	Roth A	S1-2	Scanlon K	E-4, M-2, P2-115, P3-86, P3-96
Rajendranath R	P2-14, P3-118, P3-21, V-5	Roth B	P2-90		S7-2
Ramos C	P2-113	Rothschild S	P3-50	Schellekens M	P2-56, S6-4, V-4
Rancati T	U-5	Rötzer I	P2-127	Schepers SA	P3-104
Ranchor A	P1-131	Roukema A	P3-106	Schep G	S14-4
Ranchor AV	P2-6, R-4	Roukema J	P3-29	Scherer-Rath M	X-3
Ranke GMC	P3-14, P3-31	Roukema JA	S4-2	Scheres E	P2-127
Rankin N	K-2, N-4	Roychoudhuri R	P3-51	Schiel R	S14-4
Ransdorp H	P1-123	Roychowdhuri R	P3-52	Schilderman JBAM	P1-120
Rassouliau AP	F-4, P1-70, P3-66	Rückert G	P2-33	Schlehofer B	P3-110
Ratichek SJ	S6-3	Ruckes C	F-5	Schmidtke J	P1-130
Razavi D	C-1, L-2, Q-1, S5-3, W-2, Y-5, P1-26	Rueegg C	S3-1	Schmidt M	S1-3
	M-2, S10-1	Ruffilli F	P1-17, P2-129, P3-127	Schneid E	C-5
Ream E	S-5	Ruggeri E	P1-17, P2-129, P3-127	Schofield P	P3-53
Rechis R	P3-132	Ruhe K	P3-127	Scholten AN	P3-31
Recio-Saucedo A	P3-54	Ruijs C	P3-136	Schou Bredal I	P3-97
Reece G	P3-96	Ruppin U	P2-45	Schouten B	P3-44
Reed L	B-5, U-3, X-4	Rutgers E	P1-48	Schouten-van Meeteren AYN	V-4
Reijneveld J	P1-89	Rutte A	H-3	Schröder FH	P2-27
Reisi-Dehkordi N	P3-49	Ruttle C	L-5	Schroevens MJ	R-4, S2-1
Relyveld G	P2-58	Sabatti E	P3-39, P3-40	Schrott A	F-4
Renard M	D-5	Sabiston C		Schumacher A	P2-22, P2-29
Repa I	P1-126, P3-121	Sadarjoen S	P2-73	Schwartz L	Y-4
Reuter K	Q-1, P1-26	Sagar TG	P2-68	Schwartz L	S6-3
Reynaert C	O-4	Sagen Å	C-3, P-4	Scivoletto S	P2-65
Reyners AKL	P1-107, P1-122	Sain I	P2-14	Scott S	U-4
Ribeiro A	P3-55	Sakai K	P3-18	Seckin G	P1-64
Ricciardelli L	S10-1	Sakamoto R	P2-42, P2-43	Seguí MÁ	P2-101, P2-132
Richardson A	T-4	Salamon E	P2-41, P2-98		P3-98
Riepma I	P2-89	Salander P	P2-41, P2-98	Seibaek L	G-5
Rijken M	H-3	Salden B	Q-1	Seitz S	P2-20
Rijna H	P3-122	Salmon P	P3-93, R-1, T-1	Sekse RJT	Y-3
Rimondini M	G-2	Samardakiewicz M	P1-78	Sellmeyer D	M-3
Ring A	P2-75	Sami A	D-1	Semlyen J	P1-60, P3-128
Rischin D	P1-63	Samori E	P2-54	Senan S	P2-78
Rising CJ	S10-3		P1-112	Sen S	P1-91, P2-46, P3-7
Ritterband L	P1-102, P2-36, P3-32	Sampaio D	P1-17, P2-129, P3-127	Serpentini S	P3-42
Riveros Rosas A	S3-3	Sanatani M	P2-127	Sessink KH	S12-2
Rizvi K	P2-19	Sánchez-Román S	P1-127	Shaffer K	P1-133
Karthik Lakshmanan RM	P1-29	Sanderman R	P2-76	Shalit E	P1-33, P1-47, P1-53, P1-54, P1-55, P1-97, P2-69
Robaey P	P1-72		P2-36, P2-37	Sham JST	P3-39, P3-40, P3-99
Rober P	P2-77		P2-57, P2-6, P3-61, R-4, S2-1, S5-4, V-2	Sharp L	G-3
Roberto M	K-2, N-4	Sanderson C	P2-39	Shaw LK	N-4
Robinson T	P1-105, P2-51	Sandström M	P2-39	Shaw T	U-4
Robison L	P2-90, P3-50	Sanduleanu S	R-1	Shepherd S	G-3
Rochlitz C	S6-3	Sane S P	P1-78	Sherman K	P2-63, P3-48
Rodday AM	P1-131	Sansom-Daly UM	P2-17	Shih SM	P3-103
Roelen C	P3-45	Sanson C	S6-1, S6-2	Shikata A	P2-103
Rogers S	P1-102, P3-32	Sanson-Fisher R	P2-114	Shikoji M	P1-22
Rojas Castillo E	P3-130		J-4, P1-104, P1-128, P1-56, P3-10, Z-5	Shimada Mai	P3-119
Roman G	P2-73	Saranath D	P2-116	Shimizu K	P1-125
Romano C	P2-27	Sarimiye FO	P2-109	Shuib N	P2-116
Roobol MJ	P2-57, V-2	Sasaki M	P1-22	Shukla Mishra V	K-1, P2-9, P3-120
Roodbol PF	D-3, P2-16, P2-4, P3-131, P3-133	Sato M	P3-19	Shun SC	O-1
Rosberger Z		Sattel H	C-5	Sidharta G	

Sijmons R	H-2, P1-74	Steineck G	P1-15,	Taylor-Sturdy L	P2-115
Silberleitner N	P1-32	Stein K	P2-118, S-4	Tel H	P2-60, P2-79
Siminoff LA	P3-134	Stepanchuk E	S12-1	Temme J	P2-22
Simmons Laura	P2-106	Stephen J	P1-111	Templier A	P3-28
Simoncini EL	P3-122	Steunenberg B	S10-4, S7-3	Tenali Gnana S	V-5
Simonitsch-Klupp I	F-4	Stevenson W	T-4	Teo I	P3-54
Sinclair S	P1-42	Stewart M	P1-56	Terakye G	P1-12
Singer S	A-2	Stewart RE	S-5	Terhaar sive Droste J	L-5, P3-73
Sint Nicolaas SM	P2-56, V-1, V-4, S6-4	Stewart S	V-2	ter Kuile M	P3-125, P3-126, S4-4
Sirgo Ramirez A	P1-17, P2-129	Stewart S	S6-3, Y-3	ter Meulen S	P3-49
Sirgo Rodriguez A	P3-127	Steyerberg EW	P2-27	Terrin N	S6-3
Siu Mei L	P3-101	Stiggelbout A	C-2, P3-124, P3-125, P3-126, S4-4	Tesfaya S	P1-63
Sklenarova H	P1-120	Stinesen-Kollberg K	P2-118	Testoni I	P3-7
Skrabs C	F-4, P1-70	Stockler M	L-3	Tettamanti M	P1-24
Slachmuylder JL	C-1, L-2, Q-1, W-2, Y-5	Stokroos M	P3-61	Thalhammer R	F-4
Slocum K	P2-78	Strada I	P1-17, P2-129, P3-127	Thein T	K-2
Slooter G	S13-2	Strauser D	P2-129, P3-127	Theunissen E	H-3
Slotman B	P1-60	Strauss G	I-3, S9-3, S9-4	Thomas M	P2-33
Small B	S8-1, S8-2	Street A	U-1	Thomas T	W-5
Smeland S	P3-17	Streng I	F-2, P1-34	Thomson MD	P3-134
Smets E	H-4, P1-62, P1-74, P2-5, P3-124, Q-4, R-3, P1-19	Strepparava M G	P2-121	Thong M	P3-104, P3-108, S13-1, S13-2
Smink A	P1-131, S2-1	Strohschein FJ	P3-122	Thong MSY	P3-111, P3-112
Smit E	P3-128, T-4	Stubbs J	P2-10	Thorsen L	P3-17
Smit F	S10-2	Suardi D	L-3	Thune I	P3-18
Smith A	L-3	Suen D	C-3, P-4	Tibben A	G-1, P1-130, P1-75
Smith P	S10-1	Suen J	G-4, X-2	Tielen R	M-4
Smit J	P3-73	Sugimoto T	X-2	Timmerman J	P3-20
Smit JH	P2-24	Sulkers E	P2-92	Timmermans D	P1-60, P3-128
Smits R	P1-56	Sultanem K	P2-57, P2-6, V-2	Timulak L	P2-74
Snyder D	P2-104	Sultan S	P2-87	Tipandjan A	P3-21
Sobota A	P3-102	Summers M	L-4, P1-101, P1-29, P1-30, P1-6, P1-7, P2-30	Tissing WJE	P2-57, P2-6, V-2
Soemitro M	C-3, P-4	Surendran V	P2-30	Tjan-Heijnen VCG	G-1, P1-75
Soheilipour S	P2-13	Suskin N	W-5	Tjonneland A	S12-3
Sommerfeldt S	P2-33	Suzor C	P2-14	Toft T	P2-67
Sonkusare L	P1-36, P2-1	Suzuki S	P2-76	Tokunaga E	P3-103
Soong I	X-2	Swash B	P1-71	Tokuyama M	P2-103
Soria S	E-5, P1-81	Symonds P	P1-22, P1-45	Tollenaar R	L-1, P3-68
Soubeyran P	P1-79	Syrjala KL	N-2, P3-45	Tolosa I	P3-46, P3-6
Souraya S	P3-9	Syska-Bielak A	J-5, S2-4	Tomasini P	P3-28
Spalla G	P2-112	Sze WK	S6-3	Tompkins C	M-2
Specca M	S7-3	Taaffe D	P2-28	Tondo J	R-5
Speckens A	S7-2	Tack A	X-2	Toner G	L-3
Speckens AS	P3-107	Takahagui FM	I-2	Tönis T	P3-20
Spelten E	P3-82	Takahashi M	P2-31	Tookey S	P2-23
Spitz E	Q-2	Takei Y	P2-65	Torres A	P1-81
Sprangers MAG	S14-4	Takimoto Y	P2-99, P3-103	Toyama H	P1-8
Sprangers M	P1-62, P2-5, P2-6	Takken T	P1-22	Traa M	S4-2
Spry N	I-2	Tamagawa R	P3-37	Trauer T	P2-75, W-5
Stablum A	P3-7	Tamaki T	P2-119	Travado L	K-5
Stagni S	P3-135	Tamminga S	P2-121	Treerojpon P	P2-120
Stalpers L	Q-4	Tang WR	S7-3	Tremblay D	P3-75
Stanczyk MM	P2-21	Tanigawa Keishi	P1-46	Trevena L	H-5
Stanzani O	P2-117	Taphoorn M	S9-1	Trevino K	F-3
Stanzer S	P1-86	Tatematsu N	P1-16	Trivanovic D	P2-42, P2-43
Stark D	S13-3	Tattersall M	P1-22	Tróccoli BT	P3-25
Steel J	E-1	Taylor-Brown J	U-3	Trudel JG	P1-25
Stefanic N	P1-92		P3-36	Trujillio M	P2-105
Steger GG	F-4		B-1	Tsang J	X-2
Stehouwer S	P1-76		P1-42	Tsuchiya M	P3-105
Steindorf K	S1-3			Tsujimoto S	P1-46
				Tsung A	E-1

Watson E	P3-62, Y-2	Wiskemann J	P2-127, S1-3	Yoshiuchi K	P3-37
Watts CG	S-1	Wiszniewicz A	P2-28	Young J	B-1, N-4
Webb P	N-1, N-5	Witkamp A	H-3	Yu CJ	P2-38, P2-9
Webster F	S14-2	Witte B	S10-2	Yu E	P2-125
Wee B	P3-62	Wojtyna E	P2-28	Yuen LP	P1-33, P1-47, P1-53, P1-54, P1-55, P1-97, P2-69
Weesie F	P3-49	Wollbrueck D	A-2		
Weiling Appel C	P1-9	Wolterink H	P1-94		
Weis J	I-4, P1-103, P2-2, S5-1	Wolvers MDJ	P1-57		
		Wong K	X-2		
Weißflog G	F-5, P1-48	Woolridge N	P3-129	Zabora J	X-1
Weiwei X	P2-18	Wössmer B	P2-90	Zagminas K	P3-2
Weru J	P1-49	Wray J	P3-96	Zainal NZ	P1-125
West M	P2-68	Wright P	S13-3	Zajac I	K-4
Wetzel C	G-5	Wuensch A	C-5	Zamboni M	T-3
Wevers M	H-3, P1-76	Wulfert AK	P2-29	Zargham-Boroujeni A	P1-89
Wheelwright S	P1-50	Würtzen H	S7-4	Zebrack B	Y-1
White C	P3-39, P3-40	Wynn P	I-3	Zegers MHW	P3-31
				Zeiss T	P1-103
White D	P3-34	Yıldız I	P3-63	Zeitouni A	D-3, P2-4
White I	S4-3	Yakovleva A	P1-124	Zhang A	D-4, P-1, U-1
White K	N-4	Yamashita A	P2-92	Zhirkov A	P1-124
White L	B-4	Yamauchi YAYOI	P3-114	Zhuang ST	P1-95
White V	W-5	Yang JH	P2-126	Zhu H	D-4, P-1, U-1
Widdershoven GAM	B-5	Yang P-C	P2-38, P2-9	Zhu L	R-4
Wiel van de H	O-2	Yang YC	P2-62	Zielinski C	F-4, P1-70
Wiener L	A-4	Yapeng W	P2-124	Ziengs R	P3-61
Wiesenhaan-Breeuwer ME	P2-82	Yardley L	S10-1	Zimmermann C	P1-99, P3-122, Q-3
Wijnberg-Williams B	V-3	Yates P	R-2		
Wildenbeest, M	P3-138	Yau TK	X-2	Zloklikovits S	P1-86
Wilderäng U	P1-15, P2-118, S-4	Yening Z	P2-124	Zorbas H	S14-2
		Yeo W	X-2	Zordan R	W-5
Wilkosc M	P1-96	Yildiz O	P2-78	Zupan B	P3-49
Willemsen V	L-1, T-4	Ying P	P2-124	Zurawski B	P1-96
Willems R	P1-66, P3-113	Yip PSF	P1-67, P2-12	Zwahlen D	P1-35, P3-50
Wilson C	K-4	Yong Li L	P2-108	Zwerenz R	F-5
Winch C	G-3	Yoon JH	P3-77		
Wiseman T	P1-37				