PODIUM SESSIONS

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THE EFFICACY OF A TAILORED BARRIERS INTERVENTION FOR CANCER INFORMATION SERVICE (CIS) CALLERS IN PAIN. Sandra Ward, RN, PhD, FAAN, Ronald Serlin, PhD, and Ko-Kung Wang, MS, University of Wisconsin–Madison, Madison, WI.

Under-utilization of analgesics often results from patient-related attitudinal barriers, such as fatalism about pain relief. Although some educational interventions have been found efficacious in overcoming these barriers, studies have suffered from small sample sizes and few have tested tailored (versus one-size-fits-all) interventions.

To test the efficacy of the Tailored Barriers Intervention (TBI). We hypothesized that TBI would be more efficacious than assessment-only, which would be superior to no-assessment no-intervention (control).

Derived from theories of stress and coping, the model guiding this study proposes that attitudinal barriers have an effect on coping efforts (e.g. medication usage) which in turn affect pain severity outcomes.

A randomized controlled three-arm trial comparing TBI to assessment-alone to control was conducted. Eligible subjects were CIS callers diagnosed with cancer, 18 or older, who had had at least some moderate to severe pain in the past week. Subjects received CIS service as usual and then were invited to stay on the telephone to join a study. Study procedures were guided by a website that led the CIS worker through randomization, data collection and intervention delivery. The TBI consisted of proactive educational messages tailored to subjects' responses to 8 items addressing attitudes about (barriers to) pain management. The valid, reliable outcome measures (potential range) were barriers scores (0 to 8), and pain duration (1 to 5), severity (0 to 10) and interference (0 to 10) assessed at baseline and 4 weeks later. A 2 (time) x 3 (group) ANOVA was conducted for each outcome measure. Type I error rate was controlled by Shaffer's improved Bonferroni method.

1256 subjects joined and 970 (77%) completed. Subjects were mostly female (74%) and Caucasian (78%), and their M(SD) age was 56.42 (12.30). At follow-up the TBI group had significantly lower barriers scores (M=2.98, SD=1.95) compared to assessment-alone (M=3.90, SD=2.00) and control (M=4.01, SD=2.01) [$F(2,967)=24.94$, $p<.001$]. The groups did not differ on pain duration, severity or interference. We conclude that the TBI changed attitudes but had no effect on other outcomes measured within 4 weeks of the intervention. Work is needed to strengthen the intervention and to determine optimal timing of outcome measurement.

Funding Sources: National Institutes of Health, National Cancer Institute CA101907

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BARRIERS TO PAIN ASSESSMENT AND MANAGEMENT. Virginia Sun, RN, MSN, ANP, Tami Borneman, RN, MSN, CNS, and Betty Ferrell, PhD, FAAN, City of Hope National Medical Center, Duarte, CA; Barbara Piper, DNSc, FAAN, University of Nebraska Medical Center, College of Nursing, Omaha, NE; Marianna Koczywas, MD, City of Hope National Medical Center, Duarte, CA; and Gwen Uman, RN, PhD, Vital Research, Los Angeles, CA.

Major deficiencies in the management of cancer-related pain have been documented over the past two decades. These deficiencies to optimum pain relief are related to patient, professional, and system barriers as identified by the NIH Symptom Management Consensus Conference.

This NCI supported study is a prospective, longitudinal design including Usual Care/Phase I followed by two cohorts in experimental phases (Phase II and III). The overall purpose is to assess the efficacy and feasibility of the "Passport to Comfort" intervention to improve cancer pain management. The framework for the "Passport" is based on patient, professional and system barriers as identified by the AHCPR Clinical Practice Guidelines for Cancer Pain. This intervention also demonstrates innovation by translating the evidence-based guidelines for pain as developed by the National Comprehensive Cancer Network (NCCN) into practice.

Patient-related outcomes and barriers were obtained using the COH QOL tool, Barriers to Pain Questionnaire (BQII), and Patient Knowledge Tool for Pain. A chart audit was conducted to capture professional and system barriers. Data was analyzed using SPSS derived through a descriptive design to explore the impact of the barriers through comparisons of data at baseline and 1 and 3 month follow-ups.

Subjects' mean age (n=80) was 61, and included 33% ethnic minorities and 61% females. Subjects included 64% Stage III and IV disease of which 81% were currently on treatment. Findings revealed that highest patient-related barriers include fear of addiction (70%), tolerance to pain medications (59%), and belief that pain medications weakened the immune system (37%). The overall mean score for pain knowledge was high (75%), with worst scores related to addiction and around-the-clock dosing. Chart audits revealed a lack of referrals to supportive services and documentation of pain assessment and management on a professional and system level.

Based on Phase I findings, a nursing intervention is being tested in Phase II to evaluate the efficacy and feasibility of the "Passport to Comfort" intervention. This project incorporates evidence-based guidelines to test an innovative yet realistic model of nursing practice using an interdisciplinary model for application to cancer care.

Funding Sources: National Cancer Institute

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THE USE OF RESPONDER ANALYSIS TO IDENTIFY DIFFERENCES IN PATIENT OUTCOMES FOLLOWING A SELF-CARE INTERVENTION TO IMPROVE CANCER PAIN MANAGEMENT. Janet Edrington, RN, MS, PhD(c), Christine Miaskowski, RN, PhD, FAAN, Marylin Dodd, RN, PhD, FAAN, Claudia West, RN, MS, and Steven M. Paul, PhD, University of California, San Francisco, San Francisco, CA; and Karen Schumacher, RN, PhD, University of Nebraska Medical Center, Omaha, NE.

The undertreatment of cancer pain remains a significant clinical problem. Many of the educational interventions have not produced clinically significant results.

Previously, we demonstrated, in a randomized clinical trial, the effectiveness of a psychoeducational intervention, to decrease pain intensity scores and increase patients' knowledge of cancer pain management with oncology outpatients with pain from bone metastasis. However, initial analyses revealed that this intervention had no effect on mood or quality of life. Therefore, the purpose of this study was to use a responder analysis to evaluate for changes in mood states, quality of life, and pain's level of interference with function from baseline to the end of the intervention.

The theoretical framework was Orem's self-care theory.

At the beginning and end of the study, 89 patients completed the interference items from the Brief Pain Inventory, the Profile of Mood States, and the Medical Outcomes Study-Short Form 36 which are valid and reliable measures of pain interference, mood states, and

QOL. For the responder analysis, patients were classified as responders (i.e., > 30% decrease in pain intensity scores from the beginning to the end of the study), partial responders (i.e., 1% to 29% decrease in pain), or non-responders (no change or an increase in pain). Differences in outcomes among the three groups were evaluated using analyses of variance.

Fifty percent of the patients were characterized as responders, 25% as partial responders, and 25% as non-responders. When patients in the intervention group were categorized using a responder analysis approach, significant differences in the various outcome measures were found among the three groups. Differences in physical and mental component summary scores on the SF-36 and the interference items on the BPI, among the three groups were not only statistically significant, but also clinically significant with the responders having the best outcomes. The study is the first to use a responder analysis approach to evaluate the effects of a psychoeducational intervention for cancer pain management. The use of responder analysis in analgesic trials may help to identify unique subgroups of patients and lead to the development of more effective interventions.

Funding Sources: This study was funded by a grant from the National Cancer Institute - CA64734

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LINKING PAIN KNOWLEDGE, ASSESSMENT, MANAGEMENT, AND PATIENT OUTCOME. Nancy Wells, RN, DNSC, Vanderbilt University Medical Center, Nashville, TN; Rachel McDowell, MSN, ACNP, and Patricia Hendricks, RN, Vanderbilt-Ingram Comprehensive Cancer Center, Nashville, TN.

Knowledge deficits are frequently cited as a barrier to adequate pain management. Guidelines exist to provide direction to providers. Linking provider knowledge to behaviors supporting good pain management and patient outcomes has proven difficult. The purpose of this study was to examine the relationship between provider knowledge to pain assessment, analgesic prescription, and patient outcome in ambulatory cancer patients.

A 14-item pain knowledge questionnaire was completed by 50 providers (29 physicians, 21 nurses) caring for patients in 6 cancer clinics. Patient records (N = 45) were reviewed for documentation of pain assessment and management. The first incidence of pain documented was used to identify degree to which the providers met the comprehensive assessment criteria recommended by the APS Cancer Pain Guideline. Documented analgesics were examined based upon the WHO Analgesic Ladder. Pain relief at the next clinic visit was used to determine patient outcome.

Provider knowledge scores ranged from 50 to 100% (M = 73.6). The majority of providers had more than 10 years experience. Patient diagnoses varied. Six elements were summed to calculate an assessment score. 4 (9%) of records included all 6 elements of assessment while 10 (22.2%) included none. Despite pain complaint, 10 patients (22.2%) had no analgesics ordered. 10 (22.2%) patients had a long-acting opioid prescribed around the clock and 29 (64%) had an immediate-release opioid ordered as needed. Of patients with a pain intensity rating (n = 15), 25% had analgesics ordered according to the WHO ladder. Degree of relief was identified for 29 patients during their next clinic visit. 12 patients (41% of those with outcome documented) had adequate relief. Chi square analysis revealed knowledge was associated with pain assessment ($p = .03$) but not analgesic prescription or outcome. Assessment was related to analgesic prescription ($p = .02$) but not outcome. Outcome also was unrelated to prescription.

The primary finding is that documentation of pain and analgesics in cancer clinics does not meet guidelines. While provider knowledge did improve pain assessment, none of the variables recorded were related to pain relief reported by the patient at the next clinic visit.

Funding Sources: These data were collected as part of a larger study funded by National Cancer Institute (RO1 CA95413-01-A2).

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THE SIGNIFICANCE OF SERUM TESTOSTERONE CONCENTRATIONS FOR FEMALE CANCER SURVIVORS. Debra Barton, RN, PhD, AOCN®, Charles Loprinzi, MD, Pam Atherton, MS, and Jeff Sloan, PhD, Mayo Clinic College of Medicine, Rochester, MN; Robert Dalton, MD, Immanuel–St. Joseph Hospital, Mankato, MN; Ernie Balcueva, MD, St. Mary's Hospital, Saginaw, MI; and Paul Carpenter, MD, Mayo Clinic College of Medicine, Rochester, MN.

Understanding issues related to sexual health for cancer survivors is a critical area for oncology nursing. The prevalence and effects of androgen deficiency in women surviving cancer are not known. While the literature is replete with contradictory reports about the impact of androgen deficiency in women, there have been no prospective trials clearly defining the role of androgens in cancer survivors. The purpose of this analysis was to explore the scope of the problem of androgen deficiency in a subgroup of female cancer survivors and to determine whether low androgen levels were correlated with adverse symptoms.

The Theory of Unpleasant Symptoms postulates that symptoms can occur in concert as a result of a single event (such as androgen deficiency) and provides the framework for this analysis.

The parent study for this supplemental analysis was a clinical trial where 150 women were randomized to receive 4 weeks of 10 mg/day of testosterone cream or a placebo cream and then the alternative treatment for the next 4 weeks. Questionnaires regarding sexual function, energy, mood and quality of life, as well as serum draws for testosterone, estrogen, and sex hormone binding globulin, were completed at baseline, 4 weeks and 8 weeks. Aims included the evaluation of differences in testosterone concentrations based on various demographic characteristics, as well as the correlation of testosterone levels with the symptoms listed above. Effect of transdermal testosterone supplementation on hormone concentrations was evaluated. Analyses included standard t-tests, correlation coefficients, as well as linear models.

Participants reported significant problems with vigor and sexual function at baseline. Prior chemotherapy, pelvic radiation or ovarian status did not correlate with baseline testosterone concentrations which were low normal in this population of women reporting low libido. Testosterone concentrations were not significantly correlated with any symptoms at baseline, nor were changes in testosterone concentrations associated with any symptoms at 4 weeks. Testosterone supplementation did not increase estradiol levels despite increased testosterone levels. This analysis failed to provide any evidence to support androgen levels as an etiology for the symptoms experienced by this population of survivors, despite low levels of androgens.

Funding Sources: American Cancer Society, Grant RSGPB-05-239-01-CPPB and This study was conducted as a collaborative trial of the North Central Cancer Treatment Group and Mayo Clinic and was supported in part by Public Health Service grants CA-25224, CA-37404, CA-35103, CA.

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ANIMAL MODELS OF CANCER OR TREATMENT-RELATED SYMPTOMS. Donna McCarthy Beckett, PhD, RN, University of Wisconsin–Madison, Madison, WI.

The purpose of this presentation is to demonstrate how animal models can be used to increase our understanding of the pathobiol-

ogy of symptoms experienced by cancer patients and for preclinical testing of targeted interventions to reduce symptom expression. Emphasis will be given to animal models of cancer cachexia, addressing the biology of tumor-induced anorexia, weight loss, and skeletal muscle wasting that contribute to the fatigue and asthenia frequently experienced by patients with cachexia.

Many rodent models of cancer cachexia involve increased serum levels of the pro-inflammatory cytokines that have been implicated in the pathobiology of tumor or treatment-induced anorexia, weight loss, and skeletal muscle wasting in cancer patients. These same models can be used for preclinical testing of interventions to alter cytokine activity or symptom expression. For example, data obtained from rodent models of cancer cachexia demonstrated that reduced food intake does not fully explain the progression of weight loss and skeletal muscle wasting in the tumor-bearing host, and that increased protein or calorie intake had little impact on body weight or lean body mass of the tumor-bearing animal. While no one underestimates the need for nutritional support of cancer patients, these data suggest that nutritional interventions should address not only protein-energy intake, but metabolic processes affecting protein anabolism.

"Linking biological and behavioral phenomena" is an important component of nursing scholarship. However, research in symptom management often addresses behavioral aspects of symptom expression without addressing biological processes producing the symptom. Without a clearer understanding of symptom biology, clinical interventions for symptom management will be more intuitive than scientific.

The current emphases on interdisciplinary and translational research provide a timely opportunity for nurse researchers to incorporate animal models of clinical phenomena into programs of symptom research.

Animal models are sorely needed to better understand the biology of tumor or treatment-related fatigue in cancer patients. Changes in voluntary wheel running of rats or mice as a function of tumor growth, radiotherapy or chemotherapy might be valid models of cancer fatigue which could then be used to develop or test interventions that specifically target the pathobiology of symptom expression.

Funding Sources: National Institute of Nursing Research

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WHAT DO PERCEIVED COGNITIVE IMPAIRMENTS REFLECT? Catherine Bender, RN, PhD, Susan Sereika, PhD, University of Pittsburgh School of Nursing, Pittsburgh, PA; Adam Brufsky, MD, PhD, University of Pittsburgh School of Medicine, Pittsburgh, PA; Frances Casillo, BSN, Susan Richey, BS, University of Pittsburgh School of Nursing, Pittsburgh, PA; and Christopher Ryan, PhD, University of Pittsburgh School of Medicine, Pittsburgh, PA.

Our previous work suggests that women receiving adjuvant hormonal therapy for early stage breast cancer experience cognitive impairments as evaluated by objective cognitive function measures. However, the ecological validity of the sole use of objective cognitive function measures has been questioned, particularly in terms of how these findings will guide the development of holistic interventions to help women compensate for cognitive impairments experienced with adjuvant therapy.

The purposes of this preliminary study were to evaluate how perceived cognitive function (functional impact of cognitive impairments) relates to objective ratings of cognitive function in women with early stage breast cancer receiving hormonal therapy.

Cognitive function is highly integrated with mood and functional ability. Thus, individuals experiencing cognitive impairments may be depressed and anxious and perceive deteriorations in functional ability. Cognitive function is also influenced by age and education.

We conducted a cross-sectional study of 31 women with early stage breast cancer receiving hormonal therapy for a minimum of three months. Perceived cognitive function was measured with the Patient's Assessment of Own Function that includes five subscales: memory, language, use of hands, sensory/perception and executive function and overall perceived cognitive function. Cognitive function was evaluated with a battery of objective measures assessing attention, memory, psychomotor efficiency, visuospatial ability and general intelligence. Depression (Beck Depression Inventory-II), anxiety (Profile of Mood States [POMS] Tension/Anxiety Subscale) and fatigue (POMS-Fatigue/Inertia Subscale) were also measured. Data were analyzed using regression analyses.

Age, depression, fatigue and time on hormonal therapy were significant predictors of perceived cognitive impairments. Counter intuitively, controlling for these covariates, perceived cognitive impairments were significantly related to objective ratings of better performance on measures of attention (p=.02 to .04) and immediate and delayed visual (p=.03 to .05) and verbal memory (p=.01 to .04). Perceived impairments in cognitive function may not necessarily reflect objectively measured cognitive impairments but may occur more commonly in younger women and be related to depression, fatigue and the length of time on hormonal therapy. Interventions to help women with breast cancer compensate for perceived cognitive impairments should target the unique needs of younger women and incorporate strategies to alleviate depression and fatigue.

Funding Sources: Center for Research and Evaluation, University of Pittsburgh School of Nursing

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EVIDENCE OF GENETIC ASSOCIATION OF A CYTOKINE GENE VARIATION WITH SLEEP DISTURBANCE AND FATIGUE IN ONCOLOGY PATIENTS AND THEIR FAMILY CAREGIVERS (FCs). Bradley Aouizerat, PhD, Department of Physiological Nursing, Christine Miaskowski, RN, PhD, Marylin Dodd, RN, PhD, Kethryn Lee, RN, PhD, Claudia West, RN, MS, Steven Paul, PhD, and Bruce Cooper, PhD, University of California, San Francisco, CA.

Oncology patients and their FCs often report sleep disturbances and fatigue. However, the exact mechanisms underlying these symptoms need to be determined. The purpose of the study was to identify whether genetic variations in tumor necrosis factor-alpha (TNF-α) could impact sleep and fatigue in oncology patients and their FCs.

Based on physiologic theory, TNF-α was chosen as a candidate gene for these two symptoms because this cytokine is known to induce "sickness behavior" when injected into animals.

DNA was recovered from plasma archived from 251 patients and FCs who participated in a descriptive longitudinal study of symptoms. The TNF-α c.-308G>A genotypes were collected by restriction assay and the distribution of the polymorphism met Hardy-Weinberg expectations (p=0.81). Fatigue and sleep disturbance were measured by the Lee Fatigue Scale and the Pittsburgh Sleep Quality Index. Differences in severity of symptoms between the two genotype groups were evaluated using Independent Student's t-tests.

The mean age of the sample was 61.4 + 11.3 years; 46% were male, and 75% were Caucasian. The TNF-α minor "A" allele frequency was 16.3%, 18.5%, and 17.33% in women, men, and the total sample, respectively. No significant differences in levels of sleep disturbance or fatigue, among the genotypes, were detected in men. In women, carriers of the TNF-α minor allele (GA+AA) displayed less sleep disturbance (PSQ: 5.7 ± 3.4 vs. 7.3 ± 4.0, p=0.03). In the total sample, carriers of the TNF-α minor allele displayed less fa-

tigue (LFS: 2.0 ± 1.8 vs. 2.7 ± 1.9, p=0.03) as compared with common allele homozygotes (GG). These results provide preliminary evidence of a genetic association between a prominent cytokine (TNF-α) and levels of sleep disturbance and fatigue in a sample of oncology patients and their FCs. Carriers of the TNF-α minor allele appear to be having less fatigue and better sleep. In the future, patients and FCs may undergo genotyping for symptom-related genetic polymorphisms to identify high risk groups who warrant more targeted symptom management interventions.

Funding Sources: Supported in part by grants from the National Cancer Institute, the National Institute of Nursing Research, and the Oncology Nursing Society.

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MATRIX ANALYSIS COMPARISON OF PARENTING AND BEING PARENTED: MOTHERS WITH BREAST CANCER AND ADOLESCENT DAUGHTER EXPERIENCES. Deborah Stiffler, PhD, RN, CNM, Barbara Hosei, BSN, MSN student, Brooke Barada, BSN, MSN, student, and Joan E. Haase, PhD, RN, Indiana University School of Nursing, Indianapolis, IN.

One ONS research priority is family adjustment to cancer. Approximately 50,000 children will have a mother newly diagnosed with breast cancer this year and these mothers experience high rates of depressed mood and affective problems that can impair their ability to parent. Their children are more likely to have behavioral problems, anxiety, and depression.

There are anecdotal descriptions of differences in mothers' and adolescent daughter's experiences of parenting/being parented when a mother has breast cancer: little research has been conducted specifically on adolescents. This presentation compares the experiences of parenting/ being parented from the perspective of the mothers diagnosed and treated with breast cancer and their adolescent daughters.

This empirical phenomenological study is an outgrowth of an NCI funded intervention study to help the mother with breast cancer support her school age child. We assumed that any intervention would need to be adjusted to when the child is an adolescent and that mother/daughter experiences are different than mother/son experiences.

The sample (8 mother/adolescent daughter dyads), recruited from 2 sites, consisted of mothers at least 6 months from being diagnosed and treated for stage 0-III cancer and daughters ages 13-18 at time of diagnosis. Audiotaped open-ended interviews were conducted by trained members of the research team and the data were collaboratively analyzed using Colaizzi's 8-step procedures. Findings on mothers and daughters (submitted in separate papers) were compared through collaborative matrix analysis of each theme category by the research team to reach consensus.

Qualitative similarities and differences were found in mothers'/ daughters': Perceptions of the Cancer, Protection of the Other, Being Present for and Helping the Other, Changes in the Nature of the Relationship, and Trying to Maintain Normalcy until Finding a New Normal. Differences were especially striking in perspectives of whether participants were focused on self versus focused on the other and on the long-term effects on relationships. Findings have implications for helping both mothers and daughters clarify and communicate their perspectives and coping needs.

Funding Sources: ONS Foundation

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EXPRESSIVE WRITING IN NEWLY DIAGNOSED BREAST CANCER PATIENTS. Melissa Craft, RN, MSN, AOCN®, Breast Imaging of Oklahoma, Edmond, OK.

Breast cancer can lead to physical, cognitive and affective distress (Cimprich, 1999). Expressive writing has been studied to a limited degree in breast cancer patients. Yet several questions remain: the specific writing type that is most beneficial to this group, the impact on physical and psychological symptoms, and barriers and concerns that may exist.

The purpose of this study is (a) to determine whether the positive benefits of expressive writing reported in other groups (i.e., improved psychological well-being and physical health related outcomes) are seen in newly diagnosed breast cancer patients and (b) to compare three specific writing assignments to determine which may provide the most benefit for reducing physical symptoms and psychological distress associated with breast cancer.

Pennebaker's cognitive change, Mezirow's perspective transformation, Frankl's theory of logotherapy and the self-help aspect of Watson's theory of transpersonal caring provide the conceptual framework for this study.

Design

This study is a longitudinal randomized controlled trial using a pretest-posttest control group design. The effect of expressive writing on psychological distress and physical issues were determined by assessing the outcome variables of depression, anxiety, quality of life, and the number and type of physician visits. Individuals were recruited from multiple clinical agencies. Meetings with participants took place in either the recruitment setting, their home, or another mutually agreed upon location. The population was newly diagnosed breast cancer patients (<2 years since diagnosis) in central Oklahoma. Participants (N = 120) were randomized into one of four groups, three writing groups and one control group that does not write. The BDI-II, STAI, and FACT-B were used to measure the physical and psychological effects of expressive writing. These study instruments were administered at pretest, one month posttest and 6 months posttest.

Dissertation defense is set for 11/06. Full analysis of data will be complete by 9/06 and conclusions prepared.

Funding Sources: ONF Ann Olson Doctoral Scholarship, Sigma Theta Tau Beta Delta Chapter research grant

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ANXIETY AND DEPRESSION IN PROSTATE CANCER SURVIVORS, POSTPROSTATECTOMY. Mary Schoen, RN, MSN, MPH, OCN®, CRNP, Andrew Roth, MD, Christian Nelson, PhD, and Vidhya Bhaskaran, BA, Memorial Sloan-Kettering Cancer Center, New York, NY.

The prevalent intervention for early stage prostate cancer is the radical prostatectomy, which has a 5-year disease specific survival rate of approximately 98%. These men face the stressors that survivorship brings such as fear of recurrence and side effects from their surgery, specifically urinary and sexual dysfunction.

Research questions:

- Is there a correlation between anxiety and depression and urinary or sexual dysfunction?
- What are the factors that predict anxiety and distress among prostate cancer survivors?
- What proportion of prostate cancer survivors continue to express health worries such as fear of recurrence and fears of developing a secondary cancer?

This analysis is based on the hypothesis that worrying about prostate cancer, as well as anxiety and depression can be viewed as the result of a range of specific stressors.

A convenience sample of 275 patients receiving care in the prostate cancer survivorship program were evaluated. At each visit, as part of the program's standard of practice, the patient completes three ques-

tionnaires with established validity and reliability: a 6-item urinary and sexual functioning questionnaire; an 18-item Memorial Anxiety Scale for Prostate Cancer and a distress thermometer.

Descriptive data on anxiety, distress, urinary and sexual functioning will be presented. Correlation analysis will describe the strength of the association between the survivor's urinary and sexual functioning and the anxiety and distress outcomes.

96% of the subjects were one to five years out from surgery. 4% of the subjects were over five years out from surgery. 20% of our study's subjects continue to experience anxiety about their prostate serum antigen test one to five years and longer after surgery. Our findings showed that men with urinary and/or sexual dysfunction had higher levels of anxiety compared to men who are continent and/or potent. This study suggests that fear of recurrence and treatment side effects are understudied, yet seem to have a significant impact on the quality of men's lives after surgical treatment for their cancer. Understanding the correlation between urinary and sexual dysfunction and post surgery anxiety is crucial to improving the quality of life for prostate cancer survivors.

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THE IMPORTANCE OF FAITH AND SPIRITUALITY IN THE CANCER EXPERIENCE. Jennifer Wenzel, PhD, RN, CCM, Johns Hopkins University School of Nursing, Baltimore, MD.

Faith and spirituality are known to be important to patients with cancer, but their exact needs are not always well understood.

The purpose of this paper is to report women's discussion of faith and spirituality while undergoing breast cancer diagnosis and treatment.

A hermeneutic/phenomenological approach guided the study. This method relies on the belief that people make meaning from their lives through narrative construction.

Results are from a larger study in which women enrolled in managed care organizations (MCO) were interviewed regarding their overall experiences with cancer diagnosis, treatment and treatment decision-making. A total of 21 semi-structured interviews were conducted over time with 14 women diagnosed with breast cancer who met the following criteria: cancer requiring treatment, >18 years, literate/articulate in English, enrolled in an MCO >1 year. Although no questions related to spirituality, religion or faith were addressed in the interviews, women spontaneously addressed the importance of these phenomena when discussing their cancer experience. Interview data were analyzed through a reflexive process of transcript reading, categorization, data reduction and interpretation; credibility and validity were maintained through member checks and comprehensive audit trail documentation.

Results are presented as four themes: "Reliance on faith and prayer to get through the experience and remain hopeful"; "Trusting in God facilitates decision-making"; "Spiritual well-being counteracts physical illness"; and "The reciprocity of the faith experience". Women in this study articulated the importance of spirituality, faith, prayer and dependence on God as essential in successfully moving through the cancer experience. Furthermore, women outlined specific ways in which they received benefits from engaging in spiritually-linked activities. Benefits reported were both tangible (i.e., physical and emotional support from church members; answers to prayer) and intangible (i.e., assistance in dealing with the harshness of the disease reality, ability to maintain a sense of peace and calm in turbulent circumstances). Study findings may serve as a basis to assist patients in addressing and meeting their desired spiritual needs throughout cancer diagnosis and treatment. Cancer support resources need to be examined to provide the multi-faceted levels of assistance patients desire when experiencing the difficulty of cancer diagnosis and treatment.

Funding Sources: Barbara Brodie Scholars Endowment Award, University of Virginia School of Nursing. National Institute of Nursing Research P30 NRO 8995

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DEVELOPING A RESEARCH COMPLIANCE PROGRAM IN AN ACUTE CARE HOSPITAL. Linda Jones, DNS, RN, AOCN®, CHE, and Martha Lee Christie, EdD, MSN, RN, Memorial Health System, Springfield, IL.

In today's regulatory environment, the use of research funds and healthcare dollars dedicated to conducting clinical trials is receiving intensified scrutiny. The Medicare National Coverage Decision regulates billing for clinical trials and as a result, the federal government is levying multi-million dollar fines for hospitals that are found in violation of Medicare fraud and abuse laws.

The hospital designated a doctorally-prepared nurse as the research administrator and assigned the responsibility for developing a compliance program and the needed resources for a program that met regulatory guidelines. A centralized research committee reviews all IRB-approved research that investigators wish to conduct within the hospital using hospital resources. Over 600 clinical trials are approved for conduct in the hospital with common services including use of pathology, laboratory, radiology, cardiac catheterization laboratory, operating rooms, and care delivery on inpatient units. Over one quarter of the approved trials are conducted in oncology. Each clinical trial is analyzed, including the protocol, consent form, research contract, and formal request for use of research services to determine the clinical services used for the trial and whether the services fall into a category of standard of care that may be billed to the patient and/or insurance or research-related services that must be billed to the study.

This hospital responded by designing and implementing a research approvals program that addresses the federal guidelines and minimizes risk related to billing practices for research related services. The involvement of clinicians and researchers in understanding the regulations and obtaining compliance is critical to the success of such a program.

Education of hospital managers, researchers and their staff, and clinicians has strengthened the climate for research at a time when federal oversight requires strict compliance. The development of hospital compliance programs in research adds new roles in research for nurses.

When hospital services are used, the investigator notifies the research office of a patient enrollment so hospital registration and billing are correct. The centralization of research approvals and oversight for the program, along with open communication, has led to excellent outcomes and reduction of risk.

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ASSESSING RESEARCH CAPABILITY TO IMPROVE CLINICAL TRIAL ACCRUAL AT COMMUNITY CANCER PROGRAMS: A FOX CHASE NETWORK INITIATIVE. Patricia Keeley, MSN, APRN, BC, Margaret O'Grady, RN, MSN, OCN®, Paul Engstom, MD, and Steven Cohen, MD, Fox Chase Cancer Center, Philadelphia, PA.

The majority of oncology patients receive care at community cancer programs. Participation in clinical trials is felt to represent optimal care for most cancer patients. However, less than 5% of cancer patients participate in clinical trials. We hypothesized that a detailed benchmarking of clinical research resources and staffing analysis would result in improved research accrual at community hospitals

within the Fox Chase Network (FCN), thereby improving the quality of care provided to oncology patients. FCN is a consortium of community hospitals linking with Fox Chase Cancer Center, an NCI-designated comprehensive cancer center.

The purpose of this study was to improve clinical trial accrual at community hospitals partnered with the FCN by assessing research capability and providing recommendations to stimulate the research program.

A review of current literature provided assessment parameters for clinical trial workload, budgeting considerations and research program development. The assessment looked at methods to enhance existing research programs and included the entire research staff, physician investigators and clinical trials processes. Multiple barriers to clinical trial enrollment have been described in the literature. Less attention has been paid to infrastructure requirements of a community oncology clinical research program.

A Research Assessment was conducted at multiple network sites. Several assessment tools were developed to gather data, including a clinical research support analysis, research staff work processes, clinical research overview and investigator survey. Institution-specific feedback provided to senior medical and administrative leadership included a blinded benchmark staffing analysis, tailored proposal of best practice methodologies, and review of initiatives appropriate to the patient population. Recommendations for operations, education, marketing and outreach were included. Clinical trial accruals for 2004 were compared to 2005. Numerous changes in practice have resulted from initial efforts by community partners to improve the caliber of their research programs.

In 2004, 451 patients were treated on clinical research trials at 30 regional community cancer programs within FCN. In 2005 accruals reached 582, representing a 29% increase in enrollment over the previous year.

Ongoing assessment of research capability is critical to the success of community programs as a mechanism to improve access to quality care.

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ONE INSTITUTION'S APPROACH TO OBTAINING INSURANCE CLEARANCE FOR PATIENTS ENROLLING IN CLINICAL TRIALS. Amy Goodrich, BSN, MSN, CRNP, Tianna Dauses, BSN, Johns Hopkins University, Baltimore MD; and Sharon Krumm, BSN, MSN, PhD, Johns Hopkins Hospital, Baltimore, MD.

With increasing complexities of insurance coverage, Oncology Research Nurses (ORNs) at Johns Hopkins Kimmel Cancer Center identified the need for centralizing the insurance clearance processes for patients potentially enrolling on clinical trials.

We developed a committee representing Oncology Nursing Administration, ORNs, Performance Improvement, and Access Services, the office responsible for obtaining routine care insurance clearance at our institution.

The result of this committee's work was a centralized system for clinical trial insurance clearance. A worksheet template was developed, outlining general concepts of trials to insurance carriers, and specific details about routine care (billable to insurance) and items considered research (billable to the trial). ORNs tailor worksheets to reflect specific trial details. Once a patient is interested in joining a clinical trial, a completed worksheet is forwarded by the ORNs to alert Access Services to begin the insurance clearance process.

Access Services then begins working with the insurance carrier to obtain clearance for participation on the trial. Access Services e-mails daily updates to the ORNs with the progress being made. If a patient is successfully cleared, the ORN communicates the coverage details to the patient. If the coverage is acceptable to a patient, consenting and screening for the trial is initiated. If a patient is denied coverage, a team of internal specialists begins the appeals process.

Historically, ORNs without prior experience or training decided if insurance clearance was required and were responsible for obtaining clearance. This process became ineffective, inefficient, and not in patient's best interest, as insurance issues increased in complexity.

The process has allowed a more efficient and effective approach, putting insurance issues in the hands of true experts.

The outcome of our approach has resulted in assuring every patient enrolling in a clinical trial has gone through the necessary steps for obtaining proper insurance clearance. We are now also able to centrally track multiple data points including numbers cleared versus denied, time to clearance or denial, and patterns of outcomes among insurance carriers, specific trials, specific disease groups, etc. The process has also ensured patients are informed regarding their projected financial commitment before enrolling in a clinical trial.

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RECRUITMENT CHALLENGES AND INNOVATIONS IN CONDUCTING SOCIAL-BEHAVIORAL RESEARCH WITHIN THE CONTEXT OF BIOMEDICAL CLINICAL TRIALS. Brianna Hoffner, BA, Suzanne Hitchcock-Bryan, RN, MPH, Susan Bauer-Wu, DNSc, RN, Andrew Wolanksi, NP, and Steven Joffe, MD, Dana-Farber Cancer Institute, Boston, MA.

To describe recruitment challenges and innovations in conducting a social-behavioral study aimed to assess the impact of cancer patients viewing an educational video about clinical trial participation. Specifically, we will discuss the competing demands of recruiting simultaneously for social-behavioral versus biomedical trials in the setting of five different oncology clinics at a comprehensive cancer center in New England.

To assuage recruitment issues, the Video study team met with providers from each of the participating clinics at separate times. Tailored recruitment methods were designed for each clinic to maximize efficiency. For example, in one clinic, the providers preferred to consent participants themselves rather than paging a Video study team member. In another clinic, providers decided to email a weekly schedule of clinical trial consultation appointments to the Video study team so that a member of the study team can be available to enroll patients. In still another clinic, a member of the Video study team checks in daily to assess, in conjunction with providers, which patients may be eligible for the study and is then available for those appointments. Finally, one of the participating clinics has a large population of out-of-town patients and therefore a letter explaining the Video study is sent out in conjunction with a letter explaining the clinical trial prior to the patient's appointment.

Oncology providers are often so attentive to the many procedural aspects of therapeutic clinical trials that they do not or cannot take the time to offer eligible patients participation in a related, but separate, social-behavioral study (the educational Video study.) Also, as a multi-clinic study, many similar issues of multi-site research exist, such as difficulty in maintaining consistent communication and the need to modify procedures based on the culture of the clinics.

Cancer nurse researchers often conduct social-behavioral research in the context of therapeutic Clinical Trials and must be aware of the demands of simultaneous protocols and the importance of communication with clinicians to devise tailored recruitment strategies.

Upon implementing customized recruitment plans for each of the participating disease centers, recruitment increased significantly, with 55% of the sample accrued in the last four months.

Funding Sources: National Institute of Health

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THE COGNITIVE STRUCTURING OF PATIENT DELAY IN BREAST CANCER. Noreen Facione, RN, PhD, FAAN, University of California, San Francisco, San Francisco, CA; and Peter Facione, PhD, Loyola University Chicago, Chicago, IL.

Patient delay causes an estimated 12% increase in breast cancer mortality, and one third of women are observed to delay for months to years prior to seeking diagnosis. Even women who appraise symptoms as likely to be cancer-related frequently make confident judgments to delay diagnosis.

Women give numerous and striking reasons for delaying diagnosis, yet none predict who will delay, and most women overcome all barriers to seek immediate diagnosis. This study looked deeper at the reasoning of women sustaining a confident decision to delay diagnosis of their self-discovered breast symptoms. Our aim was to understand how their network of arguments made them confident in delaying, even when they feared that their symptoms were signals of breast cancer.

Deciding whether to seek diagnosis of self-discovered symptoms is a naturalistic decision (high stakes with uncertainty). Argument and heuristic analysis examines the decision process to identify foci for decisional interventions.

In depth interviews asked women to describe symptom appraisal and their judgment about whether/when to seek diagnosis. Using argument and heuristic analysis, we examined the structure and soundness of the reasoning in interviews with 28 women monitoring breast symptoms, 15 of whom were sustaining decisions to delay seeking diagnosis. Delayers' arguments' structure and soundness, and their dependence on heuristic strategies, were compared with those of women who did not delay.

Prompt diagnosis-seekers used vivid stories of other women with breast cancer to explain their diagnosis-seeking, and the others used similar stories to justify on-going decisions to delay. Diagnosis-seekers offered more arguments for doing so (10.38 arguments) than for delay (4.38). Delayers offered fewer arguments for seeking diagnosis (4.40) and many more for delay (17.47). Delayers usually abandoned compelling arguments to seek diagnosis, relying instead on misinformation, poorly reasoned arguments, and logically created dominance structures around decisions to delay. Decisions to delay were resilient, yet required maintenance. Interventions aimed at decreasing delay should question reliance on mistaken claims of control over possibly advancing cancer, satisficing when scheduling diagnostic visits, simulating a benign diagnosis, prioritizing fear control over protection of life and challenging mistaken analogies and the abandonment of sound arguments for seeking prompt diagnosis.

Funding Sources: California Breast Cancer Research Project 1KB0045

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VARIABLES ASSOCIATED WITH OBTAINING NIPPLE ASPIRATE FLUID IN A COHORT OF NONLACTATING WOMEN. Kimberly Baltzell, RN, PhD, Margaret Wrensch, PhD, and Jennette Sison, MPH, University of California, San Francisco, San Francisco, CA.

The search for biologic endpoints and biomarkers in the study of breast cancer risk assessment and risk reduction strategies has led to an interest in obtaining cytologic information and other biomarkers from nipple aspirate fluid (NAF). Recent studies have indicated that cells from NAF may yield useful information for enhancing breast cancer risk assessment. The two primary methods of obtaining breast fluids for analysis (nipple aspiration and ductal lavage) are performed by advanced practice oncology nurses.

In order to utilize NAF as both an adjunct to current breast cancer risk assessment tools and/or for breast cancer early detection, it is important to understand factors influencing the obtainment of adequate fluid samples. This study examined demographic, menstrual, reproductive and other factors in relation to the ability to obtain NAF.

The carcinogenesis theory of Hahn and Weinberg was used as the theoretical base for this study; this theory supports the notion of a cellular continuum from normal breast epithelium to malignancy.

This descriptive study examined factors associated with an increased ability to obtain NAF in a cohort of 3043 women between the ages of 15 and 89 years of age. Variables examined in relation to obtaining fluid include: age, marital status, age at menarche, menopausal status, a history of pregnancy, a history of breast-feeding, estrogen use, oral contraceptive use, endocrine disorders and tranquilizer use. Statistical Analysis Software (SAS) version 8.02 was used for all statistical analyses. P-values were determined from chi-square and t-tests for discrete and continuous variables, respectively. Logistic regression analysis was used to estimate odds ratios for obtaining versus not obtaining fluid for variables individually adjusted for age and in a multivariate model using SAS, PROC LOGISTIC.

Four variables (being married, history of pregnancy, tranquilizer use and endocrine disorders) remained positively associated with the ability to obtain NAF in all analyses. A younger age was consistently associated a greater ability to obtain NAF in this and other studies. Taken together, this and other studies suggest that age is the most consistent factor affecting obtainment of breast fluid. Nipple aspirate fluid analysis may hold promise for younger women who do not fully benefit from current breast cancer risk assessment tools and/or breast cancer detection methods.

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DISTRUST AND DECISION-MAKING REGARDING BREAST CANCER SCREENING. Maria Katapodi, RN, BSN, MSC, PhD, University of Michigan School of Nursing, Ann Arbor, MI; Noreen Facione, RN, PhD, FAAN, University of California, San Francisco, School of Nursing, San Francisco, CA; and Penny Pierce, RN, PhD, FAAN, University of Michigan, School of Nursing, Ann Arbor, MI.

Distrust in the healthcare system might influence the decision to obtain routine medical care, such as breast cancer screening.

Distrust has been attributed to cultural and ethnic differences. Less attention has been given to cognitive processes that might contribute to distrust.

The purpose of the study was to examine 1) the influence of distrust on predisposition to use health services and 2) the influence of attitudinal and habitual characteristics on the decision to obtain breast cancer screening.

The fact that trust is easier to destroy than to create, reflects a psychological mechanism, termed the asymmetry principle.

Explanations for the asymmetry principle draw on cognitive processes, such as negativity and confirmatory biases. Negativity bias means that people pay more attention to and are more influenced by trust-destroying than by trust-building information. Trust judgments are often based on perceived similarity and stereotypes rather than on carefully reasoned arguments or direct evidence. The confirmatory bias implies that trust binds people who share similar social identities and worldviews. Once distrust is initiated, it is self-reinforcing and self-perpetuating; it inhibits interactions necessary for learning trustworthiness.

A community-based survey recruited 184 women (age 47+-12), never been diagnosed with cancer, to complete a questionnaire in English. Most (49%) were college educated, 22% had income <$10,000/year, 77% had health insurance, and 57% were minority (27% non-Hispanic Black, 14% Hispanic, 16% Asian).

Four items were developed to measure distrust and the negativity and confirmatory biases. Items loaded on a single principal component, explaining 54% of the variance in distrust. Loadings ranged from 0.632 to 0.780 and Cronbach alpha was 0.71.

The Personally Experienced Prejudice scale measured women's personal experience with prejudice within the healthcare system (Cronbach alpha =0.71). The Habit of Health Services Utilization scale measured predisposition to use health services (Cronbach alpha =0.84).

Distrust was the single most important predictor of predisposition to use health services, which in turn was a significant predictor of breast cancer screening. Observed interactions among distrust, perceived prejudice, age, education, and race emphasize that distrust may take the greatest toll among vulnerable women. However, it is difficult to distinguish among racial/cultural, socioeconomic, and cognitive contributors to distrust.

Funding Sources: Department of Defense, Breast Cancer Research, Clinical Nurse Researcher Award DAMD17-03-1-0356

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DEVELOPMENT AND TESTING OF A TAILORED INTERACTIVE DVD TO PROMOTE MAMMOGRAPHY ADHERENCE. Susan Steele, DNS, RN, AOCN®, Louisiana State University Health Sciences Center, New Orleans, LA; Victoria L. Champion, DNS, RN, FAAN, Indiana University School of Nursing, Indianapolis, IN; Celette Sugg Skinner, PhD, RN, Duke University, Durham, NC; and Kathleen M. Russell, DNS, RN, Indiana University School of Nursing, Indianapolis, IN.

The purpose of this paper is to report on the development and testing of a tailored interactive DVD to promote mammography adherence.

Using the Health Belief Model's barriers and benefits constructs identified from previous research, a tailored interactive DVD was developed by the researchers and an experienced professional multimedia firm to promote breast cancer screening. The DVDs usability was evaluated by assessing ease of use, content (leveling and appropriateness), aesthetic appeal, and cultural relevance through focus groups and individual telephone interviews. Before participating in the evaluation process, each participant individually viewed the tailored interactive DVD to experience its content, look, and feel. A total of 13 women, ten Caucasian and three African American, who ranged from 40 to 65, evaluated the experiential user interface of the DVD. The responses of participants and the content experts guided fine-tuning of the narrative and program operation.

Interactive tailored media is new innovative approach to deliver health teaching messages. The National Cancer Institute's Breast Cancer Progress Review Group encouraged effective use of new information technologies to reach large population segments with educational messages facilitating breast cancer screening. The recent literature supports the use of interactive computerized programs as a medium for tailored health promotion interventions to allow individuals to use the program's information in accordance with their individual needs and interests. By providing computerized interaction, these programs do not require an educator or counselor, they allow for private and consistent information delivery, and they require only minimal reading ability.

Development of tailored interactive media is costly and labor intensive; however, its utility as an effective intervention strategy may be beneficial and is currently being tested in a multi-site clinical trial.

Overall the women found the DVD was easy to use with clear and readable graphs, provided meaningful information, and was believable and understandable. Based on user input, women recommended revisions to the DVD that included realism related to the actresses' role functions and personal histories, adding additional positive reinforcement for women with limited barriers to mammography, and suggestions to enhance flow and resonance.

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A QUALITATIVE STUDY OF CAREGIVERS OF PATIENTS WITH NEWLY DIAGNOSED ADVANCED COLORECTAL CANCER. Arlene Houldin, PhD, APRN, BC, and Hollis Genevieve, MSN, CRNP, BC, AOCN®, University of Pennsylvania School of Nursing, Philadelphia, PA; and Frances Marcus Lewis, PhD, FAAN, University of Washington, Seattle, WA.

Colorectal carcinoma is the third most commonly diagnosed cancer among men and women in the United States (ACS Facts & Figures, 2005). Research supports that colorectal cancer and its treatment significantly impacts caregivers.

The study of caregiver's experiences caring for a loved one newly diagnosed with advanced colorectal cancer is essentially undocumented in the research literature. The study purpose was to describe the caregiver's experience with, and adjustment to, their loved one's newly diagnosed advanced colorectal cancer.

The research framework conceptualizes the illness within a relational model of stress, coping and management of dealing with life-threatening illness for patients and caregivers. Particular focus for this study is on ways caregivers experience and manage the intrusion of the illness on their lives.

Fourteen caregivers of patients newly diagnosed with advanced colorectal cancer participated in audio-recorded interviews. Participants described their experiences with their loved one's cancer. A broad-band question was asked, "What has it been like for you caring for your loved one who has just been diagnosed with colorectal cancer?" with specific prompts to invite elaboration. The interviews were transcribed and verified for accuracy. Inductive coding methods were used to identify open codes from the transcribed data which were then analyzed, compared, and grouped into categories. All categories were compared to maximize their unique and non-overlapping quality; this process involved constant comparative analysis. Consensus between two reviewers was reached on the categories and their definitions. Categories were reviewed in a final stage of analysis and organized into larger groupings called domains from which the core category was derived.

The coded data yielded three domains: "Experiencing total disruption of my life", "Staying positive", and "Attempting to keep family and children's routines as normal as possible". The core category that explained study participants' care-giving experiences was "Balancing care-giving activities while dealing positively with daily demands and personal impact". Implications for nursing included assessment of caregiver's needs in the three study domains. Findings indicate that clinicians working with cancer caregivers should offer support as caregivers' cope with the care of their loved ones and struggle with personal distress and with maintenance of normal family life.

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EFFECTS OF A FAMILY INTERVENTION ON MEN WITH PROSTATE CANCER AND THEIR SPOUSES. Laurel Northouse, RN, PhD, FAAN,

University of Michigan School of Nursing, Ann Arbor, MI; Darlene Mood, PhD, Wayne State University, Detroit, MI; Trace Kershaw, PhD, Yale University, New Haven, CT; Ken Pienta, MD, David Smith, MD, University of Michigan, Ann Arbor, MI; Ulka Vaishampaypan, MD, Karmanos Cancer Institute, Detroit, MI; and Maha Hussain, MD, University of Michigan, Ann Arbor, MI.

Prostate cancer is the most common cancer among men in the United States and is accompanied by devastating treatment-related sequelae (incontinence, sexual dysfunction) that can negatively affect the quality of life of men and their spouses.

To date, few intervention studies have been conducted to help men and spouses manage the effects of illness and maintain their quality of life. The purpose of this study was to determine if a family intervention could improve several proximal outcomes (appraisal of illness or caregiving, hopelessness, uncertainty, self-efficacy, coping, family communication, and symptom bother) and the distal outcome of quality of life in men with prostate cancer and their spouses.

This study was guided by a stress-coping framework. A randomized clinical trial was used with a sample of men with prostate cancer and their spouses. Men were in one of three phases of illness: newly diagnosed, post-treatment biochemical recurrence, or advanced. Dyads were referred to the study by clinic staff. Of those referred, 263 dyads completed baseline assessments were randomly assigned to treatment (129 dyads) or control group (134 dyads), and completed a follow-up assessment at 4 months (236 dyads). The intervention was a five session, family program that consisted of three home visits and two follow-up phone calls by masters-prepared nurses. Several instruments with established reliability and validity were administered: Appraisal of Illness/Caregiving Scales, Beck Hopelessness Scale, Mishel Uncertainty Scale, Lewis Self-efficacy Scale, Brief COPE, Lewis MIS scale, Symptoms Scale, and FACT-G. Descriptive statistics and repeated measures ANOVA were used for data analyses.

Findings indicated that patients in the intervention group reported significantly less uncertainty (p=.06), better communication (p=.06), and higher quality of life (p=.07) than control patients. Spouses in the intervention group reported significantly less negative appraisal of caregiving (p=.004), less hopelessness (p=.04), less uncertainty (p=.007), more self-efficacy (p=.05), better communication (p=.002), and higher quality of life (p=.003) than control spouses. Findings suggest that the family intervention produced beneficial outcomes for patients and spouses and is relevant for clinical practice.

Funding Sources: National Cancer Institute (R01CA90739)

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SPOUSES OF WOMEN WITH OVARIAN CANCER: A QUALITATIVE STUDY OF THEIR EXPERIENCE. Julie Ponto, RN, PhD(c), APRN-BC, AOCN®, Winona State University, Rochester, MN; and Debra Barton, RN, PhD, AOCN®, Mayo Clinic, Rochester, MN.

Ovarian cancer is the second most common gynecologic cancer in the US and has the highest mortality rate of female reproductive cancers. Unique challenges exist for women with ovarian cancer and their partners including an intense and prolonged treatment course, and high rate of disease recurrence.

The spouse's experience of ovarian cancer is largely unexplored. Because husbands of women with other cancers can experience as much stress related to the cancer experience as patients, the purpose of this study was to describe the experiences of partners of women with ovarian cancer.

Phenomenology provided the philosophical framework to explore and describe the meaning of the partner's experience. Since the individual's experience is unique and paramount, data were analyzed to include common and unique experiences as described by spouses. Common experiences are presented here.

A qualitative, exploratory, descriptive research design was used. Criterion sampling identified 11 spouses of women with ovarian cancer, who were at least 18 years of age, able to speak and read English, and able to participate in a one-to-one telephone interview. Data were collected through individual telephone interviews, which lasted approximately an hour. A semi-structured interview format was used and included the initial question, "Please describe your experience with your significant other's ovarian cancer". The interviews were audiotaped, transcribed verbatim and the transcripts were reviewed to verify accuracy.

Analysis was performed by one PHD prepared and one PHD candidate, both oncology nurses. Significant statements were extracted from the data independently then discussed, the meanings formulated then aggregated into clusters using Colazzi's methodology. Discrepancies were discussed until agreement was reached.

Common clusters included having a new priority/focus, how her response affects his response, and changes in their relationship. A majority also described their initial response to the diagnosis, how others shared his burden of providing support, and the role of the family during the experience. This study identified several areas of concern for these spouses and suggests that significant positive and negative changes take place individually for the spouse and for the couple which are likely amenable to nursing interventions and need to be explored in future research.

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WHEN MOM HAS BREAST CANCER: ADOLESCENT DAUGHTERS' EXPERIENCES OF BEING PARENTED. Brooke Barada, BSN, RN, Clarian Health Partners, Indianapolis, IN; Joan E. Haase, PhD, RN, Deborah Stiffler, PhD, RN, CNM, and Barbara Hosei, BA, MSN student, Indiana University School of Nursing, Indianapolis, IN.

Adolescents are vulnerable when a parent is diagnosed and treated for cancer as evidenced by research indicating increased adolescent depression, anxiety, and decreased self-esteem. The ways in which adolescents cope with and adjust to parental cancer is hypothesized to influence their short-term and long-term adjustment to the experience.

Little is known about adolescent perspectives of having a mother with breast cancer in the acute phase of diagnosis and treatment or about how parenting by the mother influences adolescent daughters, who may be especially vulnerable. The purpose of this paper, one of three abstracts submitted, describes adolescent daughters' experiences of being parented when the mother is diagnosed and treated for breast cancer.

This presentation is based on data obtained from an empirical phenomenological study of both mothers with breast cancer and their adolescent daughters. The study was an outgrowth of an NCI-funded intervention study to help the mother with breast cancer support her school age child. We assumed 1) future planned interventions will need to be adjusted to experiences of being parented when the child is an adolescent; 2) mother/daughter experiences are different than mother/son experiences.

The sample, recruited from 2 sites, included 8 adolescent daughters, ages13-18 when their mothers were diagnosed. Their mothers were treated for Stage 0-III breast cancer at least 6 months prior to participation in the study. Audio-taped, open-ended, interviews were conducted by trained members of the research team. The data were collaboratively analyzed by the team using Colaizzi's 8-step

procedures for empirical phenomenology. Audit trails, peer and member checks were strategies used for trustworthiness and credibility.

Theme categories found in the data were 1)Stop the Intrusion—Mom's Cancer Turns My World Turned Upside-Down; 2)Mom Can't Die—So Many Ways to Lose Mom; 3)A Hole Where Mom Used to Be; 4)Trying to Fill in the Hole—Taking On Responsibility, But Missing Out; 5)Being There for Mom—Holding On and Managing My Reactions; 6)Guarded Relief—Watching Mom Return, but Things Are Different. Findings indicate the need for interventions to help adolescents feel safe in expressing their experiences, mourn losses, and explore coping strategies to positively adjust.

Funding Sources: ONS Foundation

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QUESTIONNAIRE DEVELOPMENT FOR BREAST AND CERVICAL CANCER-RELATED BELIEFS AMONG CHINESE-AMERICAN IMMIGRANTS.

Frances Lee-Lin, PhD, RN, OCN®, CNS, Oregon Health and Science University, Portland, OR.

Early detection of cancer through regular screening plays a vital role in reducing mortality from breast and cervical cancer. Despite decades of progress in early cancer detection, disparities persist among Asian American women. Cancer was the leading cause of death among Asian/Pacific Islanders in 2000. The Asian American population is the fastest-growing ethnic group in the United States. Little is understood about cancer knowledge and screening practices of this rapidly growing community. Low cancer screening decreases the possibility of early detection when cancers are highly curable.

Among Asian American subgroups, Chinese Americans comprise the largest group. Therefore, the first step was a descriptive study designed to explore knowledge, beliefs (perceived susceptibility and benefits, common barriers & cultural barriers), and practices related to mammography and Pap smear screening among Chinese American women (CAW). The purpose of this paper was to describe the development and testing of an instrument that measured knowledge and beliefs related to breast and cervical cancer screening with 100 CAW aged 40 and older.

The Health Belief Model is selected because of its focus on people's perceptions about an illness and their beliefs about actions related to prevention of the disease. It is one to the most commonly used conceptual frameworks and has provided guidance for some studies with Asian Americans.

This is a descriptive, correlational, cross-sectional design study. Participants were recruited from Asian community partners in Portland, Oregon. Participants completed a self-administered questionnaire in a group setting. The completion rate was 98%.

Item-to-total correlations and Cronbach's alphas for each scale were calculated. Factor analysis using Principal Component Analysis (PCA) method with Varimax rotation was undertaken to evaluate construct validity.

Cronbach's alphas were acceptable and ranged from 0.71 to 0.89. Construct validity was confirmed through factor analysis. Six out of 53 items had low item-to-total correlation and will be reevaluated for further testing. Findings added valuable psychometric properties specifically for CAW that was not available in the literature. Further research is needed to investigate these scales with larger samples of diverse Asian American women.

Funding Sources: American Cancer Society, ONS Foundation, Sigma Theta Tau Beta Psi Chapter, National Cancer Institute training grant R25

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PSYCHOMETRIC TESTING OF THE MD ANDERSON SYMPTOM INVENTORY–HEART FAILURE: A PILOT STUDY OF AN EVALUATIVE INSTRUMENT FOR SYMPTOM IDENTIFICATION IN CANCER PATIENTS WITH CONCURRENT HEART FAILURE.

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The occurrence and severity of symptoms in cancer patients with heart failure can adversely affect the patient's functional status and quality of life. A symptom assessment tool is needed to assist clinicians to devise strategies to improve management of symptoms.

Several symptom assessment tools for patients with cancer or heart failure have been published. However, these instruments do not address the symptoms of patients with both diagnoses. The purpose of this study is to evaluate the psychometric properties of an instrument developed specifically for this patient population, the MD Anderson Symptom Inventory – Heart Failure (MDASI-HF).

The theoretical frameworks for this study are the theory of unpleasant symptoms and the classical test theory. The theory of unpleasant symptoms provides the framework for evaluating the construct of the symptom experience, and the classical test theory guides the evaluation of the psychometric properties of the instrument to assess the model fit between the conceptual model and measurement of the variables in the measurement model.

A cross-sectional, nonexperimental design was used to examine the reliability and validity. Study approval was obtained from the Institutional Review Boards prior to conducting the study. A convenience sampling of thirty two patients diagnosed with cancer and heart failure provided ratings for the pilot study. Research data was analyzed using descriptive and inferential statistics.

Criterion validity showed moderate correlation scores with the Eastern Cooperative Oncology Group performance status with r = .73, .66, and .75 for cancer, heart failure, and interference items respectively; and the New York Heart Association functional classification with r =.72(cancer items), .71 (heart failure items), and .78 (interference items). All correlations were statistically significant. Construct validity was determined using factor analysis. Internal consistency reliability showed a Cronbach's coefficient alpha of .936 for the severity items, and .906 for the interference items. Preliminary results suggest that the MDASI-HF appears to be a valid tool in examining symptom prevalence and burden in heart failure patients with cancer.

Funding Sources: Texas Womens University College of Nursing John Winston Carter Research Grant

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COMPARISON OF UPPER LIMB VOLUME MEASUREMENT TECHNIQUES AND ARM SYMPTOMS BETWEEN HEALTHY VOLUNTEERS AND INDIVIDUALS WITH KNOWN LYMPHEDEMA.

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Up to 40% of breast cancer survivors may develop lymphedema. Early identification yields better patient outcomes. Lack of awareness by oncology nurses of lymphedema measurement methods may be associated with delayed lymphedema identification and poorer patient outcomes.

Circumferential arm measurement is the most commonly used measurement method. Infrared scanning and bioelectrical impedance are potentially more sensitive and less prone to user error. Subjective symptoms may also indicate lymphedema. Comparison of circumferential methods to other measurement methods and self-reported

arm symptoms to objective measurement techniques may improve nurses' awareness of ways to identify lymphedema. Objectives were to (1) examine the relationship between circumferential measurement methods and infrared scanning and single and multi-frequency bioelectrical impedance; (2) compare self-reported arm symptoms in healthy volunteers and breast cancer survivors with lymphedema; and (3) explore the relationship among self-reported symptoms and objective measurement methods.

The Lenz Theory of Unpleasant Symptoms provided the conceptual framework of this study as it allowed for the assessment of lymphedema in the context of multiple patient symptoms.

This comparative study consisted of 25 participants (Lymphedema=11; Healthy Volunteer =14). Data were collected during a one-time laboratory visit. A non-stretch tape measure, infrared Perometer 350s (SD 8.9 ml, less than 0.5% of limb volume), Lymphometer®, and multi-frequency Electrical Impedance Spectrograph were used to measure volume/extracelluar fluid. The Lymphedema and Breast Cancer Questionnaire, (Kuder-Richardson-20, r =.785), captured symptoms. Volume calculations and limb index ratios were determined. Pearson product-moment correlations, Fisher's exact tests, and point-biserial correlations were used to analyze data.

Correlation (r = .7) among all methods was noted. Circumferential measurements correlated more highly with the Perometer and impedance measurements correlated most strongly with each other. Significant differences ($p<.05$) between groups were noted in 6 symptoms. Self-reported arm swelling correlated with all methods and self-reported firm/tight arm correlated with impedance measures. Each measurement method appears to be valid for assessing arm lymphedema and self-reported swelling and tightness may indicate developing lymphedema. Issues such as equipment cost, time to conduct the measurements, and potential for user error should be considered when choosing measurement methods to use in clinical and research settings. Further research is warranted.

Funding Sources: Vanderbilt University Postdoctoral Fellowship, National Institutes of Health RO1NRO5432, Ellis Fischel Research Gift Fund

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VALIDITY OF THE COMPOSITE PAIN INDEX (CPI): A NEW MULTIDIMENSIONAL OUTCOME FOR CANCER PAIN RESEARCH.

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Replication of previous findings from a Caucasian sample will support use of the CPI in cancer pain trials. Experts agree that cancer pain is a multidimensional phenomenon. Until now, a single outcome has not been available to capture the multidimensional nature of cancer pain. The purpose of this study was to examine the validity of the CPI as an outcome measure of pain location, intensity, quality and pattern in an ethnically diverse sample of cancer patients.

As an instrumentational study, this study was guided by principles of psychometrics. Patients completed a computerized version of the McGill Pain Questionnaire (MPQ) and the Pain Intensity Number Scale (PINS) as baseline data for a NCI-funded pain study. Validity and reliability for the MPQ and its computerized presentation has been supported by previous research. The CPI is calculated by summing the individual z scores for each of the four pain dimensions: a) number of pain sites; b) total pain intensity (sum of the least, worst, current pain on a 0-10 scale); c) total pain rating index; and d) pain pattern score.

The sample of 103 cancer patients was 55% female with a mean age of 55 yr (SD=14). Ethnicity was representative of the patients served by the inner city teaching facility: 60% African American, 17% Caucasian, 14% Hispanic, 2% Hawaiian/Pacific Islander, and 6% other. Nearly half (46%) of the sample had less than a high school education. Construct validity of the CPI was supported by a one-factor solution when the four scores were subjected to principal components analysis (eigenvalue >1). Factor-loadings for the four pain dimensions were a) .43, b) .61, c) .84, and d) .78. The one factor explained 47% of the total variance in scores using baseline data. In conclusion, there is strong support for the validity and reliability of the CPI. In a previous study with 230 cancer patients (90% Caucasian) the CPI was sensitive to intervention outcomes at 4 weeks and demonstrated a one-factor solution with similar factor loadings. Evidence from the current study now supports the validity of the CPI when used with ethnic minorities. Additional research is needed to address the test-retest reliability of the CPI as a multidimensional outcome measure for cancer pain.

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EVALUATING THE CULTURAL RELEVANCE AND UTILITY OF THE TAKING CHARGE PROGRAM FOR AFRICAN AMERICAN BREAST CANCER SURVIVORS.

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Taking CHARGE is an innovative self-management program developed to help women deal with the emotional, physical and social concerns that arise after breast cancer treatment. Early results from a randomized trial of mostly Caucasian women (N=49) indicated that the Taking CHARGE program was timely, relevant, and had a positive impact in many areas including body image, cognitive functioning, sexual functioning, and future perspective.

Few programs have been evaluated to determine if they are culturally relevant to the needs of minority breast cancer survivors following treatment. Thus, the purpose of this study was to assess the utility of the existing Taking CHARGE program with a minority sample of women, specifically African American breast cancer survivors who currently comprise the largest U.S. minority group.

The Taking CHARGE program is based on social cognitive theory, particularly self-regulation, to help breast cancer survivors gain mastery of necessary self-management strategies.

Two focus groups were held with African American women (N=13), ages 41 to 72 years, who had completed treatment for Stage I or II breast cancer. In the 3-hr session led by a health educator and an African American researcher, participants responded to the utility of the (1) Taking CHARGE content that focused on strategies to improve psychological well-being, symptoms and side-effects, functional wellness, and strengthening relationships and social support; (2) self regulation process to teach skills to manage women's personal concerns; and (3) Patient Workbook. Content analysis was used to systematically identify unique themes from taped sessions.

Overall, the African American participants found the Taking CHARGE program and self-regulation process to have high utility for addressing needs and concerns of survivorship after breast cancer treatment. However, at least two new major content needs were identified: coping with employment issues that were found to be especially challenging, and emphasis on spiritual sources of support for psychological well-being. Further, participants recommended changes to the Patient Workbook to enhance relevance to African American breast cancer survivors. The findings provide important information about appropriate modifications to the Taking

CHARGE program to increase the cultural relevance and sensitivity to needs of African American breast cancer survivors.

Funding Sources: Walther Cancer Institute, Behavioral Cooperative Oncology Group

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THE MOUNTAINS HOLD THINGS IN: THE USE OF COMMUNITY RESEARCH REVIEW WORKGROUPS TO EXPLORE CANCER DISPARITIES IN SOUTHERN APPALACHIA. Sadie P. Hutson, PhD, RN, CRNP, and Kelly Dorgan, PhD, East Tennessee State University, Johnson City, TN.

Utilizing community leaders is an important technique for uncovering barriers to and opportunities for cancer communication, particularly when attempting to access geographically and economically marginalized communities. Community leaders underscore the importance of carefully navigating relationships within Appalachian communities for cancer researchers and healthcare providers.

The Rural Appalachian Cancer Demonstration Program (RACDP) at East Tennessee State University was funded by the Centers for Disease Control to explore, identify, describe and document cancer disparities in the Appalachian regions of three states. The program supported several research projects during 2002-2005. The purpose of this study was to review research findings about cancer disparities from the RACDP studies and identify grass-roots community leaders' perspectives about what makes the experience with cancer different in Appalachia. The primary study objectives were to 1) review RACDP research findings about cancer in Appalachia; 2) promote a dialogue between the Workgroup and health providers to identify methods for improved collaboration; and 3) integrate the Workgroup with regional efforts of the state Cancer Control Plans.

A community based participatory research approach guided this study both theoretically and methodologically.

Twenty-three community leaders were recruited to form two Cancer Research Review Workgroups in two Appalachian states. The Workgroups engaged in a series of sequential sessions designed to introduce the RACDP findings, provide new skills to analyze the findings, and provide insight from a community perspective of these results. All participants completed cancer communication logs and facilitated a presentation about cancer disparities in each of their respective communities. Each focus group session was audio-recorded and transcribed verbatim; NVivo 2.0 facilitated qualitative content analysis of the narrative data.

Participants' insightful reflections about cancer disparities yielded new insights regarding the experience of cancer in Appalachia. Several major themes were inductively derived from the data including: 1) the importance of illness storytelling, 2) cancer collectivism, 3) healthcare fatalism, and 4) cultural and geographic factors which influence perceptions of cancer communication, cancer etiology and cancer care. In order to improve care across the cancer continuum, healthcare professionals must respect and partner with existing social and familial community networks to effectively address cancer disparities.

Funding Sources: Centers for Disease Control and Prevention-H57/CCH420134, Cancer Prevention and Control Programs

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POSITIVE FACTORS INFLUENCING HISPANIC/LATINA PARTICIPATION IN BREAST CANCER CLINICAL TRIALS. Elizabeth Samaras, RN, MSN, FNP, AOCN®, Dorcy Cancer Center, St. Mary–Corwin Medical Center, Pueblo, CO; and Sara Valdez, RN, BSN, St. Mary–Corwin Medical Center, Pueblo, CO.

There is a long-standing recognition that results of clinical trials (CTs) conducted in one population are not necessarily generalizable to other nonrepresented populations. Barriers to minority participation in CTs have been identified; less is known about positive factors influencing minority participation in CTs. Despite having lower rates of the disease, breast cancer is still critically important to Latinas as the leading cause of cancer-related deaths among them. Disparity in breast cancer CT participation among Latinas has practical clinical implications and is a matter of social justice.

The purpose of the study was to identify putative factors that were positive for participation of Hispanic/Latina women in breast cancer trials (treatment or prevention).

There is a small body of research exploring/evaluating recruitment strategies in increasing minority participation into cancer CTs. The Agency for Healthcare Research and Quality, tasked with exploring this question at the request of the NCI, calls for better designed and focused studies into promoters. They advocate studies that include exploration of awareness, opportunity, decision-making and communication strategies.

Hispanic participants in breast cancer-related clinical trials were identified; 14/25 participated, the remainder were deceased or lost to follow-up. Informed consent, HIPAA documents and questionnaires were approved by our IRB. Subjects completed a written questionnaire followed by an interview. Five Hispanic SMEs deemed content validity for the instrument adequate. Item analysis (Cronbach alpha) indicated acceptable internal reliability. Coded responses were subjected to a MANOVA, whose null hypothesis was no significant difference between the treatment trial and prevention trial participants.

For all but three questions, we accepted the null hypothesis at $\alpha = 0.05$.

Motives characterized as "altruistic" are universally ranked as influential among Latinas in the decision-making process. This is consistent with the Lee et al. finding that "the opportunity to help others" was most important in patients' willingness to participate in a CT. "Perceived health benefits" were important, as well and consistent with Avis et al.'s "therapeutic benefit". The influence of family/friends, doctors, religious beliefs, research team, insurance status and other factors were explored. Recommendations include to use/test/employ targeted recruitment strategies that integrate identified promoters in their message.

Funding Sources: Colorado Springs Affiliate of the Susan G. Komen Foundation

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CULTURAL BELIEFS CONTRIBUTING TO DISPARITIES IN LATER-STAGE BREAST CANCER AMONG NEWLY DIAGNOSED AFRICAN-AMERICAN, LATINA, AND CAUCASIAN WOMEN. Carol Ferrans, PhD, RN, FAAN, Garth Rauscher, PhD, Barbara Akpan, MS, and Timothy Johnson, PhD, University of Illinois at Chicago, Chicago, IL; Dinah Ramirez, Healthy South Chicago, Chicago, IL; and Marilyn Willis, and Richard Warnecke, PhD, University of Illinois at Chicago, Chicago, IL.

Both African American and Hispanic women are more likely to be diagnosed with later-stage breast cancer than Caucasian women in the United States. Women commonly delay in seeking medical care for three or more months after self-discovery of a breast symptom, and cultural factors may play an important role. The purpose of this study was to identify cultural beliefs contributing to the diagnosis of late-stage breast cancer in African-American and Latina women in Chicago.

An inductive approach was used to identify cultural beliefs, using Strauss and Corbin's (1990) coding techniques. A set of questions

were then developed based on the cultural beliefs identified, which were used to collect data in the subsequent interviews.

First, cultural beliefs were identified, using a community participatory model to conduct four focus groups with Latinas (in Spanish and in English), African-American, and Caucasian women. Second, interviews with 117 women demonstrated that these beliefs were commonly held. Third, these cultural beliefs were assessed in women with newly-diagnosed breast cancer (n = 136). African American, Latina, and Caucasian women were interviewed within 3-4 months of diagnosis using rapid case ascertainment from hospitals throughout Chicago.

Significant differences were found among the three ethnic groups that would contribute to later-stage diagnosis in the African American and Latina women. Beliefs contributing to non-participation in mammography and delay in seeking medical evaluation after finding a breast symptom were identified. Four categories of cultural beliefs were identified among the three ethnic groups: (1) incorrect ideas about breast lumps; (2) use of self-help techniques; (3) faith-based beliefs; (4) futility of treatment. Findings from each group will be incorporated into community-based interventions to promote early detection of breast cancer, both by addressing cultural beliefs and by advocating for increased capacity for diagnostic and screening mammography. The use of a community participatory model resulted in richer data with greater cultural saliency, through the active collaboration of community partners in all phases of the study.

Funding Sources: National Cancer Institute P50 CA106743

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PREDICTING LIKELIHOOD OF MULTIPLE FALLS IN POSTMENOPAUSAL BREAST CANCER SURVIVORS (BCSs) WITH LOW BONE MINERAL DENSITY. Nancy Waltman, PhD, APRN, University of Nebraska College of Nursing, Lincoln, NE; Carol Ott, PhD, RN, OCN®, University of Nebraska College of Nursing, Kearney, NE; Janice Twiss, PhD, APRN, University of Nebraska College of Nursing, Omaha, NE; Gloria Gross, PhD, RN, University of Nebraska College of Nursing, Scottsbluff, NE; Ada Lindsey, PhD, RN, FAAN, emeritus faculty, and Kris Berg, EdD, University of Nebraska at Omaha, Omaha, NE.

Breast Cancer Survivors (BCS) are at risk for osteoporosis because treatments can cause early-onset menopause and loss of bone mineral density (BMD). Consequences of osteoporosis are fractures, often precipitated by falls. To prevent fractures, BCS with low BMD at risk for falls should be identified. This report describes which subject variables (age, muscle strength, balance, mood disturbance [Profile of Mood State-POMS], group assignment to strength/weight training exercises [SWTE]) predicted the likelihood of multiple falls in 217 BCS over 12 months. According to the literature, women from the general population who are likely to fall are often older, have impaired balance and muscle weakness, and have mood disturbance disorders.

Exploratory analysis was conducted on data from the first 12 months of an NINR R01-funded 24 month intervention study. Data were analyzed for 217 BCS (mean age 58.7 [+7.5]) with low BMD (at least one standard deviation [SD] below normal) who were randomly assigned to one of two treatment groups (SWTE group: n = 106; non-SWTE group: n=111). Both groups (SWTE, non-SWTE) received a bisphosphonate and calcium/vitamin D supplements; only one group participated in SWTE. At baseline, all subjects completed the POMS, demographic data form, muscle strength (Biodex), and balance testing (Backward Tandem Walk), and at 6 and 12 months, all subjects completed questionnaires on falls. Data analyses included logistic regression.

At 12 months, 35(16.1%) of 217 women had multiple falls, while 182 women had one fall (n = 42) or no falls (n = 140). Increased age, decreased muscle strength, or decreased balance did not predict multiple falls. After controlling for other variables, multiple falls were 2.90 times more likely to occur in the non-SWTE group (OR = 2.90, 95% CI = 1.14-7.35). Women with POMS depression scores one SD above the sample mean were 1.72 times more likely to have multiple falls (OR = 1.72, 95% CI = 1.11-2.14) and women with scores two SD above the mean were 2.96 times more likely (OR = 2.96, 95% CI = 1.25-6.99). SWTE may prevent multiple falls in BCS, and fall prevention strategies are needed for women with low BMD who score high on depression.

Funding Sources: National Institute of Nursing Research/National Intitutes of Health R01 NR07743 - 01A1 (2002-2006), Aventis/Proctor and Gamble, Wyeth Consumer Health Care

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FATIGUE, PAIN, AND FUNCTIONAL STATUS IN PATIENTS RECEIVING OUTPATIENT CHEMOTHERAPY. Mary Lou Siefert, APRN, AOCN®, DNSC, Yale University School of Nursing, New Haven, CT.

Symptom distress from fatigue, the most common and distressing symptom and/or pain negatively affects functional status and quality of life in individuals with cancer. The relationships and patterns of prevalence of the concurrent existence of fatigue and pain, and functional status over time are not well understood. Knowledge gained from examining the relationships of concurrent symptoms and functional status over time will enhance understanding and provide a basis for interventions.

The purpose was to examine the relationships of fatigue, pain, and functional status over time in a sample cancer patients receiving outpatient chemotherapy. The aims were to describe the levels of the fatigue, pain and functional status over time and to explore their relationships with each other and with demographic, clinical and treatment factors.

The Winningham (1999) Psychobiological Entropy model was used to guide the study; it proposes a complex interrelationship among fatigue and other factors including, symptoms, disease characteristics, functional status and treatments. The model encourages the management of symptoms, accompanied by adequate information and support for those with symptoms.

A descriptive correlational design was used to examine fatigue (0-10), pain (0-10), and functional status (0-4) over time of treatment in a sample of the total available population; breast cancer (n=9), colorectal cancer (n=21), lung cancer (n=21) and lymphoma (n=19). Retrospective data were extracted by the researcher from medical records in a hospital based outpatient chemotherapy clinic. Descriptive, correlational and mixed modeling methods were employed to describe the sample and examine the relationships of fatigue, pain and functional status with each other and with clinical, treatment and demographic factors.

Fatigue was the most frequently reported symptom; pain was rarely reported and almost exclusively by subjects with lung cancer or lymphoma in their early treatments. Fatigue and functional status impairment were highly associated over time and had similar relationships with other variables. The patterns and severity of symptoms and functional status impairment in people with colorectal cancer who had a unique pattern of occurrence and lymphoma warrant further investigation. Targeted interventions for specific populations should be developed and tested to address specific patterns of symptoms and functional status impairment.

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PATTERNS OF BODY COMPOSITION AND MUSCLE STRENGTH IN WOMEN DURING CHEMOTHERAPY FOR BREAST CANCER. Constance Visovsky, RN, PhD, ACNP, University of Nebraska Medical

Center College of Nursing, Omaha, NE; and Yaewon Seo, PhD, RN, Case Western Reserve University, Cleveland, OH.

Chemotherapy can have deleterious effects on skeletal muscle, with muscle weakness and alterations in body mass noted. These effects are particularly concerning as chemotherapy treatment schedules for breast cancer became dose-dense. Resistance exercise may be helpful in ameliorating treatment-induced weakness and weight gain.

The purpose of this study is to examine patterns of body composition (body mass index (BMI), lean body mass (LBM), fat-free mass (FFM), and muscle strength in women undergoing chemotherapy for breast cancer.

A physiological framework of chemotherapy-induced cytokine activation was used.

In this randomized clinical trial of resistance exercise, 68 women (control group [CG] n=37; exercise group [EG] n=31) were followed during 12 weeks of chemotherapy. Measures of body composition were taken using bioelectrical impedance, and muscle strength was quantified using a dynamometer at baseline, 4, 8, 12 weeks of chemotherapy. All measures have established reliability and validity. Descriptive statistics were used to examine patterns of body composition variables and upper and lower extremity muscle strength were examined.

Mean BMI for women in the EG was 27.9 (7.2) declining 4.3% and 29.3 (7.8) declining 6.3% for the CG. However, the EG experienced an acute loss of 5.6% LBM over 8 weeks of chemotherapy before returning to baseline levels. The EG was able to maintain their FFM, while the CG declined 3%. The CG experienced a 9 lb (6.9%) decrease in weight, while the exercise group experienced a 7 lb (4.2%) weight loss over the 12 week period.

The CG experienced an 8.1% decline in mean upper extremity muscle strength over time, while the EG experienced an 2.4% increase in upper extremity muscle strength. Lower extremity muscle strength remained unchanged.

Declines in BMI, LBM and weight in both groups may be reflective of dose-dense chemotherapy protocols. Despite weight loss, BMI remained above recommended levels predisposing women to obesity-related illnesses or breast cancer recurrence. EG participants were able to maintain lean body mass and upper body strength. New dose-dense chemotherapy protocols appear to induce rapid body composition changes that may respond to resistance exercise during and after therapy is completed.

Funding Sources: National Cancer Institute

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THE ASSOCIATION OF PAIN AND FATIGUE WITH EACH OTHER AND THEIR IMPACT ON PHYSICAL FUNCTIONING AMONG ADULT CHEMOTHERAPY PATIENTS.

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This Structural Equation Modeling approach supported past research that associates pain and fatigue as co-occurring symptoms. The association of pain and fatigue existed over time and was associated with physical functioning. This project supported the use of an adapted Armstrong Sympotm Experience Model to include a timeline and intervention.

The purpose of this study was to determine if the severity of symptoms of pain and fatigue maintain strong statistical associations with each other throughout the chemotherapy experience. If the association between the severity of pain and fatigue were noted to exist over the course of chemotherapy would an association of these symptoms with physical functioning also exist? An adapted version of the Armstrong Symptom Experience Model (2003) was used as the conceptual framework.

Setting: Seven comprehensive academic or community cancer centers throughout the Midwest and East coast. 304 adult chemotherapy patients participated, 72 were male and 232 were female. Tumor types included: breast, lung, colon, prostate, gynecologic, and non-Hodgkin's lymphoma.

Structural Equation Modeling (Lisrel 8.72) was used to create an all Y path model based on a secondary analysis of data from audits of medical records and interviews conducted at baseline, 10 weeks and 16 weeks. Seven input variables were present in the final all Y path model. The variables consisted of pain and fatigue, both measured on a 0-10 scale depicting symptom severity, all measured at the three different points in time. Physical functioning, defined by the SF-36 was measured at 16 weeks.

Correlations of pain and fatigue variables at each point in time with generalized least squares technique resulted in a minimum fit function chi-square of 3.12 (P=. 68), a minimum fit function value of 0.010, a RMSEA of 0.0, and a standardized RMR of 0.011. The goodness of fit index was 1.00 with an adjusted goodness of fit index of 0.98.

Therefore, this study supports past research that associates pain and fatigue as co-occurring symptoms. Pain and fatigue were demonstrated to have an association with each other that existed over time, as well as, an association with physical functioning. The new adapted Armstrong Symptom Experience Model (to include a timeline and intervention component) was also supported by this research.

Funding Sources: National Cancer Institute (RO1 CA 79280) Family Home Care for Cancer - A Community Based Model - PI Barbara Given PhD, RN, FAAN & National Cancer Institute (RO1 CA030724) Automated Telephone Monitoring for Symptom Management PI - Charles Given PHD & Walther Cancer Institute - PI Charles Given

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A SERIES OF STUDIES EXPLORING THE USE OF VIRTUAL REALITY FOR CHEMOTHERAPY TREATMENTS.

Susan Schneider, RN, PhD, AOCN®, Duke University, Durham, NC.

Chemotherapy treatments are intense and difficult to endure. Patients often have difficulty adhering to the regimen because of chemotherapy-related symptoms. Those who complete chemotherapy have greater chances of non-recurrence and long-term quality of life.

This presentation synthesizes the results of four studies that explored the feasibility of using virtual reality (VR) as a distraction intervention with adults and children. The purpose of the studies was to determine whether VR was an effective intervention for reducing chemotherapy-related symptom distress and whether there was a lasting effect. VR is interactive and engages several senses simultaneously. Participants wore a headset that projected an image with corresponding sounds.

Lazarus and Folkman's Stress and Coping Model. Distraction is a coping strategy for threatening situations.

The studies involving 170 participants were conducted at Case Western Reserve and Duke Comprehensive Cancer Centers. Participants used a head-mounted device to display encompassing images and block competing stimuli. Symptom Distress Scales, Piper Fatigue Scale, and the State Anxiety Inventory were used to measure outcomes. All instruments have demonstrated reliability and validity. The studies employed a crossover design. For two matched chemotherapy treatments, one pretest and two post-test measures were employed. Participants were randomly assigned to receive VR during one chemotherapy treatment and receive no distraction during

an alternate chemotherapy treatment. Results support the premise that VR helps to mitigate chemotherapy-related symptoms. 82% of children and 94% of adults were able to use the headset without difficulty. In women with breast cancer, analysis using paired t-tests demonstrated a significant decrease in symptom distress and fatigue. Older adults experienced a significant decrease in anxiety. There was a consistent trend toward improved symptoms 48 hours later. In all studies, patients had an altered perception of time ($p<.001$) when using the VR, validating the distracting capacity of VR. Evaluation indicated that VR was easy to use, participants experienced no cybersickness, and > 86% would use VR again.

Future studies should be conducted exploring repeated use of the distraction intervention. VR is an innovative, noninvasive, and cost-effective intervention that can make chemotherapy treatments more tolerable, but clinicians should not assume that use of VR will improve symptoms.

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A RANDOMIZED, CONTROLLED TRIAL OF RELAXATION TRAINING TO REDUCE HOT FLUSHES AFTER BREAST CANCER.

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Around 65% of women treated for breast cancer experience hot flushes, which may be severe and debilitating. There are few acceptable and effective strategies available to relieve hot flushes. This study was therefore set up to test the effectiveness of relaxation training to reduce hot flushes and to gain more information about the natural history of hot flushes after breast cancer. There is some evidence to suggest that stress increases the number of flushes that women experience and so it was hypothesized that reducing stress might reduce the incidence of flushes.

A randomized, controlled trial was conducted on 150 women with breast cancer experiencing hot flushes, comparing a single relaxation training session against usual care. Information was collected through diaries on the incidence, severity and diurnal pattern of flushing. Nonparametric tests were conducted on the change in incidence and severity of flushes. Changes in distress due to flushes were measured as well as STAI and FACT-ES quality of life. Significance levels were set at $p<0.01$ to allow for multiple testing.

The median number of flushes was 33 per week (range 3-176) with no significant reduction over three months. There was no clear diurnal pattern of flushes, except that in women taking tamoxifen there was a peak in incidence of flushes around 10.00. 50% women had undergone menopause more than five years previously, and 34% were more than five years post cancer diagnosis, yet distress due to flushes was still rated a median of five out of ten. Sleep disruption occurred in 72% women. Relaxation was found to be an effective intervention, which significantly reduced the incidence of hot flushes by 22% ($p<0.001$), the severity of flushes ($p<0.01$) and the distress caused by flushes ($p=0.01$).

Hot flushes in women after breast cancer were seen to be a long lasting problem, having significant impact on women's lives and causing major sleep disruption. These findings can help health care professionals to provide accurate information to women about the nature of hot flushes after breast cancer and that relaxation training may assist in their management.

Funding Sources: Personal fellowship from Cancer Research UK

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PLEASE CALL IF YOU HAVE A PROBLEM: PATTERNS OF ONCOLOGY PATIENTS' TELEPHONE CALLS.

Marie Flannery, RN, PhD, AOCN®, University of Rochester, James P. Wilmot Cancer Center and School of Nursing, Rochester, NY; and Shannon Phillips, RN, MS, AOCNS, James P. Wilmot Cancer Center, Rochester, NY.

A large component of ambulatory nursing practice is management of patient's telephone calls between outpatient appointments. However, little is known about the issues that are reported by telephone. Examining concerns reported by telephone can serve as a basis for practice guidelines to improve patient outcomes, enhance nursing skills, and allocate resources appropriately.

The aims of the research were to 1) describe the characteristics of phone calls placed to the oncology practice, 2) categorize the subject matter of phone calls, and 3) identify characteristics and common requests of subjects with multiple phone calls. Symptoms were categorized based on the typology developed by the Oncology Nursing Society.

The IRB-approved study was conducted at an outpatient adult medical oncology clinic using a descriptive retrospective design. All phone calls for a 4-month interval were included. Data were abstracted from medical records and coded using a Phone Call Record. Coders were trained and achieved inter-rater agreement of 93%. Descriptive statistics were computed and differences were tested.

The sample was 2,876 calls concerning 830 patients. The patients were 64% female, 20-93 years of age, and 90% Caucasian. Calls per patient ranged from 1-43. More frequent callers were from brain, gastrointestinal, and thoracic services. The number of calls was higher in the morning, and on Mondays. Nurses managed 48% of the calls independently but initiated only 8% of calls. Frequent reasons for calling included: (a) symptoms (35%), (b) test results (19%), (c) prescription renewal (14%), and (d) scheduling (12%). Symptoms were reported by 51% of the sample. Categorizing all symptoms reported the most frequent were: (a) pain (20%), (b) nausea/vomiting (9%), (c) fatigue/weak (7.5%), (d) fever/infection (5%), (e) diarrhea (3%), (f) appetite decrease (3%), (g) dyspnea (3%), and (h) swelling (2.5%). Multiple symptoms were reported by more than 50% of subjects with thoracic and brain cancers.

Symptom frequency and pattern reported by telephone varies from in-person evaluation. Practice initiatives will address frequent callers, multiple symptom reporters, and high-volume symptoms. Findings of a high call volume on Mondays and in the mornings will be used to change nursing assignments accordingly.

Funding Sources: Faculty Research Support Grant, University of Rochester

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WEIGHT MAINTENANCE DURING CHEMOTHERAPY: EFFECT OF AEROBIC AND RESISTANCE EXERCISE.

Anna Schwartz, PhD, ARNP, Arizona State University, Cave Creek, AZ; Kerri Winters-Stone, PhD, Oregon Health Sciences University, Portland, OR; Janet Bagley, RN, MS, and Kathryn Cunningham, BS, University of Washington, Seattle, WA.

As the number of cancer survivors increases, health promotion and disease prevention becomes an important consideration during cancer treatment. Weight gain is common with many negative health consequences.

Weight gain is a serious side effect of cancer treatment placing survivors at increased risk for recurrence, death and other co-morbidities. Exercise is a key component of successful weight loss and maintenance programs. The specific aim of this study was to examine differences in weight change among patients receiving chemotherapy who followed aerobic (AE) and resistance exercise (RE) interventions.

Energy balance and physiology form the scientific framework for the study. It is theorized that cancer patients become more sedentary during treatment, unbalancing their energy balance and gaining weight. Exercise should maintain their energy balance helping maintain weight.

Patients (N=101) were recruited from 3 major cancer centers and community medical oncology practices. Subjects were followed for 12-months. After consent was obtained, patients completed exercise history and physiologic measures of body composition (body weight, DEXA), aerobic capacity (12-minute walk), muscle strength (1-repetition maximum). Exercise subjects were instructed in the exercise programs. Exercise and body weight data was collected every 3-months, and body composition every 6-months. Reliability and validity of all measures were established before the study and were strong. T-tests were used to examine differences between groups.

Body weight was stable at 6 and 12-months for AE, approaching a significant difference between RE and CG (p=.061; p=.058 respectively). Body fat was significantly less in AE than CG at 6 and 12-months (p<.01). Aerobic capacity significantly improved in AE and RE compared to CG at 6 and 12 months (p<.05). Regular exercise appears to help maintain body weight, reduce body fat and improve aerobic capacity, which may improve survival, reduce co-morbidities and improve quality of life. Exercise during and following cancer treatment should become a new standard of care.

Funding Sources: National Institute of Nursing Research and National Cancer Institute

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HOW DO PHYSICAL AND PSYCHOLOGICAL SYMPTOMS RELATE TO EACH OTHER IN PATIENTS WITH DIFFERENT CANCER DIAGNOSES?

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There is little research that examines the multiple symptoms experience and their interrelationships comparing persons with different cancer diagnoses. As a result, many persons with cancer may be inadequately treated for their symptoms. Persons recently diagnosed with lung cancer face serious concurrent physical and psychological symptoms that are likely to be interrelated and increase the overall level of symptom severity experienced. Understanding the differences between the symptom experience in persons with lung cancer relative to persons with non-lung cancer and the relationship between physical and psychological symptoms will provide insight for targeted symptom management interventions.

This study examines differences in the severity levels and interrelationships of physical (pain, fatigue, and insomnia) and psychological (anxiety and depression) symptoms in persons with lung cancer relative to those with other cancer diagnoses.

The Theory of Unpleasant Symptoms (TOUS) was used to guide this study. The TOUS conceptualizes symptoms as occurring together and identifies patient characteristics that influence symptoms.

Secondary data analysis from baseline observation of a randomized clinical intervention trial was performed on 83 persons with lung cancer and 159 persons with non-lung cancer at the time of diagnosis. Path analysis using LISREL version 8.72 was used to examine differences in symptom interrelationships between persons with lung cancer and those with other cancers.

A parsimonious model that distinguished between persons with lung cancer and those with sites of cancer other than lung (Satorra-Bentler Chi-Square 1.68; p = 0.79; DF = 4; RMSEA = 0.00; CFI = 1.00) revealed that at intake into the trial patients with lung cancer reported lower severity of insomnia; however, in the presence of pain, lung cancer patients report greater fatigue and insomnia. Similarly, in the presence of anxiety, lung cancer patients reported higher levels of depression. Next, in the presence of pain, fatigue, and insomnia, lung cancer patients reported greater anxiety. Finally, lung cancer patients reporting fatigue and insomnia had higher levels of depression. Therefore, by knowing cancer diagnoses, oncology nurses can identify those interdependent symptom relationships, and better target dose-related nursing interventions to achieve optimal symptom management.

Funding Sources: Given, B. A. & Given, C. W. (1997-2002). Family Home Care for Cancer: A Community-based Model, grant R01 NR/CA01915, funded by the National Institute for Nursing Research and the National Cancer Institute. In Collaboration with Walther Cancer Institute.

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THE SYMPTOM EXPERIENCES OF ONCOLOGY OUTPATIENTS HAVE A NEGATIVE IMPACT ON QUALITY OF LIFE OUTCOMES: THE RESULTS OF A CLUSTER ANALYSIS MULTI-SITE REPLICATION STUDY.

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Pain, fatigue and depression are complex affective, sensory, and cognitive phenomena. All of these symptoms, as well as sleep disturbances, are common in oncology patients who are receiving cancer treatment. In addition, recent studies suggest that these symptoms can co-occur in oncology patients. In a recent study, Miaskowski et al. (2006) identified four subgroups of oncology outpatients based on their experience with these four symptoms. As such, the subgroup of patients who reported low levels of all four symptoms reported the best functional status and quality of life (QOL) compared to a subgroup with high levels of all four symptoms. In this paper, they stated that these findings need to be replicated before definitive clinical practice recommendations are made.

The purpose of the present study was to replicate and elaborate on these findings with a sample of oncology outpatients in Israel. The UCSF Symptom Management Model served as the theoretical framework for this study.

Two hundred and twenty cancer patients from seven different outpatient oncology practices completed a demographic questionnaire, Karnofsky Performance Status score (KPS), Lee Fatigue Scale, General Sleep Disturbance Scale, Center for Epidemiological Studies – Depression Scale, a numeric rating scale of worst pain intensity, and the Multidimensional QOL Scale – Cancer.

Patients reported moderate levels of fatigue and sleep disturbance and high levels of pain and depression. Hierarchical cluster analysis was used to identify patient subgroups using their ratings of depression, fatigue, and sleep disturbance. Two subgroups of patients were identified: (i) those who scored high on all three symptoms (H, N=93), and (ii) those who scored low on all three symptoms (L, N=127). ANOVAs demonstrated that patients in the H subgroup reported significantly lower KPS and QOL scores (both $p < 0.0001$) than the L subgroup. These results support and strengthen the previous findings and suggest that distinct subgroups of patients can be identified with different symptom experiences. These findings point to a significant need to evaluate the existence of multiple symptoms among cancer patients, which may possibly facilitate the design of individually tailored symptoms management plans in order to improve outcomes.

Funding Sources: Roche Pharmaceutical Company

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SYMPTOM PATTERNS OF PATIENTS WITH NASOPHARYNGEAL CANCER RECEIVING RADIATION THERAPY. Mei-Ling Chen, RN, PhD, Chang Gung University, Tao-Yuan, Taiwan; and Pao Hua Huang, MS, Graduate Institute of Nursing, Chang Gung University, Tao-Yuan, Taiwan.

Although the advancement in technology of radiation therapy (RT) has significantly reduced its negative effects on normal tissue, patients with NPC under RT still experience significant amount of symptoms. Previous studies on symptom profiles in patients with NPC have been focused on treatment period only.

The purposes of this study were to reveal the longitudinal symptom patterns from pre-treatment to post-treatment and to identify symptom subgroups based on the longitudinal patterns. The Theory of Unpleasant Symptoms was adopted in this study.

A total of 52 patients with NPC completed the 32-item Memorial Symptom Assessment Scale at 10 time points (pre-treatment, weekly for 7 weeks during treatment, one and three months after treatment). The evidence of reliability and validity of MSAS has been reported. Data were analyzed with descriptive statistics and mixed models.

The numbers of symptoms experienced ranged from 8.31 (pretreatment) to 19.50 (the 6th week of RT) and reduced to 9.81 at three months after RT. Based on the longitudinal patterns of symptom prevalence, five symptom subgroups were identified. These five subgroups can be further classified as radiation sensitive (4 subgroups) and radiation non-sensitive (1 subgroup). Subgroup I was characterized by high RT sensitivity and delayed recovery (pain, difficulty swallowing, and changes in the way food tastes). Subgroup II was characterized by high RT sensitivity and early recovery (mouth sores, weight loss, hair loss, not look like self, and changes in skin). Subgroups III contains fatigue and sleep related symptoms and characterized by moderate sensitivity and recovery (e.g., difficulty concentrating, lack of energy, feeling drowsy, difficulty sleeping). Subgroup IV was characterized by psychological symptoms which had higher prevalence at pre-treatment than at first week during treatment and had decreased prevalence rates after treatment (e.g., feeling nervous, feeling sad, worrying, etc.). Subgroup V was not sensitive to RT and characterized by low prevalence before, during, and after treatment (e.g., numbness, feeling bloated, problems with urination).

The findings of this study can help to explain the symptom clusters phenomenon related to radiation therapy and can be used to develop patient educational material in symptom management.

Funding Sources: National Science Council: NSC 94-2314-B-182-055

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SYMPTOM PATTERNS AFTER THORACOTOMY FOR LUNG CANCER. Linda Sarna, RN, DNSC, FAAN, AOCN®, School of Nursing, University of California, Los Angeles (UCLA), Los Angeles, CA; Mary Cooley, PhD, RN, CS, Dana-Farber Cancer Institute, Boston, MA; Jean K. Brown, PhD, RN, FAAN, School of Nursing, University at Buffalo, State University of New York, Buffalo, NY; Cynthia Chernecky, PhD, RN, School of Nursing, Medical College of Georgia, Augusta, GA; and David Elashoff, PhD, School of Nursing and School of Public Health, UCLA, Los Angeles, CA.

Research in cancer survivorship is increasing, but there are limited data describing recovery after surgery for lung cancer.

The purpose of this paper is to describe symptom patterns and predictors in the first four-months after surgery for non-small-cell lung cancer (NSCLC).

The theoretical framework, focused on pain, fatigue, dyspnea, cough, and depression, was based upon the literature and dimensions of the Revised Symptom Management Model. Predictors included person, health status, and clinical variables.

Methods: 94 patients were assessed at one (T1), two (T2), and four months (T3) post-thoracotomy. Symptoms were assessed using the Lung Cancer Symptom Scale (LCSS), and the Center for Epidemiologic Survey-Depression (CES-D, >16 indicating depression). Health status included smoking status, body mass index (BMI), and number of comorbid conditions. Descriptive statistics were used to profile the sample and outcomes. Logistic regression was used to assess clinically meaningful improvement in LCSS symptoms (>10mm change at 4 months). Mixed effects and generalized linear models were used to examine predictors of improvement in symptoms over time.

Results: The typical participant was female (58%), aged 63 (SD = 10), had adenocarcinoma (52%), and received a lobectomy (79%). The majority (56%) had >1 comorbid condition, most commonly emphysema (38%). At baseline, 57% were overweight (BMI >25), and 17% smokers. All symptoms except cough significantly improved over time, but clinically important improvement only occurred for appetite (62%) and pain (50%). A minority reported improvements in fatigue (43%) or cough (31%). Those in the "depressed" category (35% at T1 - 26% at T3) significantly declined (OR .29, p = .012). There were multiple co-occurring symptoms at each time. In the regression models, age and number of comorbid diseases were significantly (p <.0001) related to symptom improvement (LCSS total score and individual symptoms), indicating older adults with comorbidity experience greater problems during recovery. Conclusions: Results provide important information for clinical practice. As expected, symptoms continued to improve in the months after thoracotomy. However, fatigue and cough lingered for the majority of patients, and 50% continue to report pain. Older patients and those with comorbid conditions may require additional support in symptom management.

Funding Sources: ONS Foundation

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POST-BREAST CANCER LYMPHEDEMA: 30 MONTHS AFTER DIAGNOSIS. Jane Armer, RN, PhD, University of Missouri–Columbia, Columbia, MO.

Breast cancer survivors are at life-time risk of developing lymphedema (LE). With the exception of cancer recurrence, LE is the most dreaded cancer treatment sequela. In part because of difficulties and variability in measurement and diagnosis, the reported incidence of LE varies greatly among women treated for breast cancer.

The research goal was to describe LE occurrence over time among breast cancer survivors. Because LE measurement historically has been problematic, limb volume changes (LVC) were evaluated by three measurement methods: (a) circumferences; (b) perometry; and (c) symptom report among participants followed pre-op to 30-months post-diagnosis. Four diagnostic criteria were used: 200 ml perometry LVC; 10% perometry LVC; 2 cm circumferential increase; and report of heaviness or swelling, "now" or "in the past year."

Our examination of LE employs a biobehavioral model of cancer and disease progression (Armer, 2002) reflecting our conceptualization of LE in terms of both objective and subjective indicators which describe varying dimensions of LE.

In this prospective longitudinal study, participants were enrolled following diagnosis with baseline pre-op limb volume and symptom assessment and followed at post-op every 3 to 6 months for 30 months. Of 315 participants enrolled, 140 have completed data to 24 months post-op, and 98 have completed 30-month data collection. Survival analysis was used to examine LE occurrence (applying each of the four definitions to data obtained by valid and reliable anthropometric and interview protocols) at each time point.

Trends will be reported for preliminary analysis of data from participants at 6 to 30 months. LE occurrence ranged from 7%-46% and 38%-82% over 6 to 24 months (N= 140), depending on the definition applied. In the absence of a "gold standard," we can only say that these LE definitions are not equivalent, but cannot say which is "best." From these data, it appears that 10% LVC is a more conservative definition, while the 2 cm difference is a more liberal definition. These preliminary findings also document the importance of baseline (pre-operative) anthropometric and symptom data and monitoring of changes over time. Further investigation of LE occurrence over an extended time period is warranted.

Funding Sources: Research funded by National Institutes of Health R01 NR05432, MU PRIME, and Ellis Fischel Cancer Center research gift fund.

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PSYCHOSOCIAL TRAJECTORIES OF MEN MONITORING PROSTATE SPECIFIC ANTIGEN LEVELS FOLLOWING TREATMENT FOR PROSTATE CANCER. Donald Bailey, RN, PhD, Duke University School of Nursing, Durham, NC; David Albala, MD, Duke University School of Medicine, Durham, NC; Elizabeth Clipp, PhD, RN, Linda Folsom, RN, BSN, Duke University School of Nursing, Durham, NC; Susan Lutgendorf, PhD, University of Iowa, Iowa City, IA; Thomas Polascik, MD, and Cary Robertson, MD, Duke University School of Medicine, Durham, NC.

Watching and monitoring prostate specific antigen (PSA) levels following surgical intervention for prostate cancer causes psychological distress and uncertainty in men. However, no studies have explored uncertainty in the context of PSA monitoring following treatment for localized prostate cancer. PSA values provide important information regarding disease cure or recurrence and for men with rising PSA levels, anxiety can reach dangerous levels. Yet many of these men will be asymptomatic and may remain so for many years.

The purpose of this study is to describe the psychosocial trajectories of men treated for prostate cancer that are watching and monitoring their PSA levels during 24 months post treatment.

The study was conducted from a trajectory perspective based on the work of Clipp, Elder, George and Pieper (1997) and Mishel's Uncertainty in Illness Theory (Mishel, 1988, 1990). Trajectories reflect the course of a chronic condition over time and the strategies used by the individual to manage its course.

The setting for this study was the urology clinic at Duke University Health System. Twelve men were interviewed in their homes at baseline, over the telephone at 6, 12, and 18 months and then in their homes at 24 months.

The 12 men were 75% Caucasian, 17% African American and 8% Asian American. They had an average age of 59.3 years and reported 16 years of education. Most (83%) were married or living with a partner; 17% were divorced. Baseline illness uncertainty levels, measured with the Mishel Uncertainty in Illness Scale (MUIS), ranged from 39-112 with an average score of 66, indicative of moderate uncertainty. Graphs of individual subject's mean scores will be presented using a "typological" or "health pattern" approach and we will present individual and group trajectories of change.

Watching and monitoring PSA levels is a critical issue for men treated for prostate cancer. This study provides preliminary data on the psychological trajectories of men during the 24 months post treatment for disease and suggests optimal time intervals for nursing intervention.

Funding Sources: John A. Hartford Foundation, University of Iowa, Small Grants Program, Duke University, School of Nursing - TRAC Center P20

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THEORETICAL AND METHODOLOGICAL ISSUES IN THE ANALYSES OF TRAJECTORIES IN DAILY PATIENT REPORTS OF CANCER-RELATED SYMPTOMS. William Dudley, PhD, Susan Beck, PhD, APRN, AOCN®, FAAN, Kathi Mooney, PhD, RN, AOCN®, FAAN, Jacquelyn Williamson, MS, Adrian Musters, BS, Srichand Jasti, MEEE, and Erin Rothwell, PhD, TRS, CTRS, University of Utah College of Nursing, Salt Lake City, UT.

The purpose of this paper was to examine individual patterns of change over time in cancer treatment related Nausea and Vomiting (NV) measured by daily patient self-report via a computerized telephone system known as Telephone Linked Care (TLC) and to provide an illustration of the challenges and opportunities of analyzing intensive longitudinal data.

Data from a sub sample of 77 patients who reported consistent patterns of NV were analyzed.

Issues that will be discussed include: graphical visualization of data, ways to deal with missing data, identification of segments of data worthy of analysis, choice of form of trajectory to be analyze, structure of covariance matrix, and interpretation of growth parameters.

Technological advances in the study of clinical symptoms over time have resulted in complex and intensive longitudinal data structures which may not be amenable to traditional statistical analyses such as the Repeated Measures Analysis of Variance. Another approach to examine individual trajectories of change is Individual Growth Curve Analysis.

The opportunities provided by this daily self-report included the ability to quantify individual trajectories of change and to relate trajectories of change to patient-related and treatment-related variables. Additionally, how to deal with missing data, and how to determine the symptom epoch worthy of analysis are addressed as well as individual curve modeling techniques and implications for future research design.

Linear and quadratic patterns of change and potential covariates of individual patterns of change were examined. The unconditional linear model showed a significant negative linear trend (- .36, $p < .0001$) indicating a reduction in NV of about 1/3 of a point per day (on a 0 – 10 scale). The unconditional quadratic model indicated a significant rise and fall in symptom severity (-.049, $p < .0001$). In addition, the treatment group showed a significantly higher level of NV in the initial stages of the NV epoch and showed a more rapid resolution of NV than did the control group. However, other patient--related and treatment-related variables were not associated with individual change.

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LESSONS LEARNED IN THE RECRUITMENT AND RETENTION OF YOUNG ADULT CANCER SURVIVORS IN A LONGITUDINAL CLINICAL TRIAL. Kathleen McDermott, RN, BSN, Kristin Roper, RN, MS, OCN®, Christine Coakley, RN, MPH, Kecia Boyd, RN, BSN, and Mary Cooley, PhD, CRNP, CS, Dana-Farber Cancer Institute, Boston, MA.

The purpose of this paper is to present lessons learned for recruiting and retaining young adults participating in a longitudinal, multisite, feasibility study evaluating Quality of Life (QOL) after treatment for Hodgkin Disease.

Catastrophic illness has the potential to interfere with developmental tasks and QOL of young cancer survivors. Erickson's developmental framework was used to guide the study. Therefore, we defined young adults as ages 21-40.

Recruitment of participants into this clinical trial was conducted with much success by using referrals from physicians and nurses

and accessing hospital databases. Forty-three percent (54/125) of participants were eligible for the study. The acceptance rate at both sites was 87% (n = 47/54). Introductory letters were used to establish rapport prior to informed consent. Reasons given for refusals (n = 7/54) included being too busy, being anxious, and an unwillingness to participate.

Catastrophic illness has the potential to interfere with developmental tasks and QOL of young cancer survivors. Erickson's developmental framework was used to guide the study. Therefore, we defined young adults as ages 21-40.

Recruitment for clinical trials can present unexpected challenges that must be solved to make it feasible to conduct longitudinal research. Young adults are often perceived as having difficulty in complying with the strict schedules of clinical trials while keeping up with normal busy lives. The integrity of a clinical trial, however, depends on whether recruitment goals can be met and whether participants adhere to the data collection schedule.

In order to enhance longitudinal research in young adults, future trials may consider broadening the inclusion criteria for participation by including adolescents, maintaining flexibility in data collection procedures and trying more innovative methods of data collection.

Data was collected for all time-points on 38 participants. Data collection was obtained on time for almost 90% of subjects for the first 3 data-points and was collected on time for 75% of subjects for the last data-point. Our attrition rate was 19%. One of the most common reasons for attrition was lost to follow-up. Despite the fact that the study team used multiple methods of communication to retain participants, young adults with cancer have competing demands. Barriers to recruitment identified through this study were that the inclusion criteria were too narrow resulting in loss of 28% more potential participants.

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Data was collected for all time-points on 38 participants. Collecting data according to the proposed schedule gradually decreased from 88% of participants at baseline (time 1) to 70% of participants at the last data point (time 4). Our attrition rate was 19%. One of the most common reasons for attrition was lost to follow-up. Despite the fact that the study team used multiple methods of communication to retain participants, young adults with cancer have competing demands. Barriers to recruitment identified through this study were that the inclusion criteria were too narrow resulting in loss of 28% more potential participants. In order to enhance longitudinal research in young adults, future trials may consider broadening the inclusion criteria for participation by including adolescents greater than 18, adding other disease sites, maintaining flexibility in data collection procedures and trying more innovative methods of data collection.

Funding Sources: ONS Foundation and Friends of Dana Farber Cancer Institute

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PERCEPTIONS OF MELANOMA RISK COMMUNICATIONS AND RISK CONTROL BEHAVIORS IN MELANOMA-PRONE FAMILIES. Lois J. Loescher, PhD, RN, Janice D. Crist, PhD, RN, and Kristina Beglarian, honors student, University of Arizona, Tucson, AZ.

In cancer-prone families, risk communications underpin risk control (prevention/early detection) behaviors. Understudied sources of risk communications are family members (Intra-Family, IF) and healthcare providers (HCP). In melanoma-prone families, melanoma risk communications are important for instilling IF sun protection behaviors. HCP-initiated risk communications ideally promote skin examination, which is potentially life saving for high-risk families.

To enhance our limited knowledge of risk communications in melanoma-prone families and develop a preliminary model for studying these phenomena in other high-risk groups. To describe from the emic perspective, patterns of IF communications of melanoma risk/risk control, and perceptions of HCP-initiated messages targeting melanoma risk control.

Conceptual orientation for this focused ethnography was based on constructs of risk, risk perception and risk communications.

We recruited males/females; age 15 years and older, from a high-risk melanoma clinic and enrolled 20 individuals from 15 families with at least two cases of melanoma. Data collection methods were semi-structured recorded interviews focusing on the main study variables, field notes, and supplementary materials. Data were managed using Atlas.ti software and analyzed using ethnographic content analysis. Codes were inductively derived, defined (intracoder reliability), and verified independently (interrater reliability). We created visual models of code-family networks and posited network linkages to form a preliminary model of perceived risk communications and risk-control behaviors.

Six code families emerged from the data: Family Communications of Risk/Risk Control, Family Risk-Control Behaviors, Perceptions of HCP Risk/Risk Control Communications, Patients' Communications to HCP. IF discussions enhance personal awareness of family history, but family members do not always understand underlying risk. IF risk communications are open but selective; closer among affected family members; carefully planned to deliver information in specific ways; and geographically influenced. Families perceive HCP messages as sometimes helpful but often deficient; driven by treatment rather than discussions of risk. Patients want their concerns about risk to be taken seriously by HCP. Family members are the most persistent reminders of early detection behaviors. Clinically, this research illuminates the importance of families' communications of risk and strengths/weaknesses in HCP communications. Findings provide important preliminary data for development of risk communications measures and future intervention studies.

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COMPARISON OF LATINA AND NON-LATINA WHITE WOMEN'S BELIEFS ABOUT COMMUNICATING GENETIC CANCER RISK TO RELATIVES. Deborah MacDonald, RN, MS, PHDC, APNG, City of Hope Comprehensive Cancer Center, Duarte, CA; Linda Sarna, DNSc, RN, FAAN, University of California, Los Angeles School of Nursing, Los Angeles, CA; Andrea Ortiz, BS, and Veronica Lagos, MS, City of Hope Comprehensive Cancer Center, Duarte, CA; Jane Congleton, RN, MS, CGC, Banner Good Samaritan Medical Center, Phoenix, AZ; and Jeffrey Weitzel, MD, City of Hope Comprehensive Cancer Center, Duarte, CA.

Latinas with a personal and/or family history of breast or ovarian cancers are increasingly referred for genetic cancer risk assess-

ment (GCRA) wherein clinicians encourage women to communicate findings about cancer risk to their relatives. To foster risk communication, clinicians need to be aware of cultural influences. Little is known about Latinas' beliefs in this regard.

The current study aimed to describe and compare the pre-GCRA beliefs of Latina and non-Latina White women with a personal and/or family history of breast or ovarian cancers, regarding whether they perceived a duty to inform relatives of genetic cancer risk, who should do the informing, and how relatives should be informed. The study was conducted using survey data collected within a larger study of persons seen for GCRA within the City of Hope Cancer Center's Cancer Screening & Prevention Program Networks between June 2000-August 2005.

A health belief, transcultural assessment, and family health promotion model were adapted to provide a theoretical framework.

Validity of the communication items was established by literature review, a genetic/oncology healthcare judge panel, and pilot testing (n=50). Analysis included descriptive statistics, chi-square, Fisher's exact, and Wilcoxon rank-sum tests, and logistic regression to assess predictors related to risk communication beliefs.

475 women met the study criteria; 183 were Latinas (39%) and 292 were non-Latinas (61%). The majority of the Latinas (89%) and non-Latinas (94%) believed that relatives should be informed of genetic cancer risk, though fewer Latinas felt that informing was strictly a personal versus clinician duty (82% of 161 Latina responders; 91% of 275 non-Latina responders [p = .006]) and more believed that informing should be done only in person (66% of 154 Latina responders; 57% of 262 non-Latina responders [p = .003]). Multiple logistic regression revealed that education (odds ratio [OR] 2.55, 95% confidence interval [CI] 1.15-5.66) and Latinas' primary language (OR, 0.17, 95% CI, 0.06-0.47) were independently associated with beliefs about who should be the informant. Ethnicity, education, and Latinas' language acculturation were statistically associated with beliefs about informing relatives of genetic cancer risk. Understanding these beliefs may facilitate cancer risk communication in families.

Funding Sources: The California Breast Cancer Research Program of the University of California, Grant Number 5BP-0051 (D. MacDonald, PI).

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AGE-RELATED DIFFERENCES IN SMOKING RELAPSE AMONG WOMEN.

Mary Cooley, PhD, RN, and Mark Powell, MA, Dana-Farber Cancer Institute, Boston, MA; and Randall Hoskinson, MA, and Arthur Garvey PhD, Harvard School of Dental Medicine, Boston, MA.

As a result of increased tobacco use among women, there has been an unprecedented rise in the incidence and mortality associated with tobacco related illnesses. Lung cancer rates alone have risen 600 percent since 1950. Thus, smoking cessation interventions that are targeted toward women are needed. Because smoking prevalence rates are highest among women of reproductive ages, it is important to understand whether factors associated with smoking relapse differ by age so that more effective smoking cessation interventions can be developed and tested.

This study examines whether pre-cessation and post-quit-day-1 (D1) factors associated with smoking relapse (SR) differed among younger (< 40) and older (> 40) women, and to examine differences in self-reported reasons for SR. The biobehavioral model of nicotine addiction was used to guide this study.

Data were collected from 312 women using standardized reliable and valid questionnaires. Salivary cotinine was used to confirm smoking abstinence. Chi-square and multivariate time-to-event analyses were performed.

Precessation factors significantly associated with time-to-relapse (TTR) were increased depression among younger women and lower motivation and NRT dose among older women. There was a significant age interaction with depression, and motivation but not dose suggesting that depression and motivation affect TTR differently in younger versus older women. D1 factors associated with TTR were increased craving and lower self-efficacy in negative affect situations among younger women and lower motivation among older women. There was a significant age interaction with craving, self-efficacy in negative affect situations, and motivation indicating that TTR differs among younger and older women. Twenty-one percent of younger women as compared to 10% of older women identified use of alcohol as the reason for early SR. Another 13% of younger women as compared to 24% of older women identified craving tobacco as the reason for early SR. Results from this study suggest that factors associated with SR differ by age. It appears that behavioral treatments targeting negative affect may be beneficial among younger women, whereas behavioral treatments that increase motivation to quit smoking are needed among older women.

Funding Sources: National Cancer Institute and National Institute for Drug Abuse

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PROGRESS IN COLORECTAL CANCER SCREENING AND PREVENTION.

Susan Rawl, PhD, RN, Indiana University School of Nursing, Indianapolis, IN.

Colorectal cancer is the third leading cause of cancer deaths in the United States, affecting both men and women of all racial and ethnic groups. In 2006, approximately 145, 000 people will be diagnosed with colorectal cancer (CRC) and over 56,000 will die from the disease. The vast majority of these deaths could be prevented since CRC, when discovered early, is highly treatable. Screening that leads to removal of adenomatous polyps, the precursors to CRC, decreases incidence of this disease by 75%-90%. Unfortunately, the prevalence of CRC screening remains low. Nationally, only 50% of adults aged 50 or older reported having had any screening test in the recommended intervals.

Discussion will include ways in which oncology nurses and physicians can apply selected findings to clinical practice to identify persons at risk and encourage CRC screening for everyone, but especially for cancer survivors and their families.

Directions for future research include the need for multidisciplinary research to: (1) apply new theoretical frameworks; (2) identify important predictive behavioral concepts; (3) measure complex, interdependent CRC screening outcomes; and (4) discover effective interventions to reduce disparities in colorectal cancer screening participation, incidence and mortality. Emerging screening technologies have potential to change the face of research and practice in this area.

This presentation will critically evaluate and synthesize multidisciplinary research related to CRC screening and prevention. Research has been conducted to understand the barriers to and facilitators of CRC screening among different populations. Interventions to promote uptake of screening tests have been varied in their effectiveness. Significant challenges exist to promotion of CRC screening among at-risk, elderly and minority populations. Measurement issues have yet to be resolved and controversies about the applicability of theories that have been traditionally used to study preventive behaviors exist. Items of discussion will include:

- Existing health behavior theories may be less useful to understanding or explaining CRC screening participation. Relationships between screening behavior and perceived risk, perceived benefits,

perceived barriers, self-efficacy and stage of change are complex and vary depending on the population under study.

- The gold standard for colorectal cancer screening is colonoscopy. Past research has focused primarily on the promotion of fecal occult blood testing and sigmoidoscopy. Little is known about the promotion of colonoscopy as a screening test. Cost-effectiveness and access issues surrounding screening colonoscopy must be addressed.
- Interventions may be aimed at any or all of the following: healthy individuals living in the community, enrollees in health care plans, patients being seen by providers in health care settings and at-risk populations who are specifically targeted because of need. However, intervention research often has failed to demonstrate effectiveness due to poor study design or inadequate measurement of outcomes.

Funding Sources: National Cancer Institute/National Institutes of Health grant R21 CA934454; National Institute of Nursing Research/National Institues of Health grant R15 NR07999; Walther Cancer Institute

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EXERCISE TOLERANCE 18-MONTHS FOLLOWING PARTICIPATION IN AN EXERCISE PROGRAM FOR PATIENTS TREATED FOR CANCER.

Stacey Young-McCaughan, RN, PhD, AOCN®, colonel, U.S. Army Nurse Corps, Brooke Army Medical Center, Fort Sam, Houston, TX; Tonya M. Arzola, MS, Geneva Foundation, Tacoma, WA; Kenneth M. Leclerc, MD, San Antonio, TX; Eric A. Shry, MD, major, U.S. Army Medical Department, Brooke Army Medical Center, Fort Sam, Houston, TX; Robert L. Sheffler, MD, colonel, U.S. Army Medical Department, Tripler Army Medical Center, Honolulu, HI; Marilyn U. Nowlin, RN, BS, BSN, San Antonio, TX; and Stacey A. Dramiga, MA, Brooke Army Medical Center, Fort Sam, Houston, TX.

A growing body of research that has investigated exercise rehabilitation in patients with cancer has demonstrated dramatic improvements in physiological and psychological functioning. However, the impact of participation in these programs on health over time has not been studied.

The purpose of this study was to assess over time (18-months) the ability of an exercise intervention program to effect a change in health habits and improvement in health in patients with cancer as compared to patients with cancer who did not participate in the study program.

Roy Adaptation Model.

This was a quasi-experimental, repeated measures study. 128 participants were recruited into the study, 70 into the Exercise Group and 58 into the Comparison Group. Participants in the Exercise Group were enrolled into a structured exercise program consisting of supervised aerobic exercise. Subjects met two days each week for 12 weeks and exercised an additional three to five days each week at home. Participants in the Comparison Group were instructed to continue their normal activities. Key exercise variables were change over time in exercise tolerance as measured with a sub-maximal graded exercise test and the Physical Activities Questionnaire, both valid and reliable measures of exercise. Descriptive statistics and repeated-measures analysis of covariance were used to analyze the data.

Participants were predominantly Caucasian, married, and well-educated. Half were male and half female. Ages ranged from 31 to 86. Participants had a wide range of cancer diagnoses; most had early stage disease. All had completed cancer therapy within the previous six months. Significant differences ($p < .05$) between groups and over time were found in heart rate and rate of perceived exertion with the participants in the Exercise Group improving the most and sustaining these improvements over time. This research supports exercise as an intervention to improve health of patients with cancer. Additional research is needed to determine the best way to assess exercise tolerance and how it relates to quality of life over time.

Funding Sources: Department of Defense Uniformed Services University of the Health Sciences TriService Nursing Research Program Research Protocol N00-017, "Outcomes of an Exercise Intervention for Cancer Patients" (MDA-905-00-1-0011), PI: COL Stacey Young-McCaughan

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EXERCISE: AN INTERVENTION FOR FATIGUE IN CANCER PATIENTS.

Marylin Dodd, RN, PhD, FAAN, Maria Cho, RN, PhD, Patricia Painter, PhD, Steven Paul, PhD, Christine Miaskowski, RN, PhD, FAAN, and Kayee Alice Bank, RN, MSN, University of California, San Francisco, San Francisco, CA.

Fatigue is the most common and disabling symptom of patients receiving treatment (chemotherapy [CTX] and/or radiation therapy [RT]). Previous studies have reported the benefits of exercise on fatigue; none have investigated the timing of the exercise program.

The purpose of this randomized clinical trial (RCT) was to test the effectiveness of an intervention, the PRO-SELF: FATIGUE CONTROL Program that included an individually tailored home-based exercise training program on the management of fatigue. A second purpose was to evaluate the timing of the intervention.

The Integrated Fatigue Model provided the study's framework.

This analysis included 83 women with breast (n=79), ovarian (n=3), or colorectal (n=1) cancers who were starting their first course of CTX. This single blind RCT involved three groups who's fatigue, measured by the Piper Fatigue Scale (PFS), was assessed three times: baseline (T1), completion of CTX +/- RT (T2), and 4 to 6 months later (T3). The PFS has excellent reliability and validity. Group 1 (EE) received the intervention at T1 and continued to T3. Group 2 (CE) received standard care T1-T2 and then the intervention from T2-T3. Group 3 (CC) received standard care T1-T3. The change in fatigue over time was compared among the three groups with a RMANOVA design.

There was a significant change in fatigue over time (p=.001). Fatigue increased from T1-T2 (p=.047) and decreased significantly from T2-T3 (p<.001). However, the change in fatigue across the three times did not differ among the three groups, nor was there a difference in the average fatigue among the three groups. Although significant differences in fatigue among the groups were not seen, in this sample, the EE group reported similar fatigue throughout the study. In contrast, the CE and CC groups reported increased fatigue at T2, with all 3 groups improving their average fatigue scores by T3. When the study was planned, a medium effect size of the exercise intervention was expected. However the actual effect was so small that the lack of statistical significance is not surprising.

Funding Sources: National Cancer Institute

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EXERCISE DURING PROSTATE CANCER TREATMENT: EFFECTS ON FUNCTIONAL STATUS AND SYMPTOMS.

Victoria Mock, RN, DNSC, FAAN, Johns Hopkins University, Baltimore, MD; Sharon Krumm, PhD, RN, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore MD; Anne Belcher, PhD, AOCN®, FAAN, Johns Hopkins University School of Nursing, Baltimore, MD; Kerry Stewart, PhD, FACSM, and Theodore DeWeese, MD, Johns Hopkins University School of Medicine, Baltimore, MD; and JingJing Shang, MSN, RN, and Sue Hall, MSN, RN, Johns Hopkins University School of Nursing, Baltimore, MD.

Treatment for men with prostate cancer (PC) currently includes months of anti-androgen therapy plus radiation therapy (RT). These treatments can result in a loss of muscle mass and strength, affecting functional status and symptoms. Despite strong evidence demonstrating benefits of exercise during treatment for breast cancer, there has been little investigation of exercise in other cancer populations.

The purpose of this RCCT was to determine the effects of a nurse-directed, home-based walking exercise program in maintaining physical functioning and managing symptoms during RT for prostate cancer.

The Levine Conservation Model was used to guide the study. By increasing functional capacity, the exercise intervention supports conservation of energy and conservation of structural integrity components of the model.

Fifty-four men with Stage I-III PC scheduled for RT were randomized to usual care (UC) or to an exercise program (EX) throughout their course of RT. The intervention was a brisk, incremental 20-30 minute walk, 5-6 times/week. Data were collected prior to first RT and following 8 weeks of RT. Instruments used were treadmill tests, pedometers, and reliable and valid questionnaires including: Medical Outcomes Study SF-36, Piper Fatigue Scale, Physical Activity Questionnaire, Symptom Distress Scale, and Profile of Mood States. Groups were compared using ANCOVA with pretest scores as covariates.

Age range was 41-80 (mean 65.4) years; 28% were ethnic minorities. The majority of subjects were partnered, educated, and had stage II cancer. General symptom distress was low; bowel problems were the most prevalent symptoms. There were high positive correlations between fatigue and emotional distress at posttest (r=.82; p=.01) with a moderate negative correlation between fatigue and physical function (r=-.53; p=.01). VO2 Max increased in EX groups and decreased in UC (F=7.59) (p=.01), consistent with increased level of physical activity in EX and a decrease in UC. Exercise already demonstrated to be feasible and beneficial in breast cancer is also efficacious in patients with PC. Results indicate that a low-cost, moderate-intensity exercise program taught and monitored by nurses improves functional capacity during RT for prostate cancer. Study findings will guide nurses in prescribing and supervising exercise for prostate cancer patients receiving RT.

Funding Sources: National Cancer Institute/National Institute of Nursing Research R01 NRO 4991; National Institute of Nursing Research P30 NRO 8995; GCRC M01RR02719

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PILOT STUDY OF A SEATED EXERCISE INTERVENTION FOR LUNG CANCER PATIENTS: CLINICAL SIGNIFICANCE.

Lauri John, PhD, RN, CNS, University of Texas at Austin, Austin, TX.

Fatigue has frequently been implicated as a distressing effect of lung cancer and its treatment that negatively affects quality of life (QOL). Studies have shown that walking programs reduce fatigue and improve general well-being in women with breast cancer; however, there are no studies of the effects of modified exercise programs on QOL in lung cancer patients, whose participation in a walking program might be limited due to climate, safety, and/or scheduling concerns.

The purpose of this pilot study was to determine the feasibility of a major research study to determine the effects of a seated exercise program on QOL and fatigue in lung cancer patients and to explore strategies used by lung cancer patients to maintain or promote QOL.

Roy's Adaptation Model.

This was a mixed method, randomized clinical trial with repeated measures. Ten lung cancer patients who were beginning outpatient chemotherapy with or without radiation therapy and were medically able to participate in a low to moderate intensity seated exercise program participated in the study. Participants were recruited from oncology clinics in central Texas, and the study took place in participants' homes. All participants received standard instructions about fatigue management; maintained a daily activity diary; and completed the Functional Assessment of Cancer Therapy-Lung [FACT-L], which measures QOL in lung cancer patients, and the Fatigue Subscale of the FACT, which measures fatigue, every two weeks for three months. Participants randomized to the intervention group were given a videotape of a low to moderate intensity seated exercise program and individualized instructions about how to modify exercise intensity and were encouraged to perform the exercises at least three times per week. Qualitative data regarding all participants' perceptions of QOL and fatigue as well as strategies used by lung cancer patients to maintain or promote QOL were assessed at the end of the three-month study period.

Although the sample size of this pilot study was too small to find statistically significant differences between the control and intervention groups, the qualitative data suggest clinically significant findings. Inclusion of a tailored exercise program in chemotherapy teaching for patients with lung cancer may improve quality of life, reduce fatigue, and improve treatment tolerance.

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BEHAVIORAL SLEEP INTERVENTION FOR HOSPICE NURSES: A PILOT STUDY.

Patricia Carter, PhD, RN, CNS, Kathleen Dyer, MSN, and Sabrina Mikan, MSN, doctoral student, University of Texas at Austin, Austin, TX.

Hospice nurses are chronically bereaved. They experience and help others through the grief of loosing a loved daily. Chronic stress, such as that experienced by hospice nurses, has been linked to complaints of insomnia. While hospice nurses are specially trained to assist others in their bereavement process, they often neglect their own needs, leaving themselves vulnerable to burnout. Burnout of these highly trained nurses negatively affects both the nurse and the patients and families.

This study explored the effectiveness of a behavioral sleep intervention to improve sleep quality and depressive symptoms. Sleep quality was measured with the Pittsburgh Sleep Quality Index (PSQI). Depressive symptoms were measured with the Center for Epidemiological Studies Depression (CESD) scale. Specific questions were:

1. Will a behavioral sleep intervention improve nurse sleep quality as measured by the sleep variables of latency, duration, and efficiency?
2. Will nurses express improvement in depressive symptoms from baseline to post sleep intervention?

Stress process theory guided this study. Chronic stress increases risk for negative outcomes (insomnia & depression).

A 5-week repeated measures design was used to explore the effectiveness of a behavioral sleep intervention to improve sleep quality and depressive symptoms in hospice nurses. The intervention was delivered in two 1-hour sessions and included stimulus control, sleep hygiene, relaxation, and cognitive behavioral education. Goal setting and monitoring was used to individualize the intervention. Sessions were group format and delivered on-site at the hospice facility. Self-report sleep (PSQI) and depression (CESD) were measured at baseline, three and 5 weeks. Descriptive statistics were used.

13 nurses participated in the study. Nurses' average age was 52 years. Average years in practice were 19, with an average of 5 years in hospice. Mean PSQI was 10(sd5), CESD was 17(sd12). Sleep

variable averages were: latency =30 minutes, duration = 6 hours, efficiency = 75%. There were minor improvements in sleep and depressive symptoms over time; however, sample size precluded significance testing. Hospice nurses are at high risk for chronic bereavement. Insomnia and depression are common problems. Behavioral therapies appear to improve insomnia in this population. If insomnia is successfully treated, depression and burnout may be less likely.

Funding Sources: The Cain Excellence Fund at The University of Texas at Austin

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OPIOID USE IN HOSPITALIZED CHILDREN AT THE END OF LIFE. Andrea Wheat, RN, MSN, Hospital for Sick Children, Toronto, Canada; and Carolyn Ingram, RN, DNSC, McMaster University School of Nursing, Hamilton, Canada.

One of the most prevalent symptoms at the end-of-life (EOL) is pain, yet patients continue to be under-treated and myths about opioid use persist.

The purpose of this study was to (a) describe the demographic and clinical characteristics of hospitalized children receiving opioids at the EOL, (b) describe the use of opioids among these children, and (c) identify relationships between children's demographic and clinical characteristics and their use of opioids.

Although there have been significant advances in children's pain management, there is limited research on managing pain in pediatric EOL care. Most current evidence is borrowed from adult care.

A retrospective medical record review was conducted on hospitalized children who died between January 1994 and March 2005 at a major children's hospital in Ontario.

Eighty-three children (73%) received opioids, the most common being intravenous morphine. The mean length of opioid use was 10.8 days and the maximum (morphine equivalent) dose was 2.54 mg/kg/day. Fifty-seven percent of children experienced three or fewer changes to their opioid orders, most commonly the dose. There was a difference between the opioid doses ordered and administered that persisted with each change in opioid order. Involvement of the palliative care team was strongly correlated (0.71) with the unit of death, and had an independently significant relationship with the maximum administered opioid dose ($p < 0.003$). There was no difference in opioid use between children who had cancer and other diagnoses. This suggests that findings on EOL pain management of children with cancer may transfer to other pediatric EOL situations. Because opioid orders were increased without reaching previously ordered maximum doses, a need for further research into the opioid dosing behaviour of clinicians and a possible need to improve interprofessional collaboration and education is suggested.

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CAREGIVER RESILIENCE MATTERS A LOT FOR THE OUTCOME OF CAREGIVING TO TAIWANESE TERMINALLY ILL CANCER PATIENTS. Siew Tzuh Tang, RN, Chang-Gung University School of Nursing, Kwei-Shan, Tao-Yuan, Taiwan.

Caring for an individual at the end of life contributes to psychological distress, physical disease, and increased mortality. The extent of the experienced stress does not depend solely on the demands of the situation. Psychological resources account for a larger part of the variances in caregiver outcomes.

To investigate the unique contribution of personal resilience to the experience of depressive distress for family caregivers of Taiwanese terminally ill cancer patients.

Stress-process model and Antonovsky's concept of sense of coherence.

Cross-sectional survey. 194 caregivers were recruited by a convenience sampling strategy. Predisposing factors of depressive distress were categorized as: (a) caregiver characteristics; (b) demographics and disease-related variables of the patients; (c) objective caregiving loads; (d) subjective caregiving burden; (e) appraisal of the caregiving situation and confidence in caregiving; and (f) personal resources and personal resilience. Depressive distress was measured by the CES-D. Objective caregiving loads and subjective caregiving burden was measured by care tasks and levels of care and the Caregiver Reaction Assessment, respectively. Personal resilience of caregivers and confidence in caregiving was measured by the Sense of Coherence (SOC) Scale and the items developed by Teno et al (2001), respectively. Hierarchical multiple regression was conducted to determine contribution of each predisposing factor to experiencing depressive distress among caregivers following the aforementioned sequence.

The scores on the CES-D ranged from 3 to 55 with a mean and standard deviation of 24.16 (11.07). A total of 73.7% of variance was explained by the final regression model. Results indicated that, except for objective caregiving loads, the other five categories of predisposing factors all contributed significantly to the variance of experiencing depressive distress among caregivers. In the final step of regression, SOC of caregivers increases explained variation in depressive symptoms by 17.3%.

Conclusion: Taiwanese family caregivers of terminally ill cancer patients were at an extraordinarily high risk of experiencing depressive distress based on the high mean score of the CES-D. Development of interventions that enhance caregivers' SOC by assisting in promoting positive appraisal, finding meaning, and mobilizing resources to manage the caregiving situation is recommended.

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EXAMINING NURSES' PERCEPTIONS OF END-OF-LIFE CARE IN THE ICU SETTING THROUGH EVIDENCE-BASED PRACTICE INITIATIVES. Jean Boucher, RN, CS, PhD, AOCN®, and Jill Terrien, PhD(c), APRN-BC, University of Massachusetts Worcester Graduate School of Nursing, Worcester, MA.

Current evidence-based practice (EBP) literature illustrates the substantial gap in providing quality end-of-life care while studies on palliative care consultation, protocols, and ethics provide valuable assistance in the ICU setting. A paucity of research exists on what EOL practices are used by nurses in delivering palliative care to adult patients in the ICU setting. Providing care that is appropriate and of high quality to patients at the end-of-life is important to nurses and benefits patients and families.

The purpose of this research project provided the opportunity for nurse practitioner students to examine end-of-life evidence-based practices in the ICU setting with the specific aims to: 1) better understand ICU nurses' perceptions about palliative care; 2) assess factors which affect the nursing implementation of palliative and end of life care in the ICU, and, 3) evaluate the relationship between nurses' knowledge, attitudes and beliefs regarding EOL care and pain management.

A descriptive cross-sectional survey was conducted to describe the current practice of a convenience sample of nurses (n=300) with regards to End-of-Life (EOL) care in the adult medical and surgical intensive care units in 5 hospital settings including patients with cancer. Data was analyzed for descriptive statistics to summarize demographic characteristics with Pearson's r and ANOVA to compare respondent answer by categories.

Data analysis at the submission of this abstract demonstrated that nurses in the ICU setting are the first providers of care to discuss Advance Directives (AD's) (72%) with barriers to palliative care iden-

tified as beliefs of the patient and family (70%), lack of physician support (55%), inadequate pain control (53%), and a heavy patient assignment (52%). Overall nurses in this study felt that end-of-life care is disjointed for patients, families and healthcare providers, with particular acknowledgement of ineffective pain control, symptom management, and communication

The limitations of this EBP based study include the use of a convenience sample of nurse respondents with the need to look further at EOL care best practices with the inclusion of the interdisciplinary team members along with patient/family involvement. In conclusion, educational strategies and targeted methodologies need further examination to enhance EOL care processes in the ICU setting including symptom management and communication.

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TREATMENT-RELATED SYMPTOM CLUSTERS IN BREAST CANCER. Hee-Ju Kim, MSN, RN, University of Pennsylvania, Philadelphia, PA; Andrea Barsevick, DNSc, RN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA; and Loraine Tulman, DNSc, RN, FAAN, University of Pennsylvania School of Nursing, Philadelphia, PA.

Managing/assessing symptoms is a major priority of oncology nursing, and research on symptom clusters may yield helpful findings for developing more efficient symptom assessment/management strategies.

This study aimed to identify treatment-related symptom clusters in breast cancer patients and to examine the influence of selected demographic and clinical variables on symptom clusters.

The Theory of Unpleasant Symptoms provided the conceptual basis for this study. This theory describes the existence of symptom clusters and influencing variables on symptoms.

A secondary analysis of a sample of 282 breast cancer patients undergoing chemotherapy or radiotherapy was conducted. Factor analyses of common oncologic treatment related symptoms were done for selected time points of treatment. The influence of the selected demographic/clinical variables on symptom clusters was evaluated by generalizability tests for factor structure and for the relationships between symptoms in a cluster. Instruments included: the General Fatigue Scale (fatigue); the Profile of Mood States-Short Form (Depressive mood); the Pittsburgh Sleep Quality Inventory (insomnia); the Side Effect Checklist (16 other symptoms); and the ECOG performance status (baseline performance status).

Although specific symptoms within symptom clusters were not identical across the time points, symptoms had a tendency to cluster into two groups: a psycho-neurological cluster and an upper gastrointestinal cluster. The symptom clustering pattern (factor structure) was generally replicable across the treatment trajectory. The clustering pattern was also generally replicable in most subgroups formed by selected demographic/clinical variables across treatment time points, indicating that such variables did not significantly influence symptom clustering. However, after initiating cancer treatment (chemotherapy or radiation treatment), the clustering pattern in the full sample was not replicable in treatment modality subgroups (i.e., the radiation group). In terms of relationships between symptoms in a cluster, symptoms in each cluster had a statistical relationship with each other, and their relationships were generally maintained in various subgroups formed by clinical/demographic variables. Clinicians can utilize the concurrent tendency of symptoms in a cluster for assessing symptoms and educating patients. The need to further explore the common biological basis of symptoms and to examine the possibility of collective intervention for symptoms in a cluster is underscored by this study.

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THE USE OF RESPONSES TO A SINGLE ITEM VERSUS MULTIPLE ITEMS IN A CLUSTER ANALYSIS TO IDENTIFY SUBGROUPS OF PATIENTS WITH DIFFERENT SYMPTOM EXPERIENCES. Jung Eun Esther Kim, RN, MSN, University of California, San Francisco (UCSF) Medical Center; Christine Miaskowski, RN, PHD, FAAN, Marylin Dodd, RN, PhD, Katherine Lee, Claudia West, RN, MS, and Bruce Cooper, UCSF School of Nursing

Our previous work demonstrated that oncology outpatients could be characterized, using cluster analysis, into 4 distinct subgroups based on their experiences with 4 highly prevalent symptoms (i.e., pain, fatigue, sleep disturbances, depression). Importantly, patients who reported high levels of all 4 symptoms were significantly younger and had poorer outcomes than the other 3 groups.

This subgroup analysis was done using responses from multi-item questionnaires that determined the severity of the 4 symptoms. Because research on symptom clusters is still in its infancy, it is not clear whether similar patient subgroups would be formed if single item severity scores were used in the cluster analysis. Therefore, the purposes of this study were to: determine the optimal cluster solution if single versus multiple item questionnaires were used in the analyses; determine whether the patient subgroups were similar; and determine the percentage of patients who were categorized within the same patient subgroups.

Oncology outpatients (n=181) completed Lee Fatigue Scale, General Sleep Disturbance Scale, Center for Epidemiologic Studies – Depression Scale, and numeric rating scale for worst pain intensity. Single item intensity ratings for pain, fatigue, depression, and sleep disturbance were obtained from questions on the Multidimensional Quality of Life (QOL) Inventory. Hierarchical cluster analysis was used to identify the patient subgroups.

Both cluster analyses yielded a 4 cluster solution. Using the results from the single versus multiple item cluster analyses, 3 of the 4 patient subgroups were categorized in an identical fashion (i.e., high levels of all 4 symptoms; moderate levels of all 4 symptoms; low pain and fatigue and moderate levels of sleep disturbance and depression). Approximately 60% of the patients had the same subgroup membership using both methods. In addition, patients with high levels of all 4 symptoms were significantly younger and had poorer QOL and functional status scores that the other 3 subgroups. These data confirm that distinct subgroups of oncology patients with different symptom experiences can be identified using cluster analysis. More research is needed to determine why single versus multiple item symptom questionnaires do not yield identical results.

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ANALYSIS OF SYMPTOM CLUSTERS IN WOMEN WITH LUNG CANCER. Jean Brown, PhD, RN, FAAN, University at Buffalo School of Nursing, Buffalo, NY; Linda Sarna, DNSc, RN, FAAN, University of California, Los Angeles, Los Angeles, CA; Mary Cooley, PhD, CRNP, CS, Dana-Farber Cancer Institute, Boston, MA; and Cynthia Chernecky, PhD, RN, Medical College of Georgia, Augusta, GA.

The purpose of this presentation is to demonstrate the use of a unique statistical approach to describe symptom clusters in a multisite, prospective study of 196 women with nonsmall cell lung cancer who were > 6 months and < 5 years from diagnosis. Average age was 65.4 years (SD=11.4); average time since diagnosis was 24 months (SD=15.9). Most had adenocarcinoma and local or regional disease with surgical treatment.

The conceptual framework posited that demographic, clinical, health status, and meaning of illness factors are related to symptom experience. Data for this correlational study were collected in Alabama, California, Georgia, Massachusetts, and New York by personal interview. Two reliable and valid measures were used to assess symptoms: the Lung Cancer Symptom Scale measured occurrence and severity during the past day, and the Symptom Query Questionnaire measured symptoms during the past 4 weeks. Analysis of symptom clusters began by creating a symptom cluster variable in which symptoms were uniquely coded.

Cancer-related symptom clusters and their management are featured in the ONS Research Priorities and related to patient outcomes. Yet most researchers examined individual symptoms rather than symptom clusters, and most studies of symptom clusters were limited by secondary analyses of symptoms selected for primary studies and were analyzed using correlational techniques.

Most previously used analytical methods described clusters based on relationships of severity of symptoms. In contrast, this analytical approach is an intuitively elegant method of describing the occurrence and severity of symptom clusters.

Then frequency analysis of the new symptom cluster variable determined the occurrence of all clusters of co-occurring symptoms, and predominant clusters were identified. Boxplots were used to describe the severity of symptoms within clusters. 97.5% of the women experienced three or more symptoms in the past day. All but three of these women had symptom clusters including fatigue. The most commonly experienced symptom cluster (64%) during the past day included fatigue, shortness of breath, cough, pain, and anorexia with fatigue and shortness of breath being most severe. Although no predominant symptom cluster was identified for the past 4 weeks, 50% of the participants experienced three or more symptoms.

Funding Sources: ONS Foundation

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IN SEARCH OF SYMPTOM CLUSTERS RELATED TO PROSTATE CANCER TREATMENT: EXPLORATION OF THREE DATABASES. Sally Maliski, PhD, RN, University of California, Los Angeles (UCLA), School of Nursing, Los Angeles, CA; Lorna Kwan, MPH, UCLA Jonsson Comprehensive Cancer Center, Los Angeles, CA; David Elashoff, PhD, UCLA School of Nursing, Los Angeles, CA; and Mark S. Litwin, MD, MPH, UCLA Schools of Medicine and Public Health/Health Services, Department of Urology, Los Angeles, CA.

Treatments for prostate cancer all have significant side effects. Knowing if these symptoms cluster will provide guidance for symptom management related to prostate cancer treatment. There has been little exploration of prostate cancer treatment-related symptom clusters. Miaskowski (2004) acknowledged that cancer symptoms rarely occur singly. Therefore, the purpose of this study is to identify and describe prostate cancer treatment-related symptoms clusters.

Miaskowski (2004) defined symptom clusters as 3 or more concurrent, related symptoms. They do not necessarily share the same etiology. Dodd (2004) noted that the concept of symptom clusters is in the exploration phase. Our results will contribute to this exploration within the context of prostate cancer treatment.

We conducted a secondary analysis of data from 3 prostate cancer quality of life studies using responses to the UCLA Prostate Cancer Index (PCI), SF-12, and clinical and sociodemographic questions. The PCI measures urinary, sexual, and bowel function and bother. The SF-12 measures of general health-related quality of life. Each database was analyzed separately. Sample sizes varied (144, 149, 247) and sociodemographics were different in each database. Responses were 6-8 months after treatment that included surgery, external beam radiation therapy (XRT), and brachytherapy. We used correlational analysis, factor analysis, and frequency analysis. We controlled for clinical and sociodemographic variables. A symptom was a poor score (low 25% of its database) on PCI and SF-12 subscales. We identified cluster composition and frequency of clusters in each database.

Overall, 27% reported 3 or more symptoms. However, correlated symptoms were not consistent. Factor analysis revealed that sexual, urinary, and bowel dysfunction formed a factor in all treatment groups, but for those having XRT, pain entered that factor. Poor energy, mental health, and pain formed a second factor for men. While these analyses did not reveal consistent clusters, these measures did not capture the range of symptoms that men may experience in clusters. Studies using patients' perceptions of symptom clusters are warranted to identify the composition, and priority of symptom clusters to guide intervention development. Studies to predict those at highest risk for clustering of symptoms are needed to intervene with the most vulnerable.

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IMPACT OF EXERCISE ON BIOMARKERS, FATIGUE, SLEEP DISTURBANCES, AND DEPRESSIVE SYMPTOMS IN OLDER WOMEN WITH BREAST CANCER. Judith K. Payne, PhD, RN, AOCN®, Josh Thorpe, PhD, and Joanne Held, BSN, Duke University School of Nursing, Durham, NC; and Heather Shaw, MD, Duke University Medical Center, Durham, NC.

The risk for breast cancer increases significantly with age, and is a major health concern in the United States. Minimal research exists on effective interventions to mitigate symptoms, such as fatigue, sleep disturbances, and depressive symptoms, experienced by older women receiving hormonal therapy, or to select biomarkers that may associate with these distressing symptoms.

Purposes of this feasibility study were 1) to examine the impact of an exercise intervention on the biomarkers cortisol, serotonin, bilirubin, and on fatigue, sleep disturbances, and depressive symptoms in older women with breast cancer receiving hormonal therapy, and 2) to determine the effectiveness of a walking exercise intervention in improving these symptoms.

A biobehavioral conceptual model including neuroendocrine components of the hypothalamic-pituitary-adrenal axis was used to guide the study.

Longitudinal repeated methods, randomized study. Twenty older women with breast cancer receiving hormonal therapy were recruited from a large southeastern cancer center and randomized to an intervention group (n = 10) or usual care (n = 10). The intervention was a 20-minute walking exercise, 4 times weekly during a 3-month period. Piper's Fatigue Scale, Pittsburgh Sleep Quality Index, Center for Epidemiological Studies of Depression Scale were completed at 4 measurement points (T1-T4); cortisol, serotonin, and bilirubin samples at T1, T3; sleep actigraphy watches were worn at T1, T3 for 72 continuous hours. Measures were collected on both groups. Analysis: descriptive statistics, t-test, repeated measures ANOVA.

Older women with breast cancer receiving hormonal therapy experienced fatigue, sleep disturbances, and depressive symptoms at levels similar to those experienced by younger women receiving chemotherapy. The exercise intervention was effective in reducing sleep disturbances ($p = 0.01$). A significant change was noted in the biomarker levels: serotonin ($p = 0.009$), bilirubin ($p = 0.09$), and a downward trend in cortisol levels ($p = 0.19$). Subjects expressed interest and satisfaction regarding the exercise intervention. Clinicians need to assess for these symptoms at baseline and follow-up visits. Data show promise for designing and conducting larger interven-

tion studies to mitigate symptoms experienced by older patients with cancer, and for contributing potential explanatory mechanisms linking this cluster of symptoms.

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A REPRESENTATIONAL INTERVENTION FOR SYMPTOM MANAGEMENT IN OLDER BREAST CANCER SURVIVORS: PRELIMINARY FINDINGS. Susan Heidrich, PhD, RN, School of Nursing, Judith Egan, RN, MS, Roger Brown, PhD, Sandra Ward, PhD, RN, FAAN, and Lynn Vanummersen, MD, University of Wisconsin–Madison, Madison, WI.

Multiple symptoms, whether due to cancer, its treatment, other chronic conditions, or age-related changes in physical functioning, are prevalent in older women with breast cancer. Understanding and managing this complex symptom picture may require a different approach than found with single symptom interventions. We are testing a theory–based individualized, intervention that directly addresses the multiple symptom experience of older breast cancer survivors.

The primary aim of this study was to test the feasibility and short-term effects of an Individualized Representational Intervention for Symptom management (IRIS) on symptom distress, barriers to symptom management, and self-care strategies in older (>64 years) breast cancer survivors.

The intervention is theoretically based in Donovan and Ward's representational approach to patient education. IRIS is a counseling interview in which symptom representations for the woman's target symptoms are assessed, barriers elicited and addressed, and individualized symptom management strategies and goals developed.

Women (N = 21, mean age = 70, range = 65 - 82) were recruited from an oncology clinic and the community. Women were an average of 2.7 years post-diagnosis and reported an average of 5.2 comorbid conditions and 16 symptoms (range = 6 – 30). Women were randomized to the intervention (IRIS) or a wait-list control group and assessed at baseline, 2, 4, 6, 8 and 16 weeks. Target symptom distress was measured using an adaptation of the Brief Pain Inventory. Barriers to symptom management and self care strategies were assessed with measures developed and tested in two previous studies showing acceptable reliability and validity.

Difficulties communicating with health care providers were identified as a common barrier. Women in the intervention group, compared to controls, reported significantly more improvement at 8 and 16 weeks in some measures of target symptom distress, initiated significantly more symptom management strategies, and more often reported these strategies as effective

Individualized representational interventions show promise in improving self care of symptoms in older breast cancer survivors. A large, randomized controlled trial is underway to test the efficacy and durability of the intervention. If efficacious, the intervention should be tested in other cancer survivors and could be adapted for practice.

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FUNCTIONAL DEPENDENCY OF OLDER WOMEN AFTER BREAST CANCER SURGERY. Amy Laufer Kenefick, PhD, RN, APRN, University of Connecticut, Storrs, CT.

Understanding the functional status of elderly women following initial surgical treatment of breast cancer is necessary in order to plan interventions that are appropriate, acceptable, and effective in promoting their quality of life.

Describe functional dependency over time of women who were over 60 years old and receiving surgical treatment for breast cancer.

Breast cancer and its treatment challenge the human adaptive system (Roy).

Longitudinal over six months. Fifty-seven subjects, average age 68.

Instrument: The Enforced Social Dependency Scale has established reliability and validity measuring 11 specific dependencies. Data were collected at hospital discharge and at 3 and 6 months later. Patient related and clinical data were summarized with descriptive statistics. Analysis of variance was used to compare dependency scores between groups defined by demographic or clinical characteristics. Repeated measures analysis examined dependency over time. Correlation coefficients identified relationships between dependencies.

Traveling, Dressing, and Bathing were the most severe dependencies on discharge from the hospital. Relative severity of dependency due to Work Activities, Activities in the Home, and Recreational & Social Activities increased markedly by 3 months. Dressing remained the first or second most severe dependency at all three measurement points. Homemakers reported greater dependency at three months than did others. Dependency at 6 months could be predicted by total dependency at 3 months. Functional dependency diminished during the six months after hospital discharge.

Initially, severe dependencies are within the physiological/physical mode. By three months, however, 87% of the variability in dependency can be explained by dressing and the ability to participate in activities related to work, socialization, and care of the home suggesting difficulty with the role function mode of adaptation.

Implications for practice: Nursing interventions should address both the physiological/physical and the role function modes. Nursing strategies change over time as the patient's needs evolve.

Implications for research: Explore the nature of dependency after breast cancer surgery; explore the meaning of persistent dependency related to dressing; identify persons at risk for severe or prolonged dependency; test effectiveness of theory driven interventions to diminish dependency and enhance quality of life.

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AGING AND BREAST CANCER METASTASIS IN A RAT MODEL. Carrie Merkle, PhD, RN, FAAN, Amy Vidrine, BS, and Donna Velasquez, PhD, RN, University of Arizona College of Nursing, Tucson, AZ; and David Montgomery, PhD, Southern Arizona VA Healthcare System, Tucson, AZ.

Since metastasis causes death in those with breast cancer, the factors that contribute to metastasis warrant better elucidation. We find that vascular endothelial cells aged in-vitro facilitate passage of breast cancer cells through neighboring endothelial cells. Since cancer cell transmigration of endothelial cells is important in metastasis, the purpose of this study is to determine if our in-vitro observations are applicable to aging in-vivo. The aims are to determine if 1. Breast cancer cells cause larger gaps between adjacent endothelial cells harvested from old rats compared to young rats, 2. More breast cancer cells transmigrate endothelial cells harvested from old rats compared to young rats, and 3. Older rats have larger and more numerous lung metastases, than young rats, after tail vein injection of cancer cells.

The conceptual framework of this study holds that aged endothelial cells are more susceptible to cancer-induced injury. Injury causes gaps between adjacent endothelial cells and facilitates metastasis.

First, microvascular endothelial cells are isolated from the lungs of 3 month and 24 month old rats. Endothelial cells are plated on chamber slides and porous filters of transwell chambers, then fluorescently-labeled rat breast cancer cells are added. Samples on slides are fixed for microscopy 24 and 48 hours later. Images are captured digitally for computer-assisted gap measurement. Fluorescence levels are measured in transwell chambers by a plate reader. Second, fluorescently-labeled breast cancer cells are injected into tail veins of young and old rats. The size and number of lung metastases determined two weeks later. Data are analyzed by t-tests or 2-way ANOVAs, as appropriate.

Breast cancer cell addition to endothelial cells from the rats causes gaps; however, addition to cells from young rats causes TRANSIENT gaps that close by 48 hours. Addition of cancer cells to old rat endothelial cells causes large PERSISTENT gaps. Furthermore, more breast cells cross endothelial cells from old rats, compared to young. Finally, old rats have larger metastases, though there is no difference in tumor number. These results support that vascular aging facilitates metastasis. Since interventions such as blood pressure control reduce vascular aging, measures that protect from cardiovascular disease may reduce metastasis.

Funding Sources: Department of Defense Breast Cancer Grant DAMD-17-02-1-0273

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PARENT EXPERIENCES WITH MULTISITE WEB-BASED DATA COLLECTION. Katherine Kelly, RN, MN, CPON, PhD(c), Children's National Medical Center, Washington, DC; Kimberly Pyke-Grimm, MN, RN, Children's Hospital of San Diego, San Diego, CA; Janet Stewart, PhD, RN, University of Pittsburgh School of Nursing, Pittsburgh, PA; and Jane Meza, PhD, University of Nebraska Medical Center, Omaha, NE.

Web-based data collection approaches could facilitate multi-site studies needed to obtain robust samples in childhood cancer treatment decision making (TDM) research. As part of a program of research into parental TDM in pediatric oncology, the purpose of this study was to determine the feasibility and acceptability of using a web-based data collection strategy in multiple clinical sites.

The conceptual model informing the choice of instruments used in this study (Stewart, Pyke-Grimm & Kelly, 2006) is derived from four theoretical perspectives: control preferences, decisional conflict, guarded alliance and interactive synchrony.

Seven instruments related to TDM were translated into a web-compatible format and deployed on a secure internet portal. Parents completed the web survey and two of the same instruments in paper format at three geographically diverse sites. Post-survey parent interviews focused on computer experience and survey preferences. We also surveyed Children's Oncology Group (COG) institutions regarding computer access in the clinical setting. We calculated descriptive statistics for each instrument, survey method and post-survey responses. Bland and Altman plots, Wilcoxon signed-ranks test, and weighted kappa coefficients were used to compare the survey formats.

Twenty parents (15 mothers, 5 fathers) with a broad range of educational and computer experience completed data collection. On average parents required 5.65 (1-10) minutes orientation and 28.8 minutes (15-45) to complete the survey. Eighty-five percent of parents preferred the web-based survey. Parents commented on how convenient, easy and quick the computer survey was compared to pen and paper. Negative comments regarding the computer ("the little buttons hurt my wrist") and the survey itself (repetitive questions on one instrument) were also provided. Bland & Altman plots demonstrated no evidence of systematic bias between survey methods, however mean difference (0.95) in the Severity of Illness Scale summary scores was significantly different from zero (p=0.03). Weighted kappa values were > 0.63 suggesting good to very good agreement between survey methods. COG institutions reported better computer availability in the inpatient (71%) versus outpatient (47%) setting. Given parents' preferences and strong psychometric properties for the translated instruments, we plan to use web-based data collection in future multi-site studies of parental TDM.

Funding Sources: ONS Foundation/Aventis Oncology Nursing Research Grant

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GENDER DIFFERENCES IN CANCER PATIENTS' INTERNET USE: TRANSLATING RESEARCH INTO PRACTICE. Suzanne Dickerson, RN, DNS, and Marcia Boehmke, DNS, University at Buffalo, Buffalo, NY.

While many cancer-related web sites are available, little research has been done to understand the practical knowledge of cancer patients' Internet use and the related gender differences. Practical knowledge reflects the everyday skills used to manage their concerns. Additional research into Internet use for cancer patients will offer insight into the specific needs during an illness as well as the gender-specific communication style and preferred content.

The purpose of this study was to gain an understanding of the similarities and differences of male and female cancer patients' experiences of Internet use through phenomenological interpretation of their narrative stories. Heideggarian hermeneutics was the interpretive approach used to gain an understanding of the practical knowledge of Internet use of the cancer patients

Narrative stories of 20 female and 15 male cancer patients provided the data for analysis. Participants were recruited by oncology nurses and were individually interviewed and asked to tell stories of Internet use. The seven stage hermeneutical process was used for interpreting the narratives, which involved identifying related themes and patterns and comparing gender differences

While both genders used the Internet for seeking information about the disease, treatments and symptom management, the approach to information gathering differed. Men focused on solving problems while women focused on learning ways to live with cancer as a chronic illness instead of death sentence. Men tackled their problem by planning information searches and accessing their networks for advice, while women relied on their computer savvy support networks to help filter the information. Subsequent changes in patient/provider partnerships differed whereby men focused on the politics and women focused on support. Both read online patient stories; however, women primarily used online peer support for encouragement and friendship, whereas men read online stories to determine possible solutions to problems. Gender differences reflect subtle differences in focus and the variety of approaches to seeking information and communication style that informs oncology nurses of the importance of considering these differences when preparing educational materials and recommending websites.

Funding Sources: Oncology Nursing Society and University at Buffalo, School of Nursing Research development fund

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FACULTY SHORTAGE/NURSE SCIENTIST SHORTAGE: AN APPROACH TO PREPARING THE NEXT GENERATION OF CANCER NURSE RESEARCHERS. Kathleen Mooney, RN, PhD, AOCN®, FAAN, Susan Beck, PhD, APRN, AOCN®, FAAN, Christina Echeverria, MA, William Dudley, PhD, Lee Ellington, PhD, Marjorie Pett, MStat, DSW, and Erin Rothwell, PhD, TRS, CTRS, CRSS, University of Utah College of Nursing, Salt Lake City, UT.

The purpose of this presentation is to describe an innovative PhD program in nursing with a specific focus in cancer prevention and control. This program addresses both the need to prepare increased numbers of nurse scientists in an efficient time frame as well as attract nurses to research specialization in cancer.

In order to address barriers to doctoral study, the program is offered through distance technology using live interactive internet-based videoconferencing to individual students. In addition a variety of other technologies (course management and web-casting systems) and learning strategies are used to enhance the program.

The curriculum is identical to the traditional nursing PhD with the exception of the customization of courses to cancer exemplars and the use of technology for distance delivery. In designing the program, faculty carefully considered issues of socialization, research practicum experiences, student advisement and mentoring, and developed creative strategies to provide effective experiences.

There is much discussion about the nursing shortage and more recently the recognition that a parallel faculty shortage prevents schools from admitting sufficient numbers of students to adequately address this issue. There has been little discussion about the impact of these shortages on development of nursing science. Nor has there been recognition that efforts to produce new nurses quickly combined with added teaching workload may change both curriculum and faculty focus on specializations in cancer.

Integrating cancer specialization into nursing Ph.D. programs and offering them through distance technology provides an exciting new strategy to better match faculty expertise to student interests and overcome student barriers to doctoral study. This program offers a new approach to preparing the next generation of cancer nurse scientists.

Twenty students in two cohorts are currently progressing in the program. A third cohort is in the selection process. Evaluations demonstrate that distance students report significantly higher course and faculty evaluations compared with identical on-campus courses and also report satisfaction with the distance classroom environment, interaction with the faculty and the distance program overall. In addition, distance students have significantly more scholarship/NRSA awards, national presentations and publications during their program than students in the on-campus program.

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DEVELOPING A PRIVATE INTERNET MESSAGE BOARD SYSTEM FOR A SYMPTOM MANAGEMENT RESEARCH STUDY. Heidi Donovan, PhD, RN, Nate Homitsky, Rick Engberg, and Judy Knapp, PhD, MSW, University of Pittsburgh School of Nursing, Pittsburgh, PA; Sam Donovan, PhD, University of Pittsburgh, Pittsburgh, PA; and Margaret Fields, RN, MSN, ACNP, University of Pittsburgh School of Nursing, Pittsburgh, PA.

The purpose of this presentation is to describe the development of a private Internet message board system to deliver a theory-guided educational intervention to improve symptom management for women with recurrent ovarian cancer. To our knowledge, there have not been previous attempts to deliver complex psychoeducational interventions via Private Internet Message Board systems. Multiple issues arise in designing and implementing such a system, such as balancing complex, innovative functionality with a simple interface for novice Internet users, negotiating priorities of a research team with those of information technology consultants, and legal issues associated with providing nursing interventions via the internet.

Many individuals with cancer experience multiple, co-occurring symptoms that drastically impair functioning and quality of life. The process of trying to manage multiple symptoms can be overwhelming to patients. The Representational Approach to Patent Education, an innovative approach based on the Common- Sense Model of Illness Representations has recently been developed that should facilitate the process of managing multiple symptoms. To date, this approach has been used with success in face-to-face interventions. Currently, an NIH funded study is underway to conduct preliminary evaluations (feasibility, acceptability, and initial efficacy) of delivering a representational intervention via private Internet message boards.

Experiences of this multi-disciplinary team in designing a message board system for symptom management research study can inform other teams as more researchers being to use the internet to enhance their research studies.

Multiple, novel issues were faced in designing and implementing this complex study. These issues are likely to be faced by others delivering Internet-based studies.

Funding Sources: National Institute of Nursing Research

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IS THERE A RELATIONSHIP BETWEEN HEMOGLOBIN, FATIGUE, AND SEXUAL DYSFUNCTION? Cathy Fortenbaugh, RN, MSN, AOCN®, Pennsylvania Oncology Hematology Associates, Philadelphia, PA; and Melissa Scalia, RN, MSN, ONP, AOCNP, Wilshire Oncology Medical Group, Rancho Cucamonga, CA.

Oncology nurses are integral to patient assessment. Patient self-assessment tools can assist in this process. Accurate assessment of fatigue, hemaglobin, and sexuality is the first step in developing education and treatment plans that can positively impact a patient's quality of life for those patients who are symptomatic in these areas.

We assessed fatigue, anemia, and sexual dysfunction experienced by our patients, and their possible relationship, to help develop tools for educating our patients, and managing those symptoms.

In the AIM Higher Initiative, cancer patients are asked to report chemotherapy-related symptoms including fatigue and sexual dysfunction utilizing the Patient Care Monitor (PCM) that grades the severity of each on a 1-10 scale (0-3 = mild, 4-6 = moderate, 7-10 = severe.) We performed a retrospective chart review of 50 breast cancer patients receiving cancer treatment, participating in the AIM Higher Initiative who reported high levels of sexual dysfunction. We examined the relationship between hemoglobin, fatigue, and sexual dysfunction. We developed tools for our practices to help address these issues.

Literature review indicates that sexual dysfunction is an underreported and under-treated side effect of cancer and/or its treatment. Also, while fatigue is a component of sexual dysfunction it is not always attributable to anemia. In the chart review, the patients (30-90 years old) had mean hemaglobin of 12.5 g/dl (range=10.5-17). Treatment consisted of chemotherapy (20%) and /or hormonal therapy (50%). Patients' mean PCM scores corresponded to severe sexual dysfunction 7.7 (range = 4-10) and moderate fatigue 4.3 (range = 0-5), even though patients had mild or no anemia, suggesting that these symptoms are not caused by anemia. We developed standardized tools and identified interventions to help oncology nurses help their patients.

While sexual dysfunction and fatigue did not correspond with anemia in this small group of patients, we found that the tools developed helped us to provide better care for our patients by educating them and identifying from their perspective when intervention was needed. Our findings indicate further investigation on sexual dysfunction in cancer patients is warranted, especially since this symptom may contribute significantly to a patient's quality of life while dealing with cancer.

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TRAJECTORIES OF FATIGUE IN MEN WITH PROSTATE CANCER DURING AND AFTER RADIATION THERAPY (RT). Christine Miaskowski, RN, PhD, FAAN, Katherine Lee, RN, PhD, Marylin Dodd, RN, PhD, Claudia West, RN, MS, Steven Paul, PhD, and William Wara, MD, University of California, San Francisco, San Francisco, CA.

Recently, Bower noted that "although research on cancer-related fatigue has become increasingly more sophisticated, few longitudinal studies have been conducted that assess patients before and after cancer treatment" and called for longitudinal studies that identify the different trajectories of fatigue.

The purposes of this study, in a sample of patients who underwent RT for prostate cancer, were to examine how ratings of fatigue changed from the time of simulation to four months after the completion of RT and to investigate whether specific patient, disease, and symptom characteristics predicted the initial levels of fatigue and/or the trajectories of fatigue.

The UCSF Symptom Management Model served as the theoretical framework for this study and guided the selection of predictor variables that were tested in the hierarchical linear modeling (HLM).

Eighty-two men who received primary or adjuvant RT completed a demographic questionnaire, the Lee Fatigue Scale prior to going to bed for a total of 17 assessments over 6 months, and the General Sleep Disturbance Scale. Patients were White (76.8%), married/partnered (69.5%) with a mean age of 67.1 years and over 75% received whole pelvis RT with a conformal boost.

The first HLM analysis examined how fatigue changed over time and determined that the trajectory was quadratic. At the time of the simulation visit, the estimated amount of fatigue was 3.62 (0 to 10 scale). The next HLM analysis tested the hypothesis that the pattern of change over time in fatigue varied based on pre-specified predictor variables. While no variables predicted the slope, two variables were identified that were predictors of the intercept (i.e., individuals varied in their fatigue levels at the beginning of RT), namely age and amount of sleep disturbance. Men who were younger and who had higher levels of sleep disturbance at the beginning of RT had significantly higher levels of fatigue at the initiation of RT and throughout the course of RT. The use of HLM is an important analytic tool to identify patients with different fatigue trajectories. This type of analysis may lead to the identification of different subgroups of patients who require different types of fatigue interventions.

Funding Sources: This study was funded by a grant from the National Institute of Nursing Research NR04835

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FATIGUE DURING AND FOLLOWING CANCER AND ITS TREATMENT: A QUALITATIVE METASYNTHESIS. Sandra Mitchell, CRNP, MSCN, AOCN®, National Institutes of Health, Bethesda, MD; Susan L. Beck, ARNP, PhD, FAAN, University of Utah College of Nursing, Salt Lake City, UT; and Jeanne M. Erickson, RN, PhD(c), AOCN®, University of Virginia School of Nursing, Charlottesville, VA.

Cancer-related fatigue contributes to negative outcomes relative to psychosocial and symptom distress, functional status and quality of life. Although systematic reviews of quantitative fatigue research have been published, no synthesis of the qualitative evidence is available to help clinicians understand and intervene in patients' fatigue experience. This paper presents a metasynthesis of qualitative studies concerning cancer-related fatigue. Qualitative metasynthesis is an interpretive research method that aims to produce a novel yet experientially faithful integration of a body of qualitative studies. Qualitative metasynthesis offers new insights for evidence-based practice, contributes to theory development, and yields fresh perspectives for the design and testing of tailored interventions.

This synthesis of qualitative research offers clinicians valuable insight into patients' experience of cancer-related fatigue and can be applied in planning interventions to interrupt the downward spiral of fatigue, inactivity, deconditioning, boredom, and low mood that intensify fatigue and amplify its functional consequences.

Although much of the qualitative research on fatigue is international, the perspectives remain Euro-centric. There is a need for qualitative studies of fatigue in culturally and ethnically diverse samples, comparative studies to examine gender differences, and studies that explore the impact of fatigue on families. Studies are also needed to evaluate how patients make decisions about self-management of fatigue, and longitudinal designs to examine qualitatively how fatigue changes across time and the presence of response shift.

Qualitative metasynthesis broadens the generalizability of small sample qualitative designs, and this presentation illustrates how the method could be applied to other areas of qualitative study. The findings confirm and extend both the Common Sense Model and Winningham's Psychobiological-Entropy Model of Functioning and identify gaps in current theories e.g. including the individual within a social context.

The authors conducted systematic data base searches and identified 27 published articles reporting on 25 distinct qualitative studies of fatigue in adults, adolescents and children. The studies included 1430 cancer patients, although most (n=22 studies) sample sizes were small (less than 35 participants) and determined by data saturation. Each study was examined for its aims, design, sample characteristics, embedded fatigue assumptions, data analysis approach, conclusions and rigor. Criteria for critically evaluating qualitative studies (credibility, transferability, dependability, confirmability and authenticity), as proposed by Lincoln and Guba, were adopted for this analysis. The authors examined the metaphors, themes and commonalities that emerged across studies to better understand how patients experience and respond to fatigue throughout the illness trajectory.

The results suggest that fatigued patients have difficulty describing this symptom, although they emphasize that its often intense and unpredictable nature is different from the fatigue experienced prior to the cancer diagnosis. Fatigue after cancer and its treatment has embedded meanings for patients, reminding them of changes in roles, self image, and social functioning, attenuating their 'fighting spirit', and underscoring both the frailty of the body and their mortality. Suffering is clearly evident in patient metaphors. Data suggest that inertia is a component of the fatigue experience, making self-management complicated. Although recommended measures for fatigue can be helpful, patients found them to be of limited effectiveness when fatigue persisted beyond the anticipated duration or was refractory to self-management measures.

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SLEEP, FATIGUE, AND DEXAMETHASONE IN CHILDREN AND ADOLESCENTS WITH ACUTE LYMPHOCYTIC LEUKEMIA (ALL). Pam Hinds, PhD, RN, CS, St. Jude Children's Research Hospital, Memphis, TN; Marilyn Hockenberry, PhD, PNP, FAAN, Texas Children's Cancer Center, Houston, TX; Deo Kumar Srivastava, PhD, Jami Gattuso, MSN, St. Jude Children's Research Hospital, Memphis, TN; Heather Jones, MSN, Toronto Sick Children's Hospital, Toronto, Canada; Nancy West, BSN, and Xin Tong, MS, St. Jude Children's Research Hospital, Memphis, TN.

The significant curative contributions of dexamethasone in the treatment of children and adolescents with ALL have not occurred without adverse events including altered sleep and fatigue patterns. Changes in these patterns may be the first observable indicators of sensitivity to the drug or its dosing. The purpose of this study is to assess the relationship between patients' sleep and fatigue to exposure to dexamethasone by comparing patient sleep and fatigue in two consecutive 5-day periods off and on dexamethasone.

The Human Response Model guided this work.

100 patients from ages 5 to 18 years who were receiving treatment at three cancer centers for ALL participated in this 10-day naturalistic, experimental design. Of these, 62 were male, 79 were White, 14 were Black, and 63 had standard risk disease.

Patients wore an actigraph during the 10-day study period (5 days before and 5 days during their pulse). On Days 2 and 5 of each study period, patients 7 years and older completed the 14-item fatigue scale for their age group.

Sleep efficiency scores did not differ between the two 5-day periods (p=0.51) nor did wake up episodes (p=0.09) but the average sleep duration differed significantly (p=0.0003) with duration increasing during the pulse period. Fatigue scores reported by 7- to 12- year olds differed significantly from Day 2 of the first period to Day 2 of the second period (n=52,t=3.41, p=0.0013) and from Day 5 of the first period to Day 5 of the second period (n=53, t=5.56, p=0.0001). Fatigue scores reported by 13- to 18- year olds differed significantly between Day 5 of the first period and Day 5 of the second period (n=14, t=2.42, p=0.031).

Children and adolescents are significantly more tired and sleeping longer during the pulse, indicating that the steroid contributes to their increased fatigue and sleep time. Sleep efficiency and wake up times do not directly influence fatigue or sleep duration, suggesting that sleep duration is secondary to the fatigue and not sleep efficiency. Fatigue, rather than sleep efficiency, needs to be the focus of symptom intervention during dexamethasone pulses.

Funding Sources: National Institute of Nursing Research

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PUTTING EVIDENCE INTO PRACTICE: A STAFF NURSE PERSPECTIVE ON AN ONS NATIONAL RESEARCH TEAM. Colleen O'Leary, RN, BSN, OCN®, Northwestern Memorial Hospital, Chicago, IL.

Nurses have heard about evidence-based practice. I knew its importance but did not fully understand the implications. Oncology nurses deliver care in competent and compassionate ways, but often their practice is based on physician/ institution preference or perhaps how they have always practiced. Best practice compels more.

Nurses may not know how to find the evidence for practice or have resources available to do so. In December of 2004, an Advanced Practice Nurse (APN) with whom I work approached me about the ONS Nursing Interventions Outcomes Project Team. Working with teams made of a nurse researcher and APN/staff nurse dyads, ONS set out to develop a set of tools for nurses that would highlight evidence based practices. I knew how important this could be to so many nurses. I agreed to participate and we became part of the Prevention of Infection team.

I learned how to do a comprehensive literature review. Using the PRISM Levels of Evidence model, we determined the level of evidence. The information was summarized into literature and meta-analysis tables. The interventions were categorized from Recommended for Practice to Not Recommended. The work was compiled and Putting Evidence into Practice (PEP) information cards for staff nurses were developed. The tables of evidence, along with the previously published evidence based summaries were placed online.

The cards were highlighted at Oncology Nursing Society Institutes of Learning in order to get feedback, and appropriate changes were made. The final product was made available at Congress 2006. Further evaluation will be determined by the project team.

Clinical care based on tradition is disappearing. Clinical decisions solely in the hands of the physician are gone. Nurses have another tool that empowers them to provide the best practice based on evidence. I have been able to use what I have learned in my job and graduate work. I have changed my practice and encouraged others to change their's based on evidence. I hope to be able to use this experience to mentor other nurses to get involved in ONS, in research and to risk moving beyond what they think they can do towards what they dream they might do.

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ONS NEUTROPENIA MANAGEMENT STATE OF THE KNOWLEDGE. Anita Nirenberg, RN, DNSc(c), MS, AOCNP, Columbia University, New York, NY; Arlene Davis, RN, MSN, AOCN®, Malcom Randall VA Medical Center, Gainesville, FL; Christopher Friese, RN, PhD, AOCN®, Dana-Farber Cancer Institute/Harvard School of Public Health, Boston, MA; Theresa Gillespie, PhD, BA, BSN, MA, RN, Emory University/Atlanta VA Medical Center, Decatur, GA; Annette Parry Bush, RN, BSN, MBA, OCN®, Oncology Nursing Society, Pittsburgh, PA; and David Rice, RN, NP-C, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Neutropenia is a significant complication of chemotherapy which leads to morbidity and mortality, dose reductions and treatment delays. While much is known about the management of neutropenia, much remains unknown and many practices are not evidence-based. Neutropenia, a nursing sensitive patient outcome-designated symptom, is relevant to oncology nursing practice. Nurses contribute to assessment, patient education, symptom reporting, data collection/ monitoring and the prevention neutropenic complications.

The ONS Neutropenia Special Interest Group requested direction in neutropenia management. In response, ONS formed a working group to develop the "State of the Knowledge on Neutropenia" (SOK-N). The project team identified experts to address prevention and management in both inpatient and community settings, clinical outcomes, risk management, infection and infection control, translational research, nursing education, research and health policy.

Neutropenia literature, guidelines, meta-analyses, funded NIH and ONS studies were reviewed. The panel of experts participated in a symposium to present his/her respective areas of expertise. These presentations were recorded and transcribed in order to facilitate the preparation of a manuscript and workshops.

The SOK-N symposium will result in a white paper to be published in the Oncology Nursing Forum and 10 regional workshops at local ONS chapters nationwide. The workshops will use lecture and audience participation formats and development of performance improvement projects for nurses to implement in their own practices.

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Nurses play a critical role in the management of patients receiving combination chemotherapy. Assessment of risk factors prior to treatment and at each subsequent cycle, teaching patients signs and

symptoms to monitor and report, documentation of patient care and outcomes all impact the quality of care patients receive. Maintaining relative chemotherapy dose intensity that may affect treatment outcomes, morbidity and mortality from treatment, patient and caregiver quality of life, and healthcare costs are within the nursing domain. This presentation will provide specific examples of risk assessment and patient monitoring tools which can be applied to oncology nursing practice to improve neutropenia management. Nursing research in the area of neutropenia assessment and management and future nursing research development will be addressed.

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Funding Sources: David Rice is supported by a Doctoral Scholarship in Cancer Nursing from the American Cancer Society (DSCN-04-228-01)

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AN EVIDENCE-BASED POLICY TO GUIDE NURSES IN USING A POWER INJECTOR TO INSTILL CONTRAST MEDIA. Marsha Fonteyn, RN, PhD, Karen Polinski, RN, BSN, MEd, Kathleen Lynch, RN, BSN, MSN, Christin McKenna, RN, BSN, Dan Gorman, RN, MSN, OCN®, CRNI, and Suzelle Saint-Eloi, RN, MS, Dana-Farber Cancer Institute, Boston, MA.

Presentation will describe how a variety of evidence was used to support and guide the development of a new nursing policy for RN administration of intravenous contrast via central lines using a power injector for CT scans.

RNs in imaging services were asked to assume the responsibility of injecting IV contrast via central lines using a power injector (a procedure that had previously been performed by radiologists). The RNs collected various types of evidence to support and guide them in developing a policy detailing the steps in this procedure that would minimize risks and maximize patient outcome.

The policy that was developed to guide nurses in carrying out this new procedure was supported by a variety of types of evidence (including internal and external benchmarking, findings from randomized control trials and other research studies and information from the FDA). Expert opinion was solicited from nurses, physicians, risk management and legal advisors. Components of the Synergy Model (our institution's nursing practice model) provided additional support for the policy.

This evidenced-based policy took time to develop and required multidisciplinary input, along with review and approval by the Nursing Standards and Policy, Nurse Executive, and Medical Executive committees. The use of current best evidence helped ensure that the procedure would meet approval within the institute. The final version of the policy - listing the references that were used with hyperlinks to the actual citations - was officially approved by the committees. The project goal of creating an evidenced-based policy that minimized risks and optimized patient outcomes was met. Ongoing collection of internal benchmarking data will provide a means for evaluating the effectiveness of this policy.

Policy and procedural development is an intrinsic component of oncology nursing practice. This presentation will provide details on how various types of evidence were used to develop and support a policy to guide nurses in performing a new and innovative procedure, thereby serving as a model for evidence-based policy development.

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DECONSTUCTION OF A NURSING INTERVENTION TO EXAMINE THE MECHANISM OF ACTION. Barbara Given, PhD, RN, FAAN, Charles Given, PhD, and Alla Sikorskii, PhD, Michigan State University, East Lansing, MI.

To translate behavioral interventions into clinical practice it is essential to a) demonstrate that exposure to the intervention results in significant improvement in the primary outcome and b) describe the mechanisms of the interventions that produce the patient outcome.

A trial comparing a nurse directed with an automated voice response system for lowering severity of symptoms among patients undergoing chemotherapy is described. Then, the nurse-assisted arm of the trial is deconstructed to describe the mechanism. Cognitive Behavioral Theory guides this analysis. The framework is a Cognitive Behavioral Theoretical Framework.

This trial accrued 343 patients receiving chemotherapy. Following a baseline interview patients were randomization to one of two arms. Computer assisted protocols recorded each symptom above a designated threshold at each of six contacts and documented intervention strategies delivered, whether patients tried them and, if tried, were strategies successful in lowering symptom severity. Strategies were organized around four domains: information, education, support, and communication.

Each arm produced significant reduction over baseline. To describe the nurse directed mechanisms the frequency with which strategies from each domain was delivered. Second, the proportion of strategies delivered that "were tried" is described, Third, the proportion of strategies for each symptom tried that were successful and their relationship to the proportion of symptoms reduced below thresholds described. These data describe how after adjusting for patient age, baseline depression, site of cancer, and duration of symptoms: 1) are nurses more likely to deliver strategies from certain domains? 2) among strategies delivered are patients more likely to try those from certain domains? 3) are strategies from one domain more likely to lower symptom severity? These analyses identify strategies from domains that manage symptoms successfully and which patients are more likely to respond to and benefit from the strategies. These analyses begin to specify the mechanisms through which behavioral interventions modify self-care behaviors that lead to lowered symptom severity.

Funding Sources: Automated Telephone Monitoring for Symptom Management. (CW Given PI) RO1 CA 30724 7/31/03-8/1/07

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CANCER SURVIVORS' HEALTH BEHAVIORS. Deborah Mayer, RN, MSN, AOCN®, FAAN, and Norma Terrin, PhD, Tufts University School of Medicine, Boston, MA; Usha Menon, PhD, RN, University of Illinois at Chicago, Chicago, IL; Gary Kreps, PhD, George Mason University, Fairfax, VA; Kathy McCance, PhD, RN, University of Utah, Salt Lake City, UT; Susan Parsons, MD, MRP, Tufts University School of Medicine, Boston, MA; and Kathleen Mooney, PhD, RN, University of Utah, Salt Lake City, UT.

Cancer survivors were no different in adopting healthy behaviors (not smoking, exercising regularly, and consuming > five fruits and vegetables/day) than the NoCancer group when controlling for other demographic variables. None of the health behaviors evaluated met the American Cancer Society or Healthy People 2010 objectives.

The cancer survivor population is expected to grow dramatically as the US population ages. Although living longer, this population is not as healthy as the general population. The purpose of this study is to describe health behaviors of cancer survivors (CaSurvivors) and compare them to those without a cancer history (NoCancer). Differences among survivors by cancer diagnosis are also described. The Health Belief Model was used as the conceptual framework in this secondary data analysis.

This study examined the impact a cancer diagnosis has on smoking, exercise, and fruit and vegetable intake, and body mass index (n= 619) compared to NoCancer (n= 2141) using the National Cancer Institute's 2003 Health Information National Trends Survey I. Univariate statistics and multivariate logistic regressions were conducted.

CaSurvivors were no different in health behaviors than the NoCancer group when controlling for other demographic variables; 22.5% of CaSurvivors and 18.4% of NoCancer were current smokers; 45.3% of CaSurvivors and 53% of NoCancer exercised > weekly; 18% of CaSurvivors and 14.9% of NoCancer consumed > five fruits and vegetables per day, and 58% of CaSurvivor and 54.9% of NoCancer were overweight or obese. Only 7.4% of CaSurvivors and 6.4% of NoCancer reported positively on all three health behaviors and had a healthy weight. Cancer survivors did not have different health behaviors when compared to the NoCancer group; neither group met the American Cancer Society or Healthy People 2010 objectives for any of these behaviors. The potential of cancer providing a 'teachable moment' in changing health behaviors should be explored further, especially for current smokers.

Funding Sources: American Cancer Society, National Institute of Nursing Research, Oncology Nursing Society

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STATE OF THE SCIENCE OF THE SECOND CANCER EXPERIENCE IN CHILDHOOD AND ADULT CANCER SURVIVORS. Krista Wilkins, RN, MN, BScN, BSc, and Roberta Woodgate, RN, PhD, University of Manitoba, Winnipeg, Canada.

Advances in cancer care have transformed an almost uniformly fatal disease into a disease that is now curable in many children and adults. Progress in survival has, however, come at a cost. Cancer survivors face a myriad of late effects, which can impact survivors' length and quality life. One of the most devastating late effects is the second malignant neoplasm (SMN), a histologically distinct cancer that develops after the first cancer. About 16% of new cancers diagnosed in the United States every year are SMNs. Accordingly, oncology nurses must become alert to the problem of SMNs to ensure that the most comprehensive and sensitive care is provided to the ever-increasing cancer survivor population.

Studying SMNs in cancer survivors underscores the need for a philosophical shift in cancer treatment that looks beyond treatment, reflecting the importance of both curing the disease and controlling late effects. Knowledge gained will enable oncology nurses to discuss the long-term consequences of different treatment strategies with cancer patients and their families, enabling them to participate in informed decision-making. Oncology nurses can also use the evidence to develop and provide interventions that will improve the health of survivors.

Prospective studies that collect SMN incidence data are warranted because most of the current evidence is derived from cross-sectional studies. Much of the research has examined how risk factors act independently in the development of SMNs, but their synergistic effects remain largely unknown. Understanding the precise etiology of SMNs will require large, heterogeneous cohorts of cancer survivors who are followed over time. Other priority areas for future research include: effectiveness of interventions on health practices and SMN risk, incidence of SMNs in understudied cancer sites, economic impact of SMNs, effectiveness of long-term clinics in preventing or ameliorating SMNs, and development of instruments capable of collecting valid data on survivorship outcomes.

Originally within the realm of childhood cancer, the study of SMNs is now recognized as important to cancer survivors of all ages. Research shows that there is an excess risk of SMNs observed in cancer survivors relative to the general population and that SMNs represent the leading cause of death. The research community has made great strides in elucidating dose-response relationships between specific chemotherapy agents and/or therapeutic radiation and SMN risk. However, risk factors beyond treatment exposure have not been systematically addressed. Dominated by a bio-medical focus, there has been no concerted effort to examine psychosocial risk factors, including information needs, cancer screening practices and lifestyle choices.

Much of what is known about SMN incidence data is derived from hospital-based data and therefore, subject to selection bias. Population-based studies are needed to provide a more accurate estimate of the true incidence of SMNs. Additionally, research conducted to date has been confined to SMNs occurring within the first decade following treatment. This is despite evidence suggesting that it takes as many as 15-30 years for a SMN to develop. Follow-up into the second and later decades after treatment is warranted.

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PREDICTORS OF ADHERENCE TO STRENGTH TRAINING AT SIX MONTHS IN BREAST CANCER SURVIVORS AT RISK FOR OSTEOPOROSIS. Carol Ott, RN, PhD, University of Nebraska Medical Center College of Nursing, Kearney, NE; Nancy Waltman, PhD, APRN, University of Nebraska Medical Center College of Nursing, Lincoln, NE; Janice Twiss, PhD, APRN, University of Nebraska Medical Center College of Nursing, Omaha, NE; Gloria Gross, PhD, RN, University of Nebraska Medical Center College of Nursing, Scottsbluff, NE; Ada Lindsey, PhD, RN, FAAN, faculty emeritus retired, University of Nebraska Medical Center College of Nursing, Omaha, NE; and Timothy Moore, MD, University of Nebraska Medical Center School of Medicine, Omaha, NE.

Breast cancer survivors (BCS) are at risk for osteoporosis and may benefit from twice weekly progressive strength training especially if adherence can be maintained. Predictors of exercise adherence have not been adequately examined in BCS who have completed cancer treatment. The purpose of this analysis was to explore predictors for explaining adherence in a sample of BCS after 6 months of progressive strength training. According to Bandura's (1997) self-efficacy theory, subjects who score higher on exercise self-efficacy are more likely to be adherent.

The sample studied was 98 early stage BCS (M=58.97, SD 7.42 yrs of age; M=66.78, SD 71.27 months since all cancer treatment completed; M=84.01 SD 85.34 months since menopause or hormone replacement therapy) with low BMD who were randomized to the strength training group of a 24 month multicomponent intervention study for osteoporosis prevention. Exercise adherence was measured as number of actual/prescribed exercise sessions completed. Mean adherence was 81.13% (SD=28.8). Multiple linear regression was used to analyze the effect of multiple predictors on 6 month strength training adherence. Data from baseline demographic and medical history profiles, strength training diaries, a self-efficacy measure, and the Profile of Moods (POMS) instrument were used in the analysis. Based on the literature, fifteen selected predictors were entered into the regression: knowledge self-efficacy, barrier self-efficacy,

age, BMI, stage of cancer, months since menopause, months since cancer treatment completion, falls, smoking status, and POMS (tension, fatigue, vigor, depression, anger, & confusion).

Five predictor variables explained a significant proportion of the variability for strength training adherence at 6 months (R2= 0.353, F (2.97=7.02; p<.001). Knowledge self-efficacy, tension, and months since menopause were positively related to adherence while fatigue and months since cancer treatment completion were negatively related. The positive relationship between adherence and self-efficacy for knowing how and when to do strength training is consistent with Bandura's theory. Not surprisingly, higher fatigue reduced adherence. Implications for findings that women with more tension, more months since menopause, and fewer months since treatment were more adherent to exercises will be presented. Studies of predictors of exercise adherence enhance ability to plan interventions promoting adherence.

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CORRELATES OF PHYSICAL ACTIVITY STAGES OF CHANGE IN YOUNG ADULT SURVIVORS OF CHILDHOOD CANCERS. Lorna Finnegan, PhD, FNP, Diana Wilkie, PhD, RN, FAAN, JoEllen Wilbur, PhD, FNP, FAAN, Richard Campbell, PhD, and Shiping Zong, PhD, University of Illinois at Chicago, Chicago, IL.

Lifestyle choices in combination with late effects of cancer treatments put young adult cancer survivors at risk for premature development and accelerated progression of chronic diseases. Identifying correlates of physical activity (PA) behavior in young adult survivors is an important first step prior to developing PA interventions that will that will contribute to the evidence-base of oncology nursing

The purpose of this study was to examine relationships between PA correlates and PA stages of change (SOC) in young adult cancer survivors. Selected constructs from the Interaction Model of Client Health Behavior (IHMCB) and the Transtheoretical Model were integrated as the conceptual framework.

Four instruments– autonomous motivation, self-efficacy, PA pros and cons, health-related worries – represented the motivational, cognitive, and affective variables within the IMCHB. The SOC construct represented PA as a dynamic five-stage process, ranging from no intention to engage in PA to sustained observable change in PA behavior.

In this correlational study, a convenience sample of 117 young adult cancer survivors (mean age =24) throughout the United States completed web-based surveys, which contained demographic and health-related variables and reliable and valid measures of motivation, self-efficacy, pros and cons of PA, health-related worries, and PA SOC. Ordinal logistic regression analyses were conducted to investigate the relationships between PA SOC and potential correlates

Physical activity SOC were collapsed into three categories: Maintenance (60%), Action (21%), and Inactive (19%). In the final multivariate ordinal logistic regression model, the adjusted odds of being in the Maintenance category versus the combined Action and Inactive categories were 3.4 times higher for survivors who scored high on autonomous motivation (AM) than for survivors who scored low on AM (95% CI, 2.08 - 5.67). In contrast, survivors who scored high on the cons of physical activity measure were about 50% less likely (OR, 0.48; 95% CI, 0.28 – 0.81) to be in the Maintenance category versus the combined Action and Inactive categories. Within the context of the IMCHB, interventions that provide information about decreasing the cons of PA and support autonomy by maximizing decisional control should be developed and tested in samples of young adult survivors of childhood cancers.

Funding Sources: Oncology Nursing Society Small Grant, 2004-2006 and Center for Reducing Risks in Vulnerable Populations University of Illinois at Chicago, College of Nursing, 2005-2006 (This Center is supported by the National Institute of Nursing Research.)

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EFFECTS OF MASSAGE ON PAIN INTENSITY, ANXIETY, AND PHYSIOLOGIC RELAXATION IN TAIWANESE PATIENTS WITH METASTATIC BONE PAIN. Sui-Whi Jane, PhD, RN, Chang Gung Institute of Techology, Tao-Yuan, Taiwan; Diana J. Wilkie, PhD, RN, University of Illinois at Chicago, Chicago, IL; Betty B. Gallucci, PhD, RN, Randal D. Beaton, PhD, University of Washington, Seattle, WA; and Hsiu-Ying Huang, PhD, RN, Fredrick Hutchinson Cancer Research Center, Seattle, WA.

Bone involvement is a hallmark of advanced disease, approximately afflicting 34% to 45% of cancer patients in terms of intolerable pain, substantial morbidity and disruptive quality of life. Most investigators demonstrate immediate or short-term effect of massage on general cancer-related pain. Little is known about the feasibility, safety, and time effects of massage therapy in patients with metastatic bone pain.

The purpose of this study was to describe the feasibility of implementing a full-body MT in 30 Taiwanese hospitalized patients with metastatic bone pain and to examine the trends in time effects of massage on present pain intensity (PPI), anxiety, and physiological relaxation over a 16 to 18 hour period. A modified Gate Control Theory of Pain as proposed by Mezlack & Wall (1965) serves as a theoretical framework for exploring the potential underlying mechanism of massage therapy.

A quasi-experimental one-group pretest-posttest design with repeated measures was employed to examine the time effects of massage using a single item of PPI-VAS and Anxiety-VAS, the modified Short Form McGill Pain Questionnaire (MSF-MPQ), heart rate (HR), and mean arterial pressure (MAP).

Massage was shown to have effective immediate, short-term (20 to 30 min), intermediate (1 to 2.5 hours), and long-term benefits (16 to 18 hours) on PPI and anxiety. The most significant impact on measures employed occurred 15 or 20 minutes after the intervention. There were no significant time effects in terms of decreases or increases in HR and MAP. Importantly, this study demonstrated the feasibility of implementing a full-body MT and its acceptability to patients with bone pain. Massage resulted in subjective reports of relaxation, enhanced comfort, and less cancer-related pain and anxiety, and improved sleep. No patient reported any adverse effects as a result of the study procedures. Future studies are suggested for randomized clinical trials to validate the effectiveness of MT in this cancer population.

Funding Sources: Hester McLaws Nursing Scholarship and Benoliel Fellowship, University of Washington, School of Nursing

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ISSUES IN COMPLEMENTARY THERAPY RESEARCH. Gwen Wyatt, RN, PhD, and Alla Sikorskii, Michigan State University, East Lansing, MI.

The purpose of this paper is to outline innovative design and methodological issues related to securing national funding for complementary therapy research. Specific criteria will be shared from the perspective of both a RO1 funded investigator and reviewer.

The specific issues that will be covered include: ways to strengthen an intervention protocol for both the complementary therapy and placebo; 3-group longitudinal randomized clinical trail (RCT) to detect

the effect of the protocol dose of the complementary therapy compared to standard care control and placebo control; randomization with computer minimization on key variables to assure equivalence of three groups at baseline; sample size considerations for having adequate power to detect medium effect sizes in the comparison of the means of outcome measures across groups; sequencing of specific aims to perform pair-wise comparisons of the groups; adjusting for relevant covariates in the analyses; and addressing the issue of multiple correlated outcomes.

Complementary Alternative Medicine (CAM) is used by 60%-80% of individuals with cancer. Well-conducted CAM research is needed to inform nursing practice. To date many CAM research findings have been inconsistent due to design and methodological issues.

The specific areas outlined in this abstract are intended to enhance an investigator's likelihood of securing federal funding for CAM research.

These design decisions will contribute to a researcher's ability to conduct complementary therapy research that will inform and translate to oncology nursing practice.

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FACTORS INFLUENCING ONCOLOGY STAFF NURSES' USE OF NON-DRUG PAIN INTERVENTIONS IN PRACTICE. Kristine Kwekkeboom, PhD, RN, Molly Bumpus, BSN, RN, and Britt Wanta, MS, RN, University of Wisconsin–Madison, Madison, WI.

Cancer pain management guidelines recommend non-drug interventions as adjuvants to analgesic medications. Oncology nurses' actual use of non-drug interventions, however, has not been well studied.

To describe oncology nurses' use of four non-drug interventions (music, guided imagery, relaxation, distraction) and to identify factors that influence nurses' use of these interventions in practice. The study is based on Cleeland's (1987) conceptualization of barriers to pain management, including provider-, system-, and patient-related factors.

A descriptive correlational design was used. An existing survey regarding nurses' use of music interventions was modified to address all four non-drug interventions and updated with additional items. After review by pain management experts, the final survey included three parts: Part I - 7 items about familiarity with and use of the non-drug interventions, Part II - 20 Likert items about factors that may influence use of the non-drug interventions in practice, and Part III - 12 demographic items. The survey was mailed to 1193 ONS members who identified themselves as staff nurses. A postcard reminder was sent after 1 week and a replacement survey was sent to non-respondents at 4 weeks. 734 completed, useable surveys were returned (62%). Responses were summarized with descriptive statistics. Predictors of non-drug intervention use were identified using nonparametric regression analyses.

Nearly all nurses (>86%) were familiar with the non-drug pain interventions. The percentages of nurses that reported using the non-drug strategies in practice at least sometimes were: 40% for guided imagery, 54% for music, 80% for distraction, and 82% for relaxation. A composite score on nurses' beliefs about the value of the non-drug intervention (e.g., perceived benefit) ($p < .01$) and a composite score on factors supporting nurses' ability to implement the intervention (e.g., time) ($p < .01$) were significant predictors of use of the non-drug interventions in practice. A composite score on patient characteristics did not predict non-drug intervention use. Educational efforts should address evidence for efficacy and benefits of the lesser used interventions, guided imagery and music. Future research should develop and test new technologies for delivering non-drug interventions that require less time and effort from busy staff nurses.

Funding Sources: University of Wisconsin-Madison School of Nursing Research Award

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A WEB-BASED EXPRESSIVE WRITING INTERVENTION FOR YOUNG WOMEN WITH NEWLY DIAGNOSED BREAST CANCER. Susan Bauer-Wu, DNSC, RN, Rebecca Norris, BA, Mark Powell, and Martha Healey, Dana-Farber Cancer Institute, Boston, MA; Karleen Habin, Massachusetts General Hospital, Boston, MA; Ann Partridge, MD, Dana-Farber Cancer Institute, Boston, MA; and Lidia Schapira, MD, Massachusetts General Hospital, Boston, MA.

Premenopausal breast cancer (BC) is psychologically challenging for the 50,000 American women diagnosed annually due to related life changes, e.g. body image, treatment-induced menopause and infertility, and balancing family and career demands along with the stressors of BC. Until recently, minimal attention has been given to the unique needs of this subgroup of BC patients.

Considering the needs and lifestyle of young women with BC, identification of accessible, appealing, and effective psycho-behavioral interventions is warranted. Our study purpose was to assess feasibility and potential benefits of an expressive writing (EW) intervention, Web-based or by hand, done over fours months within the first year of BC diagnosis, in women 18-45 years old.

Rooted in linguistic psychology, EW provides a combination of emotional catharsis, examination of self-beliefs, reorganization of thoughts, and resolution of inner conflict.

Using a prospective, longitudinal design, 90 young women with newly diagnosed stage I-III breast cancer who received chemotherapy were randomly assigned to EW or no intervention/usual care (UC). EW participants chose their preferred method of writing, typewritten (on a computer, using a secure Web site) or by hand in journals. They wrote about their experiences with BC, both negative and positive aspects, for 20-30 minutes over four days for four consecutive months. Innovations in this EW intervention contrast to previous EW studies: Web-based option, longer (four months), and choice to write about both positive and/or negative aspects. Besides feasibility data regarding writing compliance and preference, validated psychological measures assessing depression, anxiety, and post-traumatic growth were completed at baseline and every two months x 3. Descriptive statistics and Wilcoxon Rank-Sum test were conducted.

97%-100% of EW group completed the intervention during the first three months, while 80% were compliant in the fourth/last month. The majority (55%) chose Web method, although 45% chose by hand. Significant differences ($p< .02$) in depression (using Hospital Anxiety and Depression Scale) were found between EW and UC groups, with lesser depressed mood in the EW over time (based on 70% sample analyzed). This innovative intervention is feasible and seems to be beneficial at enhancing mood in young BC patients.

Funding Sources: Cancer and Leukemia Group B Foundation

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THE STABILITY OF PATIENT SUBGROUPS IDENTIFIED USING CLUSTER ANALYSIS. Stephanie Gilbertson-White, MS, RN, and Christine Miaskowski, RN, PhD, University of California, San Francisco, Department of Physiological Nursing, San Francisco, CA; Katherine Lee, RN, PhD, University of California, San Francisco, Department of Family

Health Care Nursing, San Francisco, CA; Marylin Dodd, RN, PhD, and Claudia West, RN, MS, University of California, San Francisco, Department of Physiological Nursing, San Francisco, CA; and Bruce Cooper, PhD, University of California, San Francisco, Department of Community Health Systems, San Francisco, CA.

Our previous work demonstrated that oncology outpatients (n=191) could be characterized, using cluster analysis, into 4 distinct subgroups (i.e., high levels of all 4 symptoms (14.7%), low levels of all 4 symptoms (35.0%); high levels of pain and low levels of fatigue (14.7%), and low levels of pain and high levels of fatigue (35.6%)) based on their experiences with 4 highly prevalent symptoms (i.e., pain, fatigue, sleep disturbances, depression). Importantly, these subgroups did not differ on any clinical characteristics. However, patients who reported high levels of all 4 symptoms were significantly younger and had poorer outcomes than the other 3 groups.

A plausible hypothesis for the existence of these distinct patient subgroups is that certain patients have the predisposition to exhibit higher levels of sickness behaviors. The purpose of this study was to test this hypothesis by evaluating whether patient subgroup membership remained consistent when cluster analyses were repeated with each symptom systematically removed from the cluster analysis.

UCSF Symptom Management Model.

Oncology outpatients (n=181) completed Lee Fatigue Scale, General Sleep Disturbance Scale, Center for Epidemiologic Studies – Depression Scale, and numeric rating scale for worst pain intensity. In order to identify the patient subgroups based on their symptom experiences, four separate hierarchical cluster analyses were done with only three symptoms (i.e., pain, fatigue, & sleep disturbance, pain, fatigue, & depression; fatigue, sleep disturbance, & depression; pain, sleep disturbance, & depression).

All four cluster analyses yielded a 4 cluster solution and the patient subgroups that were identified were identical to the original cluster analysis with all 4 symptoms in the cluster analysis. Compared to the initial cluster analysis with all 4 symptoms, the subgroup memberships of the patients across the 4 cluster analyses were most consistent for the subgroup who reported high levels of all 4 symptoms (i.e., 28 patients versus 16 to 19 patients) and for the subgroup that reported low levels of all four symptoms (67 patients versus 54 to 67 patients). These data provide some support for the hypothesis that certain patients have the predisposition to exhibit higher levels of sickness behaviors.

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LIVE ITEM INDEX TECHNIQUE (LIITE): TAKING OUT THE NOISE—A TOOL FOR IMPROVING MEASUREMENT SENSITIVITY AND ANALYTICAL EFFICIENCY.

Patrick McNees, PhD, Applied Health Science, Orlando, FL.

Multiple quality-of-life (QOL) instruments are commonly used in longitudinal clinical trials. However, such instruments often include items that are not sensitive measures for proposed interventions or targeted populations. The resultant data may lead to difficulties in detecting effects and patterns that are clinically important.

This paper describes an alternative technique (LIITE) that discriminates sensitive versus insensitive items. The research question was: does use of the LIITE technique help detect significant effects compared with situations where using all items fails in detecting such effects? The LIITE techniques were derived from extrapolation of principles of Chaos Theory.

The LIITE technique was developed and tested in the Breast Cancer Education Intervention (BCEI) QOL trial; n=255. Three instruments were used: Brief Pain Inventory; Profile of Mood States, and QOL–Cancer Survivors. Instruments included a total of 98 items. Absolute change scores were calculated and summed to produce item rankings. Thirty-six items common to both Experimental (EG) and Wait Control (WC) groups accounted for 50% of the total variation. Twelve items contributed to 50% of the variance for either the EG or WC. The resulting 48 items accounted for 63% of the variance. Between and within group analyses were performed at 3 and 6 months follow-up using the full data set and LIITE scores.

At the 3rd month follow up, the results were equivocal. However, at the 6th month, LIITE identified continued improvement in EG that would have been otherwise obscured. Additionally, LIITE detected significant change in the WC after receiving the intervention at Month 6, which was not detected using all items.

Discussion: LIITE may have potential utility in increasing data sensitivity in QOL longitudinal trials. If the efficacy of LIITE is further confirmed, smaller sample sizes will be required in planning future studies. In summary, LIITE is a tool that may improve measurement sensitivity and analytical efficiency of oncology nursing research.

Funding Sources: National Institute of Nursing Research and the Office of Cancer Survivorship at the National Cancer Institute

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CONDUCTING EFFECTIVE GROUNDED THEORY RESEARCH IN THE CLINICAL SETTING: ILLUSTRATING METHODOLOGICAL ISSUES.

Robin Lally, PhD, RN, AOCN®, CNS, University at Buffalo School of Nursing, Buffalo, NY.

It is essential to clarify misconceptions about grounded theory methodology and demonstrate its effective use in the clinical setting.

Adhering closely to Glaser and Strauss's original 1967 methodology, augmented by more recently published work of and personal consultation with Glaser, this researcher discovered answers to methodological questions and developed a grounded Theory of Acclimation; providing a model of the process experienced by women within days of their breast cancer diagnosis. Interviews with 18 breast cancer patients, breast center surgeons, nurses, and an advanced practice nurse (APN) were collected and analyzed with data from a published patient diary and published artwork by cancer survivors and others. Women readily volunteered to participate in up to 90-minute interviews despite the recency of their diagnosis, frequently noting the interviews were therapeutic. Elements of grounded theory methodology including: open, selective, and theoretical coding, theoretical sampling and constant comparative analysis were utilized with ease except for minor challenges in coding organization, interviewing, and sampling, which were overcome. The utility of other grounded theory techniques attempted will also be discussed, as well as the strategy utilized by the researcher to differentiate herself as researcher versus APN with patients.

Grounded theory is a rigorous, systematic method of theory generation rooted in data. Unfortunately, the method is often thought of as complicated and cumbersome to carry out in the clinical setting. Researchers modify the method and do not consistently report a theory as a result of their work. Opinions differ as to the number of subjects required, what constitutes usable data, specific steps of the method, and what is yielded as the result.

The resulting theory has fit to the data, and workability and relevance to the field of oncology nursing, demonstrating that grounded theory is a viable method to be utilized by oncology nurses in the clinical setting and is capable of providing frameworks for practical interventions and future research to benefit patients.

Difficulties utilizing grounded theory methodology are unfortunate since it is particularly well suited for characterizing the experience of patients and explaining behavior when little is known, such as in the case of this study.

Funding Sources: Oncology Nursing Society, MNRS, and University of Minnesota

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APPLYING THE MIXED METHOD APPROACH TO A MULTISITE STUDY OF PATIENTS WITH OSTOMIES. Marcia Grant, RN, DNSC, FAAN, City of Hope National Medical Center, Duarte, CA; Carol Baldwin, PhD, RN, CHTP, AHN-BC, Arizona State University, Tempe, AZ; Ruth McCorkle, PhD, RN, CHTP, FAAN, Yale University, New Haven, CT; Susan Rawl, PhD, RN, Indiana University, Indianapolis, IN; and M. Jane Mohler, MPH, PhD, and Robert Krouse, MD, Southern Arizona VA Health Care System, University of Arizona, Tucson, AZ.

With the acceptance of both qualitative and quantitative designs in examining questions about oncology patients, research using a mixed methods approach is expanding. A mix of researchers from varied backgrounds, and multiple sites used this approach to answer quality of life (QOL) questions for patients with ostomies.

The overall problem of long-term survivorship issues for veterans living with ostomies was addressed by examining health-related QOL.

The City of Hope (COH) QOL Model, composed of physical, psychological, social and spiritual well-being dimensions framed the study.

A concurrent mixed methods design was used. The population consisted of Veterans Administration (VA) patients seen for VA care within the prior year. Eligible subjects were at least 2 months post surgery for a permanent intestinal stoma and were being followed at one of three academic VA Medical Centers (Southern Arizona, Los Angeles, and Indianapolis). Two surveys were mailed: the COH-QOL-ostomy survey and the SF-36 veterans version. The ostomy survey included 3 open-ended questions on ostomy location, pouch problems, and the greatest challenge. Total quality of life quantitative scores were used to identify patients eligible for focus group participation, by selecting those from the top and bottom quartiles. Descriptive statistics and conventional multivariate modeling approaches were used to answer specific hypotheses. Open-ended survey questions were analyzed using content analysis. Focus group data were analyzed using Atlas.ti software. Weekly team conference calls included content analysis of the open-ended questions, and coding of the focus group data.

The responses rate of 48% resulted in 511 participants. Eight focus groups were conducted: 4 high QOL groups (2 with colostomies and 2 with ileostomies), and 4 parallel groups with low QOL. Results illustrated the struggles, burdens, and challenges of ostomates' lives. The quantitative data provided a picture to be compared to other long term cancer survivors, and the qualitative data provided rich data describing the challenges ostomates confront on a daily basis. Findings presented will describe study data and opportunities for quantitative data to supplement or inform qualitative analysis and vice versa. The mixed method approach provided a valuable and valid design.

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PREDICTORS OF DECISION MAKING FOR CANCER RISK INFORMATION IN SURVIVORS AND FEMALE RELATIVES AT RISK FOR INHERITED BREAST/OVARIAN CANCER. Suzanne Mellon, RN, PhD, University of Detroit Mercy, Detroit, MI; James Janisse, PhD, Wayne State University, Detroit, MI; Robin Gold, MS, CGC, and Michelle Cichon, MS, CGC, Karmanos Cancer Institute, Detroit, MI; Michael Tainsky, PhD, and Michael Simon, MD, MPH, Wayne State University and Karmanos Cancer Institute, Detroit, MI; and Jeannette Korczak, PhD, National Cancer Institute, Rockville, MD.

While dramatic advances in cancer genetics and identification of cancer susceptibility genes such as BRCA1/2 have occurred, little research has been carried out with individuals and their families regarding factors that may influence how they make decisions about inherited cancer risk information. This information is essential in order to help survivors and their family members make informed decisions about their health and potential cancer risk.

The purpose of this study was to determine the relationship between socio-demographic and medical factors, personal and family resources, appraisal, and decision making in survivors and unaffected female relatives and to determine any interaction effect between survivors and relatives. Personal and family resources included coping styles, self-efficacy, family communication, and social support, while appraisal factors examined perception of cancer risk and cancer worries.

A family stress framework and transtheoretical model of change guided this research.

A descriptive, cross-sectional design was conducted with 146 breast and/or ovarian cancer survivors and 146 unaffected female relatives (N=292). A population-based sample, stratified by race (Caucasian and African-American) and by diagnosis (breast and ovarian), was randomly selected from the NCI SEER Cancer Registry in southeastern Michigan. Standardized instruments with adequate reliability and validity were used to measure all study variables. Analyses included descriptive statistics and hierarchical linear modeling with family dyads.

Analysis indicated there are different factors predicting both pros and cons of making decisions to seek inherited cancer risk information. Family members influence each other in their decision making, with family member's age, communication, and coping style influencing overall decision making of the other member of the dyad. Additionally, age, education, income, family history, communication, cancer worries, and a monitoring coping style influenced individuals to seek cancer risk information, whereas self-efficacy and cancer worries influenced decisions to not seek information. Cancer worries were predictive of both wanting to seek cancer risk information and not wanting to find out this information. Results from this study suggest a profile of factors that influence individuals making decisions about cancer risk, the importance of inclusion of family members, and addressing cancer worries in families potentially at high risk for inherited cancer.

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THE PSYCHOLOGY OF DECISION BEHAVIOR WHEN FACING RECURRENT BREAST CANCER. Penny Pierce, PhD, RN, FAAN, University of Michigan, Ann Arbor, MI; and Gloria Smith, MSN, University of Michigan Comprehensive Cancer Center, Ann Arbor, MI.

Very little research has been devoted to understanding the decisional challenges women face when cancer returns to threaten their lives once more. It is not known if the decision making experience at the initial diagnosis supports or impairs the capacity to make decisions regarding recurrent disease. Further, it is not known if the occurrence of recurrent disease causes a detrimental post-decision appraisal such as guilt, remorse, or regret concerning the decisions made for early stage cancer. Nor do we have sufficient information to fully understand the complexity of the decision problem, or the cognitive and psychological demands imposed upon the decision maker in this context.

The purpose is to close the gaps in our knowledge regarding the decision making experiences, challenges, and frustrations of women when breast cancer recurs to develop tailored decision support interventions to enhance decision quality and psychological well being.

Using a qualitative approach, the theoretically challenging task is to find an explanation that accounts for the relative ease with which some women make a complicated and serious medical decision, and the overwhelmingly difficult and stressful experience of others.

Intensive face-to-face interviews with 50 women at the time of diagnosis provide an elaborated description of decision behavior when facing recurrent cancer. Using the constant comparative method, the analysis furthers our understanding of how the initial decision making process shapes the confrontation with decisions inherent in recurrent disease, and how it informs our understanding regarding hindsight bias, regret, decision satisfaction, and resilience in the face of this life-threatening disease.

Analysis of these data reveal ways in which naturalistic (unaided) decision processes express optimistic bias (looking ahead) and hindsight bias (looking back). Narratives describe indications of the ways in which decision making processes and cognitive biasing influences decisional quality and psychological coping. Clinically, it is important to understand the processes which lead women to select unnecessarily aggressive therapies or decline therapy altogether form a sense of despair rather than reasoned deliberation. Further, the importance of understanding this complex decision lies in targeting areas where structured decision interventions are needed to improve decision quality and psychological outcomes in life-threatening diseases.

Funding Sources: US Army Medical Research Center Breast Cancer Research Program

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BREAST CANCER SCREENING DECISIONS IN OLDER HIGH-RISK WOMEN. Karen Greco, PhD, RN, MN, ANP, Providence Cancer Risk Assessment Program and Oregon Health and Science University School of Nursing, Portland, OR; Lillian Nail, PhD, RN, FAAN, Judith Kendall, RN, PhD, and Deborah Messecar, PhD, MPH, RN, CNS, Oregon Health and Science University School of Nursing, Portland, OR; and Juliana Cartwright, PhD, MN, BSN, Oregon Health and Science University, School of Nursing–Ashland, Ashland, OR.

Oncology nurses care for older women with increased breast cancer risk.

This purpose of this study is to describe and explain the impact of and having a breast cancer family history of on breast cancer screening decisions in 22 women age 55 and older with one or more first degree relatives diagnosed with breast cancer.

Although much research has focused on factors associated with breast cancer screening adherence, few studies have addressed how older women with a breast cancer family history make breast cancer screening decisions. Having a breast cancer family history and increased age both significantly increase breast cancer risk, however, many older high risk women receive inadequate screening. Symbolic interactionism was the philosophical framework.

Qualitative data was collected using open-ended semi-structured interview questions. Grounded theory method was used to generate a theory entitled "always on guard for breast cancer" describing and explaining how older women with a breast cancer family history make breast cancer screening decisions. Data accuracy was verified using participant check, peer debriefing and audit trail.

Women were very aware of their own breast cancer risk, often having watched family members die of the disease. The decision to begin having regular mammograms often began after having a family member diagnosed with breast cancer. A negative mammogram gave women peace of mind and assurance that breast cancer was not present. This assurance was so strong that clinical breast exam (CBE) and breast self exam (BSE) were not always viewed as important. Being called back for additional mammograms or follow up tests often caused worry, anxiety and fear, especially when receiving test results was delayed. Many women were not receiving adequate CBE and were unaware they may be at risk for a hereditary cancer syndrome. Women did not feel competent performing BSE and were often instructed 20 to 40 years ago.

Healthcare providers need to schedule timely follow up mammograms, minimize the time it takes to report results, provide a complete annual clinical breast exam, offer breast self exam instruction, obtain a family history of cancer, and offer women with a strong cancer family history genetics information.

Funding Sources: John A. Hartford Foundations Building Academic Geriatric Nursing Capacity 2002-2004 Pre-doctoral Scholarship; 2002 ONS Foundation Doctoral Scholarship; and National Institutes of Health National Research Service Award Research Training: Nurse

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PROVIDING INDIVIDUALIZED INFORMATION UTILIZING A COMPUTERIZED DECISION SUPPORT INTERVENTION. B. Joyce Davison, PhD, RN, Prostate Centre, University of British Columbia, Vancouver, Canada; Lesley Degner, RN, PhD, University of Manitoba, Winnipeg, Canada; Martin Gleave, MD, FRCSC, FACS, and Larry Goldenberg, MD, FRCSC, FACS, University of British Columbia, Prostate Centre, Vancouver, Canada.

Prostate cancer remains the most commonly diagnosed non-skin malignancy and second most common cause of male cancer-related deaths in North America. There is evidence men newly diagnosed with prostate cancer want to be informed and to participate in treatment decision making. However, there is often a difference in opinion among health care professionals regarding the type and amount of information men require. Unfortunately, information continues to be provided using a generic approach even though several investigators have suggested an individualized approach is optimal.

This study was conducted to determine the efficacy of using a computerized decision support intervention to guide the provision of individualized information. It was hypothesized that the provision of individualized information would increase levels of decisional control and satisfaction, and decrease levels of decision conflict.

Decision Support Framework, Coomb's Unfolding Theory and Thurstone Scaling used to develop intervention.

Men (N = 162) newly diagnosed with localized prostate cancer were recruited from community urology clinics. Interviews were conducted within two weeks following the medical treatment consultation. Levels of decisional control, decision conflict, and satisfaction were assessed prior to and after a final treatment decision was made. The computerized Patient Information Program was used to assess decision and information preferences. A specially trained nurse individualized print outs on each of the top information preferences based on the patient's disease characteristics and discussed the pros/cons of each treatment option recommended. A written information package was provided at the end of the first interview.

Prognosis, treatment options, side effects, stage of disease, and sexual concerns were identified as the top five information preferences. Men reported assuming a significantly more active role in treatment decision-making than originally preferred with the majority (55%) making a treatment decision after considering their physician's opinion. Levels of satisfaction were significantly higher ($p < .001$) and

levels of decisional conflict were significantly lower ($p < .001$) post-treatment decision. Data suggests that this is an effective method of providing information decision support to these men at the time of diagnosis. Further research is required to compare this intervention with standard care.

Funding Sources: Health Canada, National Cancer Institute of Canada

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THE OMNIPRESENCE OF CANCER. Maya Shaha RN, post-doc, University of Applied Sciences Health Freiburg, Freiburg, Czech Republic.

The purpose of this paper is to discuss a phenomenological study that used parts of Heidegger's philosophy as a frame of reference that has provided a unique perspective on the nature of cancer. Drawing on Heidegger's philosophy allowed for a re-conceptualization of everyday life and its importance for a patient with a chronic illness such as colorectal cancer.

The study was conceptualized to discover how patients who had been diagnosed with colorectal cancer cope with their illness within the first year, which has been a less explored topic in cancer nursing. Essential elements (Existentials) of the philosophy were selected to guide the study process and the selection of the methods: face to face dialogical interviews, Colaizzi's analytical steps and informing the interpretation of the study findings. Seven patients with a diagnosis of colorectal cancer were followed and interviewed over a time-span of 13 months.

The patients' real life experience at receiving a diagnosis of colorectal cancer has been revealed as an existential process with various forms of coping. Everyday life was adjusted to incorporate the illness. Based on these results, the existential impact of a cancer diagnosis on a person's life was described. It will help nurses caring for cancer patients to better understand the impact of the disease on a person's life. However, this link has theorized the results and prevented ready application to the clinical setting. The strong philosophical focus has also necessitated an involvement of a philosopher and the development of philosophical skills.

'The Omnipresence of Cancer' emerged as one overarching category, containing two sub-categories that were titled: 'Toward Authentic Dasein' and 'Mapping Out The Future'. These categories highlighted patients' realization that a cancer diagnosis will remain with the individual for the rest of his/her life and cannot be escaped even if the medical prognosis is positive. Individuals have the opportunity of engaging in conscious or unconscious self-reflection. With the conclusion of initial treatment, they face returning to everyday life. Within both sub-categories, the concepts of uncertainty, control and transitoriness, which can be defined as people's confrontation with the finitude of human life, are pivotal.

Funding Sources: This study has been supported by a grant by the Swiss Union of Nurses

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SIMILARITIES AND DIFFERENCES IN PATIENT AND FAMILY CAREGIVER QUALITY OF LIFE DURING THE FIRST THREE MONTHS OF CANCER TREATMENT. Barbara Daly, PhD, RN, FAAN, Helen Foley, MSN, RN, Sara Douglas, PhD, RN, Amy R. Lipson, PhD, and Chiou-Fang Liou, MSN, RN, Case Western Reserve University, Cleveland, OH.

A great deal of research has been done to investigate patterns and trends in health-related quality of life (HRQOL) of patients undergoing cancer treatment and the quality of life (QOL) of their family caregivers. However, less is known about the association of patient HRQOL measures and caregiver HRQOL, particularly at the beginning of treatment when psychosocial dimensions may be more vulnerable to the stress of coping with the new diagnosis and life changes entailed by cancer treatment.

The purpose of this study was to examine the baseline and 3 month HRQOL of patients and of their primary caregivers to identify similarities and differences in trajectories over the initial treatment period and in the factors predicting either lower baseline levels of QOL or significant decreases over time.

The conceptual frameworks underlying this study were drawn from Ferrell's quality of life and the Given's model of caregiver burden.

Data were obtained from a pilot of a psychosocial data registry. A convenience sample was obtained by approaching all adult patients >age 45 who were beginning treatment for a new cancer and their family caregiver and seeking consent to participate in the registry. Data from the first 150 patients and their caregivers were used for analysis. Instruments included validated and well-established tools (the FACT-G, SF-12, POMS, and Short Social Support scale). Analyses included Repeated measures ANOVA, correlation, and multiple regression.

Patient scores on all HRQOL measures at the start of treatment were comparable to healthy population norms. Physical performance measures decreased only slightly over time, while all scores on the POMS and the FACT-G improved or remained stable except for social well-being. Caregiver scores on the depression and fatigue subscale of the POMS worsened, as did the role-emotional subscale of the SF12. Characteristics associated with worse HRQOL in each group were identified. Thus, improvements in managing early physical symptoms of patients during cancer treatment appear to be effective in this group. However, the emotional aspects of QOL for caregivers may worsen over time and warrant equal attention.

Funding Sources: National Cancer Institute CA-103736

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THE STRUCTURE OF WORRY IN NEWLY DIAGNOSED LUNG CANCER. Rebecca Lehto, RN, PhD, OCN®, University of Michigan School of Nursing, Ann Arbor, MI.

Worry, often described as a cognitive process associated with anxiety that stems from perceived concerns and threats, is frequent among newly diagnosed cancer patients. Worry is shown to have negative impact on illness representations, learned memory structures that guide adaptation following health care threats. Research has also found that worry can be adaptive, resulting in cognitive integration of illness threats. These contradictory findings suggest that worry has structural properties, and as such would be influential in shaping illness perceptions that inform subsequent cancer adaptation.

The purpose of the study was to examine structural properties of worry in newly diagnosed lung cancer patients. Understanding worry is limited by lack of information on its organizational properties. Research demonstrates that worry has important cognitive processing consequences including selecting attention, influencing perception, encoding, and recall of threatening information.

Worry is conceptualized as symbolic of the activation of self-relevant cognitive structures under threat. The study is based on a neurobehavioral associative cognitive map perspective that emphasizes person-environment compatibility.

Forty-two volunteers (27 males, 15 females) aged 37 to 83 years with suspected lung cancer were assessed in the early post-diagnostic period, and again three weeks following surgery. Kaplan's Conceptual Cognitive Map (3CM) was used to measure the structure of worry. The 3CM involved having participants think of important concepts about their illness, and to write each thought on self-adhesive notes. Participants coded items with positive (+) or negative (-) signs

for affective valence, grouped similar items, and arranged items in meaningful spatial arrays. Volunteers rated content clusters for worry intensity (1 = not at all worrisome to 5 = extremely worrisome). Descriptives, content, frequency, and correlation analyses were used.

Diagnosis and treatment worries were most intense and prevalent before surgery, with increases in symptom concerns following surgery. Other significant worries were related to death, death preparation, and smoking-related issues both pre- and postoperatively. Worry intensity was related to numbers of negatively coded items, specific fear contents, and perceived threats. Findings provide new information about worry properties in newly diagnosed lung cancer patients, pointing to need for targeted cognitive-structural interventions aimed at modifying negative perceptions with less adaptive worry.

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PERCEPTIONS OF UNDERSERVED MINORITY PATIENTS REGARDING THEIR CANCER SYMPTOMS AND CAREGIVERS. Guadalupe Palos, RN, LMSW, DRPH, Ibrahima Gning, DDS, MPH, Yanira Sanchez, LVN, and Maria Sanchez, LVN, University of Texas M.D. Anderson Cancer Center, Houston, TX; and Marlene Cohen, RN, PhD, University of Texas School of Nursing, Houston, TX.

The National Institute of Nursing Research report entitled "Research in Informal Caregiving" notes that one vital aspect of research in informal caregiving is to focus on diverse populations, including ethnic minorities and underserved populations. Minority cancer patients are more likely to present with advanced disease at diagnosis than non-minority patients, which contributes to poorer treatment outcomes, survival rates, and quality of life. The burden of caring for cancer patients may adversely affect the patient and the caregiver who lack adequate resources. Understanding the patient's experience is critical to providing culturally competent cancer care.

The purpose of this pilot study was to understand the meaning of patients' symptoms and their perception of the role of their caregiver. This poster will describe the meanings that African American, Latino, and Caucasian persons attribute to their experiences of having cancer-related symptoms and the help they receive from their family caregiver.

Hermeneutic phenomenological research, the study of how people interpret their lives and make meaning of their experiences, guided this pilot study.

Bilingual staff (English-Spanish) interviewed the patients during a clinic visit to the medical oncology clinic of an inner city county hospital. A total of 24 patients, 7 Caucasians, 8 African Americans, and 9 Latinos were interviewed. Analysis of themes continued until data was saturated.

Our analyses indicated that underserved minority patients with advanced cancer were eager to talk about issues related to their symptoms, particularly when pain and symptom management was a priority. Important themes include the variation in emotional and physical needs that patients experience, importance of support from family and friends, and their concerns of the extra burden the caregiver experienced while caring for them. Data collected related to the themes will be described and compared among the 3 ethnic groups.

POSTER SESSIONS

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QUALITY OF LIFE (QOL) IN OLDER ADULTS UNDERGOING AUTOLOGOUS STEM CELL TRANSPLANT (ASCT). Joseph Tariman, RN, APN, MN, APRN, OCN®, Northwestern Medical Faculty Foundation, Chicago, IL; Judith Paice, RN, PhD, Jayesh Mehta, MD, Sara Duffey, BA, and Seema Singhal, MD, Northwestern University, Chicago, IL.

There is almost a ten-fold increase in the ASCT among older adults (age 65 years and above) from 1995 to 2002 for multiple myeloma. However, QOL of older adults post-ASCT is not known. QOL data is important to guide clinicians and patients with treatment decisions.

1. Survey older adults at least 7 days before transplant, at 3 months, and 12 months post ASCT using the QOL-Bone Marrow Transplant-Survival Tool (QOL-BMT-ST) and determine global QOL score.
2. Describe changes in QOL domains, including physical, psychological, social, and spiritual well-being from baseline to 3 and 12-months post-ASCT.

The Ferrell et al. QOL conceptual model specific to BMT patients was used. Questionnaires were mailed after the consents were obtained. Scoring was 0=worst to 10=best positive. Global QOL scores were obtained by adding all the scores of the subscale divided by 58. The Wilcoxon signed-rank test was used to compare the three sets of data.

The mean global QOL scores for the 8 evaluable subjects (N=12) were good at 6.07, 6.53 and 6.21 at pretransplant, 3-month, and 1-year post-ASCT, respectively. The subscores of the QOL domains were not significantly different when comparing baseline to 3-months post, baseline to 1-yr post or 3-months to 1-year post-ASCT. There was a statistically significant difference only in the spirituality domain when comparing the 3-month to 1-year period ($p<.043$). Three patients dropped out from the study before 3 months post-ASCT and only 1 patient remains for study follow-up.

Respondents recommended ASCT with a mean score of 8 and 8.71 at 3 and at 1-year post-ASCT, respectively. The QOL-BMT-ST tool usefulness was rated poorly with a mean score of 2.85, 4.16 and 2.42 before, 3-months and 1-year post-ASCT. This study suggests that the QOL-BMT-ST tool may be too long for older patients to complete and a new QOL tool with reduced respondent burden may be warranted. Further study is recommended with more subject enrollment to further describe the changes in the QOL of older adults post ASCT and suitability of the QOL-BMT-ST tool.

Funding Sources: Oncology Nursing Society, Chicago Chapter

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SYMPTOMS AND SYMPTOM DISTRESS IN LOCALIZED PROSTATE CANCER. Chao-Pin Hsiao, RN, MS, College of Nursing, University of Arizona, Tucson, AZ; Lois J. Loescher, PhD, RN, College of Nursing and Arizona Cancer Center, University of Arizona, Tucson, AZ; and Ida M. Moore, RN, DNS, College of Nursing, University of Arizona, Tucson, AZ.

The purposes of this project are to (1) systematically review literature on symptoms and symptom distress in men with localized prostate cancer, and (2) synthesize evidence of symptom distress applications and measurement in this group of men.

A comprehensive search of adult human studies reported in English in MEDLINE, PUBMED, CINAHL, and PSYCINFO databases from 1996 to 2005 was conducted to identify studies that assessed symptoms and symptom distress in men with localized prostate cancer.

Prostate cancer is the most commonly diagnosed cancer and the second leading cause of death in American men. Approximately one in every six men in the United States will experience prostate cancer in his lifetime. Many men have clinically localized prostate cancer, which consists of low grade tumors that do not extend beyond the prostate gland. Patients with this diagnosis, however, may experience unique and multidimensional symptoms that occur from diagnosis through

treatment, and thereafter. These symptoms associated with the disease and its treatments are in the form of physical and psychological sequelae (i.e. urinary, bowel problems, and sexual dysfunction). Despite the magnitude of these problems, little research has been conducted on symptom distress in men with localized prostate cancer.

Clarification of symptom distress will aid in our ability to measure this important concept and its relation to other factors such as health-related quality of life. More comprehensive information about symptoms and symptom distress will provide nurses with a better foundation for developing self-management interventions aimed at ameliorating symptom distress and ultimately, enhancing the quality of life in men with localized prostate cancer.

Unclear definition of symptom distress and inconsistency between theoretical definitions and operational definitions of symptom distress are important issues for further research.

A deficiency in knowledge that helps us differentiate symptom distress and related concepts such as health-related quality of life or symptom experiences

The majority of established measures of symptoms and symptom distress do not include disease-specific domains relevant to men with localized prostate cancer, these domains rather than items on existing measures, is another focus for future research.

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COGNITIVE FUNCTION IN BREAST CANCER PATIENTS UNDERGOING CHEMOTHERAPY. Catherine Jansen, RN, PhD(c), OCN®, Kaiser Permanente Medical Center, San Francisco, CA; Marylin Dodd, RN, PhD, FAAN, Christine Miaskowski, RN, PhD, FAAN, and Glenna Dowling, RN, PhD, University of California, San Francisco, San Francisco, CA.

Although chemotherapy does not appear to cross the blood-brain barrier when given in standard doses to patients with breast cancer, a limited amount of empiric evidence suggests that chemotherapy-induced cognitive impairments do occur.

The purposes of this study are (1) to evaluate newly-diagnosed breast cancer patients prior to chemotherapy treatment, and assess changes over time in cognitive function (one week after four cycles of chemotherapy, and twice after chemotherapy completion); and (2) to evaluate correlations between cognitive function and anxiety, depression, fatigue, hemoglobin level, menopausal status, and perception of cognitive function.

A proposed theoretical framework of "Potential Contributing Factors for Chemotherapy-Induced Impairments" provided the approach for this study.

This prospective, repeated measures study has a projected convenience sample of 71 women drawn from two outpatient oncology clinics. Instruments used have adequate reliability and validity and include the Repeatable Battery for the Assessment of Neuropsychological Status, Stroop Test, Grooved Pegboard, Attentional Function Index, the Speilberger State Anxiety Questionnaire, the Center for Epidemiological Studies Depression Scale, and the Lee Fatigue Scale. Descriptive statistics will be used to determine sample characteristics, and paired t-tests will be used to test for changes in neuropsychological test scores from baseline. Pearson Product Moment Correlations will be used to examine the relationships between subject variables and psychometric test scores at each time period.

Though this study is ongoing, preliminary results based on nine women with stage I or II breast cancer who had completed two assessments revealed no significant changes in cognitive function over time. At baseline (T0), depression was significantly correlated with immediate memory ($r = -.649$, $p = .012$); visual spatial ($r = -.538$, $p = .047$); language ($r = -.554$, $p = .04$); and delayed memory ($r = -.685$, $p = .007$) scores. Those significant correlations continued at T1, but the magnitude of the correlations was increased. With a larger sample size and longer follow-up, it is hoped that we will be able to elucidate the phenomenon of chemotherapy-induced cognitive impairments and describe its characteristics (i.e., onset, duration), as well as corresponding covariates.

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SYMPTOM CLUSTERS IN ELDERLY CANCER PATIENTS: A LONGITUDINAL, COMPARATIVE PERSPECTIVE. Sharon Kozachik, RN, MSN, PhD, Johns Hopkins University, Baltimore, MD; Victoria Mock, DNSc, AOCN®, FAAN, Johns Hopkins University, School of Nursing, Baltimore, MD; and Karen Bandeen-Roche, PhD, Johns Hopkins University, School of Public Health, Baltimore, MD.

Cancer and treatment-related symptoms rarely occur in isolation and are problematic for cancer patients long after adjuvant therapy has ended. Symptom clustering can illuminate the nature of co-occurring symptoms.

The purpose of this secondary analysis of Family Home Care for Cancer—A Community-Based Model, Barbara A. Given, PhD, RN, FAAN and Charles W. Given, PhD, Principal Investigators, was to explore the nature of symptom clustering in a sample of elders, at 6, 12, 24 and 52 weeks following diagnosis.

An adaptation of The Family Care Model guided this secondary analysis.

Inclusion into secondary analysis required that elder participants completed all four waves of data collection in the parent study, resulting in n = 518. A 32-item symptom inventory, developed by the PIs of the parent study, provided symptoms data; its reliability was reported in prior work.

Descriptive statistics were used to describe sample characteristics. Hierarchical agglomerated cluster analysis was employed, using the simple matching similarity coefficient for binary variables and the complete linkage method, to explore symptom clusters. A clustering coefficient cut-off of 0.600 was used to define clusters. The typical participant was Caucasian, 72.3 years old, diagnosed with early stage disease, and had 7.5 symptoms at study entry. Participants were diagnosed with breast (n = 176), prostate (n = 176), colorectal (n = 92) or lung cancer (n = 74).

At week 6, four symptom clusters emerged. At weeks12 and 24, two symptom clusters emerged. At week 52, one symptom cluster emerged. There were 15 symptoms common to a cluster, across time; none of the participants reported their co-occurrence at any observation.

Symptom co-occurrence remained an issue 1 year post-cancer diagnosis; nurses are in a pivotal role to facilitate symptom management. Cluster analysis helps identify the nature of symptom co-occurrence, yet it is fraught with limitations. Variation in any one aspect of cluster analysis: 1) Level of data measurement, 2) clustering method or 3) similarity/dissimilarity coefficient, will result in different symptom clusters, thus more research is needed. Symptom clustering research is exploratory in nature, and can assist in theory development and to identify biological linkages among co-occurring symptoms.

Funding Sources: Family Home Care for Cancer--A Community-Based Model, grant R01 NR/CA01915, funded by Department of Health and Human Services, NCNR , Agency for Health Care Policy and Research, National Cancer Institute; Symptom Clusters in Elderly Cancer Patients funded through a National Research Service Award, National Institute of Nursing Research grant F31-NR08959

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PROSPECTIVE NURSING STUDY OF BREAST CANCER LYMPHEDEMA: EXPLORING POSSIBLE RELATIONSHIPS WITH TAMOXIFEN THERAPY. Mary Henggeler, BFA, nursing student, undergraduate research fellow, and Jane Armer, PhD, RN, School of Nursing–Ellis Fischel Cancer Center, University of Missouri-Columbia, Columbia, MO.

Worldwide, one in nine women will be diagnosed with breast cancer during their lifetimes. Early detection and treatment have increased the survival rate to 95% for early stage cancers. US estimates indicate that 20-40% of these breast cancer survivors are prone to develop lymphedema (LE) or treatment-related limb swelling over their lifetimes. This predisposes individuals to infection, possibly life-threatening, leads to difficulties in clothing fit and activities of daily living, and also affects self-esteem, self-identity, and quality of life.

Tamoxifen, considered a first-choice adjuvant therapy drug following breast cancer treatment, has been shown to halve cancer recurrence risk. Currently research has not established a possible association between tamoxifen use and LE occurrence. The research goal is to analyze existing data to explore tamoxifen-related variables in LE occurrence and whether or not LE occurrence is higher in breast cancer survivors who take tamoxifen.

Tamoxifen is known to influence fluid and electrolyte balance. Theoretically, it may increase capillary membrane permeability, thus increasing the interstitial fluid movement and workload of a lymphatic system already compromised by surgery and, often, radiation. This study uses Armer, Heppner, and Mallinckrodt's (2002) model depicting possible predisposing and treatment-related factors influencing post-breast cancer lymphedema emergence, with tamoxifen usage of greater than 6 months as the hypothesized treatment-related factor.

A secondary analysis of data from an established NIH-funded parent study will be performed. The NIH study includes over 200 persons newly-diagnosed with breast cancer who were consented, enrolled, and assessed at pre-op, post-op, and followed for 30 months. Four LE measurements were defined in exploring approaches to assessing and diagnosing post-breast cancer LE. In this proposal, data from self-report of symptoms and tamoxifen use are derived from the nurse interview using a validated measurement tool and medical record review. Limb volume estimation data are derived from reliable and valid perometry measurement.

Indicators of a relationship between tamoxifen and LE occurrence would provide an early identifier for at-risk individuals, target interventions, and justify future research examining the underlying physiological cellular mechanism associated with LE emergence in the presence of tamoxifen.

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OLDER BREAST CANCER SURVIVORS' SYMPTOM REPRESENTATIONS: A CONTENT ANALYSIS. Heather Royer, MS, APRN-BC, Cynthia Phelan, RN, MS, Nancy Ninman, RN, MS, and Susan Heidrich, PhD, RN, University of Wisconsin–Madison, Madison, WI.

Older women who have survived breast cancer commonly report multiple symptoms. Unfortunately, these symptoms can interfere with daily functioning. To enhance the quality of life, symptom management is vital. However, because older women can experience any number of symptoms that vary greatly among individuals, standardized interventions for symptom management are often unsuccessful. Understanding women's symptom experience is integral to symptom management. The Common Sense Model (CSM) (Leventhal, 1980) is a theoretically-based approach that can be used to understand women's symptom experiences.

The aim of this study is to describe older breast cancer survivors' symptom experiences.

The CSM posits that individuals have representations about health threats that include beliefs about the causes, identity (symptom description), time-line (whether it is acute or chronic), consequences and curability or controllability of symptoms. These beliefs, whether medically correct or not, guide coping behavior

Women (N=21, mean age = 70) were recruited from an oncology clinic and the community to participate in a pilot study testing a symptom management intervention. Women were an average of 2.7 years post-breast cancer diagnosis and reported an average of 16 symptoms.

A nurse researcher conducted telephone interviews regarding symptom experiences. The field notes taken during the interview will be analyzed using content analysis to identify women's symptom representations along the dimensions of the CSM and determine whether there are additional dimensions. The unit of measure will be phrases from the field notes. Two coders will separately categorize the responses into the five CSM dimensions. The coders will compare the data and verify the responses in each category. A measure of inter-rater reliability, percent agreement of > 90% will be established (Neuendorf, 2002).

This theoretically-based approach to understanding symptom experience is unique and may aid in the future development of individualized interventions to manage symptoms in older breast cancer survivors.

Funding Sources: National Institutes of Health/National Cancer Institute P20CA1036972

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THE ROLE OF SEROTONIN IN HOT FLASHES AFTER BREAST CANCER. Janet Carpenter, PhD, RN, Todd Skaar, PhD, Anna Maria Storniolo, MD, Yan Jin, MD, Zerusenay Desta, PhD, and Shelley Johns, PsyD, Indiana University, Indianapolis, IN.

Although hot flashes are frequent, severe and bothersome for women with breast cancer, a lack of understanding of hot flash physiology undermines successful treatment. Although selective serotonin receptor inhibitors are the treatment of choice for hot flashes after breast cancer, the role of serotonin in hot flashes has not been directly tested. Understanding serotonin's role in hot flashes will enable development of more targeted behavioral and/or pharmacological therapies.

Purposes are to (1) directly manipulate the central serotonin system and evaluate effect on hot flashes and (2) evaluate genetic variations in serotonin receptors and transporters that may predict response to serotonin manipulation.

Our framework is based on the acute tryptophan depletion paradigm, physiological models of hot flash etiology and published literature on the role of the tryptophan-degrading enzyme, indoleamine 2, 3-dioxygenase, in breast cancer.

Using a within subjects, double blind, placebo controlled, balanced, crossover study, each participant takes part in two 9-hour test days. One day, participants ingest a concentrated amino acid drink and encapsulated amino acids (no tryptophan) with specific effects on serotonin within 4.5 to 7 hours. On the other day, women ingest a control drink with no effects on serotonin. Participants arrive fasting,

provide serial blood samples, take part in side effects assessments, and wear a hot flash monitor. Accrual of study participants will continue through 2007. Preliminary results will be presented.

Results will guide development of improved or novel interventions for alleviating hot flashes in women with breast cancer. If serotonin is found to play a role in hot flashes, interventions may be developed to target the central serotonin system behaviorally (e.g., diet) or pharmacologically (e.g., novel drugs). If serotonin manipulation does not affect hot flashes, findings will guide future research on non-serotonin related etiologies and interventions.

Funding Sources: Department of Defense BC043199

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COGNITIVE FUNCTION PRIOR TO AND FOLLOWING CHEMOTHERAPY TREATMENT IN PATIENTS WITH LUNG CANCER. Erna Wilkie, BN, RGN, Cancer Cert (ENB237), University of Dundee, Dundee, Great Britain; Sinead Rhodes, PhD, MLitt, BA (Hons), University of Stirling, Stirling, Great Britain; Mitchell Stewart, MB, ChB, FDSRCPS, MRCPsych, NHS Tayside, Dundee, Great Britain; Elaine Rankin, BSc, MB, ChB (Hons), MD, FRCP, FRCPE, University of Dundee, Dundee, Great Britain; and Ian Ried, MB, ChB, BmedBiol, PhD, MRCPsych, University of Aberdeen, Aberdeen, Great Britain.

While a growing body of evidence suggests that chemotherapy treatment is associated with a variety of cognitive impairments, studies have rarely assessed cognitive function prior to and during systemic treatment for lung cancer, or included a patient control group for comparison.

To identify whether cognitive function is related to a diagnosis of cancer per se, the present study compared the cognitive function of lung cancer patients before, during and after treatment with that of a matched control group of chronic obstructive pulmonary disease (COPD) patients.

Patients with newly diagnosed advanced lung cancer and a group of patients with COPD were demographically matched for age, sex, IQ, O2 saturation and smoking history. Patients performed a range of cognitive tasks from the Cambridge Neuropsychological Test Automated Battery (CANTAB), an executively validated battery, chosen because tasks are differentially sensitive to dysfunction in specific areas of the brain including frontal, temporal and amygdalo-hippocampal regions.

Data is reported here from the Spatial Working Memory and Stockings of Cambridge tasks, involving assessment of working memory and planning respectively. Repeated measures ANOVA, was used to compare the performance of the two patient groups prior to chemotherapy treatment and across the 6 and 12 week testing session. Patients with lung cancer showed impaired planning on the Stockings of Cambridge task prior to chemotherapy, and this continued across the 12-week period. Chemotherapy did not further impair this deficit in planning shown by the lung cancer patients nor did their planning ability improve over the 12-week period. While patients with lung cancer showed no impairment in working memory at baseline testing, treatment with chemotherapy was associated with impairment on the Spatial Working Memory task.

This data suggests that both a diagnosis of lung cancer and chemotherapy treatment, are associated with impairments in cognitive function. Importantly, a diagnosis of lung cancer and chemotherapy treatment, are associated with differential selective impairment in cognitive function, which may have significant implications for the ability of patients to engage in efficient decision-making plus dealing with and retaining information regarding their illness and its treatment.

Funding Sources: Chief Scientist Office, Scottish Executive, Scotland, UK

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SEROTONIN AND COGNITIVE DYSFUNCTION IN BREAST CANCER SURVIVORS. Diane Von Ah, PhD, RN, and Janet Carpenter, PhD, RN, Indiana University, School of Nursing, Indianapolis, IN; and Todd Skaar, PhD, Indiana University, School of Medicine, Indianapolis, IN.

Significance of the study: Although cognitive dysfunction is a prevalent, persistent, and disruptive problem for many breast cancer survivors, little research has examined its etiology.

Purpose: We are examining the role of serotonin in cognitive dysfunction. Hypotheses are (1) alterations in central serotonin levels induce cognitive dysfunction in women with breast cancer and (2) variability in response to serotonin manipulation can be partly explained by genetic variations in serotonin receptors and transporters.

Scientific Framework: A biobehavioral model using the acute tryptophan depletion paradigm is being used.

Methods and Analysis: This is a within-subjects, double blind, placebo controlled, crossover study. 30 female breast cancer survivors who are >1 month but < 5 years post-treatment (surgery, radiation, chemotherapy) for non-metastatic breast cancer will be recruited from a cancer center. Consenting participants will receive acute tryptophan depletion based on published procedures or a control condition in random order during two test days at the General Clinical Research Center. On one day, participants will ingest a concentrated amino acid drink and encapsulated amino acids (no tryptophan) according to published procedures that have been shown to have specific effects on serotonin within 4.5 to 7 hours. On the other day, women will ingest a control drink with no effects on serotonin. Serial venous blood sampling is used to monitor response to each condition and to investigate genetic polymorphisms that may affect response. Cognitive dysfunction will be measured at the same time each test day using standardized neuropsychological tests. Data will be analyzed using descriptive statistics, MANOVA for overall differences between groups and MANCOVA to adjust for potential covariates such as age, education, previous medical treatment and current medications. Our main hypothesis will be supported if cognitive dysfunction is exacerbated during acute tryptophan depletion.

Findings and Implications: Results will help guide the development of improved or novel interventions targeting the central serotonin system either behaviorally (e.g., diet) or pharmacologically. Null results will be equally as useful in guiding future research on non-serotonergic etiologies and interventions. Findings will ultimately be used to reduce cognitive dysfunction and improve quality of life breast cancer survivors.

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QUALITY OF LIFE FOR MEN RECEIVING A SECOND TREATMENT FOR PROSTATE CANCER: DATA FROM CAPSURE. David Latini, Baylor College of Medicine and MEDVAMC, Houston, TX; Shelley Arredondo, MD, MPH, University of California, San Francisco (UCSF), San Francisco, CA; Natalia Sadetsky, MD, MPH, PhD(c), UCSF Urology, San Francisco, CA; Jun Kawakami, MD, MSc, Queens University, Kingston, Canada; and Peter Carroll, MD, UCSF Urology, San Francisco, CA.

We assessed the impact of second treatment on health-related quality of life (HRQOL) for men with prostate cancer. This is an important issue because second treatment resulting from PSA recurrence has the potential to further negatively impact HRQOL and affect the overall value of treatment

We build on the results of 2 small cross-sectional studies by examining HRQOL longitudinally for RP patients without recurrent disease compared with RP patients who received a second treatment for recurrent disease. This longitudinal approach allowed us to examine HRQOL before initial treatment for PCa as well as post-recurrence to understand whether men who will eventually recur and receive a second treatment present with poorer baseline HRQOL.

We report descriptive results from a longitudinal, observational national registry of men with localized prostate cancer.

We compared differences in HRQOL before and after second treatment for men who had asymptomatic PSA recurrence (N=175) with those who did not have biochemical failure (N=722). We examined HRQOL at baseline with a model adjusting for baseline clinical and sociodemographic characteristics. Longitudinal changes in HRQOL were evaluated using a repeated-measures approach for each HRQOL domain. Men in this analysis (N=897) had localized disease, initially underwent radical prostatectomy (RP) monotherapy, and completed at least one pre- and post-RP HRQOL questionnaire. The Medical Outcomes Survey Short Form-36 and UCLA Prostate Cancer Index were used to measure HRQOL. Associations between patient groups and time interval on HRQOL were analyzed using repeated measures.

Men who received a second treatment presented with more severe disease before RP and had worse general HRQOL. Although HRQOL differed significantly over time for the 2 groups, most domains for the second treatment group improved or remained stable until 15 months before second treatment, at which point they declined. Scores in the Sexual Functioning and Role-Physical domains showed both clinically and statistically significant patterns of decline over time. HRQOL is affected following second treatment but starts to decline approximately 1 year before second treatment. Not all aspects of HRQOL declined at the same rate, so patients should be counseled that certain domains may be affected more by additional treatment.

Funding Sources: National Institutes of Health/National Cancer Institute University of California-San Francisco SPORE Special Program of Research Excellence P50 C89520

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THE RELATIONSHIP BETWEEN THE COLORECTAL CANCER PATIENT'S PERCEPTION OF FEAR, HOPELESSNESS, AND ADHERENCE WITH ANTIDIARRHEA MEDICATIONS. Laura Ford, BSN, RN, Consultants in Blood Disorders and Cancer, Louisville, KY; Julie Ferreira, BSN, RN, Norton Suburban Hospital, Louisville, KY; Yolonda Nunn, BSN, RN, and Michelle Savage, BA, AAS, RN, University of Louisville Hospital, Louisville, KY; Mary Texas, BSN, RN, Jefferson County Health Department, Louisville, KY; and Ann Lyons, MSN, DNS, RN, Spalding University, Louisville, KY.

Cancer treatment-induced diarrhea can have devastating effects on patients, negatively impacting their physical, emotional, and psychosocial well-being. These issues can intensify over time, and result in non-compliance with prescribed medical regimes, and undesired therapeutic outcomes. Nonadherence of antidiarrhea medications can lead to complications such as excessive diarrhea, dehydration, weight loss, increased risk for infection, electrolyte imbalance, and may lead to cancer treatment modifications or delay treatment completion.

The purpose was to examine the relationship between the perception of fear, hopelessness, and adherence with antidiarrhea medications in colorectal cancer patients receiving chemotherapy in an outpatient setting.

The Lazarus Theory of Stress and Coping Model was used to guide this quantitative, cross-sectional, descriptive, correlational, nonexperimental study.

The nonprobability sample (N =49) recruited from a local metropolitan outpatient oncology office consisted of patients diagnosed with colorectal cancer, currently taking a prescribed or recommended anti-diarrhea medication and actively receiving cancer treatment. The Beck Hopelessness Scale, and the Medical Outcomes Study (MOS) General Adherence Items Questionnaire were used to collect data in the study. In addition, a researcher developed global fear question and a twelve- item demographic questionnaire were utilized.

SPSS Version 14.0. was used to analyze the data. Adherence to anti-diarrhea medications and hopelessness was not significant (r=.664; p=.663). A weak positive correlation was found between fear and adherence to antidiarrhea medications (r=.270; p=.064). Note the findings only approached significance due to the small sample size. Significance between adherence to antidiarrhea medications and demographics variables such as age (r=.359; p=.011), male versus female (t=2.38, df=46, p=.021), number of days experiencing loose stools versus high levels of hopelessness (r=.332; p=.020) and martial status (F(2,44)=10.79, p>.001) were noted. The results of the study indicate the importance of examining the psychosocial dynamics involved in the medical treatment of colorectal cancer patients, specifically emotions. Information obtained from this may help healthcare professionals in educating colorectal cancer patients on the importance of adherence with prescribed anti-diarrhea medications, by providing appropriate interventions which may include emotional support, empathetic listening, and referrals to counselors and support groups.

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ADOLESCENT BARRIERS TO PAIN MANAGEMENT. Suzanne Ameringer, MS, RN, Sandra Ward, RN, PhD, FAAN, Ronald Serlin, PhD, and Susan Hughes, MS, RN, University of Wisconsin–Madison, Madison, WI.

Patient-related barriers to pain management are one of the determinants of poor pain management in adults but these barriers have rarely been examined in adolescents. Barriers interfere with critical coping efforts such as reporting pain and using medications. Evidence suggests that adolescents with cancer have similar barriers to pain management as adults, such as fear of addiction; and they may have unique barriers due to their status as minors. For example, they may be reluctant to report pain if they are concerned that their social activities will be restricted. The Adolescent Barriers Questionnaire (ABQ) was recently developed to measure these barriers.

The aims of this work in progress are to (a) conduct a factor analysis of the ABQ, (b) describe adolescent barriers, and (c) examine barriers by age and gender.

The framework is based on a stress and coping model that links beliefs to coping and then to outcomes.

The projected sample will be approximately 150 adolescents, ages 12 to 17, recruited from Wisconsin, diagnosed with cancer within the past 4 years. Measures include the ABQ and background information. The ABQ is a 45-item, self-report instrument designed to measure the extent to which adolescents hold beliefs about cancer pain, reporting pain, and using analgesics. Participants rate the extent to which they agree with each item on a scale from 0 (do not agree at all) to 5 (agree very much). Higher scores indicate stronger barriers. Background information will be assessed (e.g. age, gender, race, diagnosis). A factor analysis of the ABQ and the mean (SD) and internal consistency of the factors and total scores for the ABQ will be conducted, as well as the median, mode, range of scores, skewness, and kurtosis of the instrument. A correlation test of age and barriers and a test of mean differences between genders will be conducted.

Results of the factor analysis, descriptive statistics, and the tests between age and barrier scores and gender and barrier scores will be reported. Increasing understanding of adolescents' barriers to pain management has important implications for education directed at overcoming these barriers for adolescents and their families.

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ONCOLOGY PATIENTS REFERRED TO PSYCHIATRY WITH CO-MORBID SEXUAL DYSFUNCTION. Mary Hughes, BS, MS, RN, CNS, CT, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Sexuality is a quality of life issue that is often overlooked in patients with other co-morbid conditions, but it is often important to oncology patients. Oncology nurses lack the education and experience to address these issues and don't realize the prevalence of sexual dysfunction in this patient population.

Since sexuality was not being addressed elsewhere in this large community/hospital based oncology center, a Psychiatric Clinical Nurse Specialist (CNS) in the Psychiatry Section of the Department of Neuro-oncology Department started addressing these issues. A pilot project was done that showed 75% of the patients seen in psychiatry had a sexual dysfunction. These results prompted a larger study to determine the prevalence of sexual dysfunction in this patient population. Annon's PLISSIT model of sexual assessment was used and will be described as well as interventions to help the patient with sexual dysfunction.

The bio-psychosocial model was used in this research. Biological changes occurred in the patient due to the cancer and/or its treatment and psychosocial changes also occurred. All of the patients seen were referred to Psychiatry for psychiatric reasons, but also had biological changes.

After obtaining IRB approval, a retrospective chart review was done on 750 oncology patients who were referred to a Psychiatric CNS over a 6-year period for psychiatric reasons. Even though the referral was for a psychiatric reason, a self-reported, verbal sexual assessment was included with the initial interview by the CNS. Specific types of sexual dysfunction for each gender will be described.

78% of the oncology patients referred to a Psychiatric CNS were found to have a co-morbid sexual dysfunction. All of the patients had a co-morbid cancer diagnosis that contributed to their sexual dysfunction. 78% of the patients seen were female and 78% of those reported a sexual dysfunction. Of the males seen, 76% reported some type of sexual dysfunction. When a patient has several co-morbid conditions, it is easy to overlook sexual concerns. Patients do not readily bring this up, so it is important that the oncology nurse do a cursory sexual assessment on all patients.

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THE EXPERIENCE AND SYMPTOM BURDEN OF CHRONIC GRAFT-VERSUS-HOST DISEASE. Lori Williams, RN, DSN, OCN®, AOCN®, Daniel Couriel, MD, Joyce Neumann, RN, APN, MS, Meagan Whisenant, RN, BSN, Ellaine Galbizo, RN, BSN, and Charles Cleveland, PhD, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Chronic graft-versus-host disease (cGVHD) is an autoimmune-like reaction occurring after allogeneic blood or marrow transplantation (BMT). cGVHD causes debilitating symptoms for patients who have been cured of underlying malignancies. Oncology nursing aims to decrease the burden of symptoms for patients and families.

There is scant literature addressing the symptom burden of cGVHD. The major barrier to good symptom management is inadequate assessment. The specific aims of this study are to: 1) describe the symptom experience of cGVHD; and 2) establish the content domain for an instrument to measure the symptom burden of cGVHD.

The framework for this study is the concept of symptom burden. Symptom burden is the combined impact of all symptoms on the individual's ability to function as one did prior to onset of disease and therapy.

This is a qualitative, cross-sectional study. The study sample is projected to be 20 adults with active cGVHD at a comprehensive cancer center in the southern United States, who will describe their experience of having cGVHD in single audiotaped dialogues. Using an exploratory descriptive method, the researcher is analyzing transcripts of the dialogues and developing themes of the cGVHD symptom experience. Recruitment will continue until dialogue analysis identifies no new themes. The themes will be used to construct a unified description of the symptom burden of cGVHD. To ensure accuracy, identification of themes by the researcher will be reviewed and confirmed by 3 other researchers experienced in qualitative analysis, oncology nursing, symptom assessment, and BMT.

Analysis of the first 5 dialogues revealed 5 symptom themes: thinking and feeling; skin, muscles, and joints; strength and endurance; sensation; and gastrointestinal tract. Participants described 4 themes of symptom interference with functioning: self-care; routine activities; work, hobbies, and pastimes; and sense of self and dignity. Themes of increased symptom burden with longer duration of symptoms and with greater uncertainty of diagnosis, treatment, and exacerbation of symptoms also emerged. Describing the experience of cGVHD and defining the content domain for the measurement of cGVHD symptom burden is the first step in assisting researchers and clinicians to better assess and manage the symptom burden of cGVHD.

Funding Sources: ONS Foundation 2005 Symptom Management Grant

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A META-ANALYSIS OF THE RELATIONSHIP BETWEEN PAIN BELIEFS/ATTITUDES AND PAIN EXPERIENCE. Lih-Mih Chen, Kaohsiung Medical University, Kaohsiung City, Taiwan; and Christine Miaskowski, RN, PhD, FAAN, and Marylin Dodd, RN PhD, FAAN, Department of Physiological Nursing, University of California, San Francisco, San Francisco, CA.

Understanding the interactions between various dimensions of the cancer pain experience may provide new insights that can improve pain management. According to the Multidimensional Model of Cancer Pain (i.e., physiologic, sensory, affective, cognitive, behavioral, and sociocultural), pain beliefs/attitudes are an important element of the cognitive dimension in cancer pain experience. Neither meta-analyses or literature reviews were found that could be used to determine the effect size of pain beliefs/attitudes on the various dimensions of the pain experience.

The purpose of this meta-analysis was to determine the influence of pain beliefs/attitudes on various aspects of the pain experience through the calculation of effect sizes.

Multidimensional Model of Cancer Pain has been used in this study.

A structured search of six bibliographic databases (PubMed, Eric, CINAHL, PsycINFO, HAPI, and Chinese Journal) from 1966 to 2005 was done to identify original clinical reports or reviews that evaluated the relationships between "pain beliefs/attitudes" and "pain experience". The studies were rated on 10 criteria using a quality scoring system and effect sizes were determined using Johnson's DSTAT program.

Ten non-experimental studies were identified and included 1,612 adults who had either chronic pain (N=1418) or cancer pain (N=194). The total average weighted effect size of the correlation between pain beliefs/attitudes and various aspects of the pain experience demonstrated a medium effect (d=0.51). The average effect sizes for the correlation between pain beliefs and sensory dimension (pain intensity and pain quality) were medium (d=0.43 and d=0.78), affective dimension (depression and anxiety) were medium and large (d=0.76 and d=0.93), and behavioral dimension (disability and analgesics adherence) were small (d=0.27 and d=0.32). Only the relationship between pain beliefs and one aspect of the sensory dimension, namely pain intensity, had a large enough number of studies and had sufficient number of patients to provide a reasonable estimate of an effect size. Therefore, the ability to infer the magnitude of the relationships between pain beliefs/attitudes and the various dimensions of the pain experience is extremely limited. The relationship between pain beliefs/attitudes and various dimensions of the cancer pain experience (e.g., physiologic, affective, behavioral, and sociocultural) require additional investigations.

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SYMPTOM CLUSTERS IN PATIENTS WITH HIGH-GRADE GLIOMA. Sherry Fox, PhD, RN, CNRN, St. Mary's Hospital, Richmond, VA; Debra Lyon, PhD, RN, Virginia Commonwealth University School of Nursing, Richmond, VA; and Elana Farace, PhD, Pennsylvania State University, Hershey, PA.

The co-occurrence of symptoms such as depression, pain, fatigue, sleep disturbances and cognitive impairment have been clinically observed in persons with high-grade glioma (brain tumors), however their interrelationships and effects on QOL and functional status have not been theorectically and empirically explored and reported.

The purpose of this research is to describe the interrelationships between depression, fatigue, pain, sleep disturbance and cognitive impairment in patients with high-grade glioma (brain tumor) and to further describe the symptom interrelationships (clusters) on QOL and functional status.

According to the Theory of Unpleasant Symptoms (TOUS) symptoms co-occur, have synergist effects on each other, and have resultant effects on patient outcomes such as quality of life and functional status.

The sample consisted of 73 persons with a mean age of 46 (13.03) who were predominately Caucasian (96%), married (71%), men (53.4 %). On average the participants were diagnosed 46 months prior to the study, and were distributed between glioblastoma multiforme (45.2%), anaplastic astrocytoma (26%), and oligoastrocytoma Grade III (20.5%).

Subjects completed seven brief written measures on one occasion. Analysis of data included total scale scores for symptoms, QOL and functional status.

Depression, fatigue, sleep disturbance, and cognitive impairment were significantly correlated with QOL. Pain was not significantly correlated with QOL. Depression, fatigue, sleep disturbance, pain, and cognitive impairment were significantly correlated with functional status. The four independent variables that were correlated with QOL were entered in a block and regressed on the dependent variable explore the existence of a cluster. The three variables explained 29% ($F = 8.09$, $p = 0.000$) of the variance in QOL. Next, the five independent variables that were correlated with functional status were entered in a block and regressed on the dependent variable, functional status in order to explore the cluster. The five variables explained 62% ($F = 19.63$, $p = 0.000$) of the variance in functional status. Results suggest that persons with high-grade glioma (brain tumor) have at least two symptom clusters based on TOUS and that future inventions designed to treat the cluster may result in improved quality of life or functional status.

Funding Sources: University of Virginia School of Nursing Intramural Funds

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PREDICTORS OF THE INTENSITY OF SYMPTOMS IN A CLUSTER IN BREAST CANCER: A SECONDARY ANALYSIS. Hee-Ju Kim, RN, University of Pennsylvania, Philadelphia, PA; Andrea Barsevick, DNSc, RN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA; and Lorraine Tulman, DNSc, RN, FAAN, University of Pennsylvania School of Nursing, Philadelphia, PA.

Symptom cluster can be a target of assessment and treatment of symptoms in cancer patients. It will be useful to identify the influencing factors of symptom clusters (e.g., the predictive factors for the intensity of symptoms in a cluster) because we can use this information for assessment of, and intervention for, that symptom cluster.

This study aimed to examine the influence of selected demographic/clinical variables (age, race, employment status, marital status, comorbid conditions, treatment modality, disease stage, and baseline physical performance status) on the intensity of symptoms in a cluster across treatment trajectory. The initial analysis found that symptoms had a tendency to cluster into two groups across time points of treatment, and therefore two distinct symptom clusters were named: a psycho-neurological symptom cluster and an upper gastrointestinal symptom cluster. The present study examined the influence of selected demographic/clinical variables on the intensity of symptoms in a cluster.

The Theory of Unpleasant Symptoms provided the conceptual basis for this study. This theory describes the existence of symptom clusters and influencing variables on symptoms.

A secondary analysis of a sample of 282 breast cancer patients undergoing chemotherapy or radiotherapy was conducted. The influence of selected demographic/clinical variables on the intensity of symptoms in a cluster was examined by multiple regression analysis. Instruments included: the General Fatigue Scale (fatigue); the Profile of Mood States-Short Form (Depressive mood); the Pittsburgh Sleep Quality Inventory (insomnia); the Side Effect Checklist (16 other symptoms); the ECOG performance status (baseline performance status); and clinical/demographic data sheets. Psychometric evaluations have been done for the measures.

Baseline physical performance status was a consistently significant predictor across time points for the psycho-neurological symptom cluster. Age and treatment modality were consistently significant predictors for the upper gastrointestinal symptom cluster across time points. Younger patients, chemotherapy patients, and patients with more limitations in physical performance status at baseline had more intense symptoms. This study stresses (a) the utility of baseline physical performance in anticipating symptoms during treatment and in evaluating the success of management, and (b) a possibility of the collective symptom management.

Funding Sources: Sigma Theta Tau International

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CIRCADIAN FUNCTION IN PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER. Mary Daehler, RN, CRNI, OCN®, MS, Robert Levin, MD, James Grutsch, PhD, Joy Jardinico, BSN, Midwestern Regional Medical Center, Zion, IL; and William Hrushesky, MD, Veterans Administration Medical Center, Columbia, SC.

The subjective sleep quality of cancer patients approaches levels found in insomniacs. Disturbances in sleep patterns may account for symptoms of fatigue, irritability, depression and decreased activities of daily life.

This study looks at the self reported symptoms of fatigue and related factors and coorlates the data with actigraphy data which demonstrates circadian function.

Fatigue is linked to disrupted sleep rhythms and the prevalence of fatigue in chemotherapy patients.

Patients were given baseline questionnaires prior to randomization. Actigraphy bracelet was worn for 4 to 7 days to record the wake sleep cycle. Data was analysis included descriptive statistics such as mean and standard error, Analysis of Variance or Kruskall-Wallis test. Actigraphy data was analyzed by the Act Millennium and Action W2 software.

Patients with NSCL cancer have distorted circadian function which is independent of their performance status. They exhibit patters of disrupted circadian function, complaints of poor sleep quality, fatigue and insomnia.

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A PATH ANALYSIS MODELING THE SYMPTOM EXPERIENCE OF CANCER PATIENTS COMMENCING ADJUVANT TREATMENT IN AMBULATORY CLINICS. Helen Skerman, Patsy Yates, and Diana Battistutta, Queensland University of Technology, Brisbane, Australia.

Typically, patients experience multiple concurrent symptoms, or symptom clusters, in relation to cancer, its treatment, or the combined effect. Exploratory research of symptom clusters has established relationships between the most frequently occurring and bothersome symptoms for many cancers and treatments. There is a need for research to address the underlying relationships associated with the symptom experience of cancer patients, to improve patient outcomes following treatment.

The purpose of this project is to conduct a secondary data analysis to test the complex relationships that exist between cancer-related symptoms, the medical antecedents, and consequences for patients, following ambulatory care treatment.

The Theory of Unpleasant Symptoms proposes physiologic, psychologic and situational factors interact with each other in relation to the symptom experience, resulting in problems associated with cancer and its treatment. Studies suggest the impact of cancer varies according to the diagnosis, stage of disease, type of treatment and non-medical factors, such as social support, age and gender.

A sample of 219 adult cancer patients, about to commence adjuvant treatment, was consecutively recruited from two public hospitals in Brisbane. A secondary data analysis, implementing a path analysis, will model the influences between demographic, illness and social variables, the symptom experience, and patients' performance outcomes. A modified Rotterdam Symptom Checklist assessed patients' symptom experience indicating prevalence and distress of each symptom. Outcomes in the model are the ECOG performance status, assessed by an oncologist, and global quality of life, determined by self-report on the CARES-SF and a Life Satisfaction instrument developed by the Centre for Mental Health at Queensland University of Technology. Perceived social support, measured by the Social Support Questionnaire for Transactions, will be incorporated as an independent predictor and a mediator between demographic and illness variables and the symptom experience. These instruments have reported moderate to good reliability and validity.

The majority of cancer symptom cluster research has been exploratory, utilizing factor or cluster analysis. Path models allow the direct and indirect effects of variables to be considered with the potential to highlight a specific opportunity for intervention to improve cancer patient outcomes.

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NORMATIVE VALUES OF FATIGUE, SLEEP, ACTIVITY, AND CIRCADIAN RHYTHMS PRIOR TO ADJUVANT BREAST CANCER CHEMOTHERAPY. Ann Berger, PhD, RN, AOCN®, FAAN, Lynne Farr, PhD, retired, Patricia Fischer, BSN, RN, CCRC, and Brett Kuhn, PhD, University of Nebraska Medical Center, Omaha, NE.

The innovative use of actigraphy to measure sleep, activity, and circadian rhythms in cancer patients has increased knowledge about these variables and their relationship to fatigue. However, most reports only include measurements during and following adjuvant breast cancer chemotherapy (ABCC). Obtaining measures prior to treatment can assist in evaluating nursing interventions designed to improve sleep and decrease fatigue.

To provide a description of the normative values and the relationships between fatigue, sleep, activity and circadian rhythms in women prior to ABCC.

The Piper Integrated Fatigue Framework guided the study. If sleep and activity rhythms are related with fatigue prior to ABCC, this knowledge will guide development of interventions to modify fatigue.

This randomized clinical trial compared a behavioral sleep intervention group to a healthy eating group, which were combined for this analysis, N=130; post-operative, with stage I, II, or IIA breast cancer prior to receiving ABCC; mean age = 51.4. All wore a wrist actigraph for 48 hours and completed reliable and valid tools: Pittsburgh Sleep Quality Index (PSQI), a Daily Diary, and the Piper Fatigue Scale (PFS) prior to the first ABCC. Descriptive and correlational analyses were performed.

The Daily Diary, event marker, sleep channel and activity counts on the actigraph were used to set day and night blocks. Mean sleep variables of latency, total sleep time, and percent sleep were within normal limits (WNL). However, time awake after sleep onset (WASO) [62.5(66.0)] and number of awakenings [9.7(5.47) were elevated. Mean activity variables of total sleep time during the day and percent sleep during the day were WNL. Mean circadian rhythm variables of mesor [132.3(24.6)] and amplitude [97.2(22.8)] were 96% and 87% of normal mean values and reflect less robust rhythms. Mean PSQI score was above normal [6.7(3.4)] and PFS scores reflected mild fatigue [2.56(2.0)]. Numerous significant correlations were found between disturbed sleep and fatigue ($p < 0.05$- 0.001). Findings demonstrate disturbed sleep, activity and circadian patterns prior to ABCC. Nurses can teach women prior to ABCC how to obtain quality sleep and remain active to reduce fatigue.

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SELF-REPORTED COGNITIVE SYMPTOMS AND DISTRESS IN SEVEN OLDER ADULTS WITH ADVANCED CANCER. Stewart Bond, RN, MSN, AOCN®, University of North Carolina at Chapel Hill, Chapel Hill, NC.

Cancer patients frequently report cognitive symptoms during and after treatment. These symptoms are distressing and negatively affect daily functioning and quality of life. Today, older adults with advanced cancer undergo more intensive and more prolonged palliative treatment regimens. Older cancer patients are at increased risk for altered cognitive functioning, but little research has focused on

the problem in this ever-growing population. The purpose of this study was to describe the self-reported frequency and distress associated with cognitive symptoms in seven older adults with advanced cancer.

The older adults (6 men and 1 woman) were participants in a longitudinal study examining trajectories and patterns of delirium and delirium vulnerability. Their ages ranged from 66-87 years (M = 75.6; SD = 3.23). Five were married, one widowed, and the other separated. Five were Caucasian and 2 were African-American. Their educational levels varied from 6 years of school to having a graduate degree. The participants had solid tumors of the lung (2), prostate (2), esophagus (1), liver (1), and colon (1). Five had been diagnosed for more than one year and had undergone multiple treatments. The two, more recently diagnosed, had surgery after neoadjuvant treatment. Participants completed the Memorial Symptom Assessment Scale-Short Form (MSAS-SF) at scheduled weekly assessments. The MSAS-SF includes two cognitive symptoms (feeling drowsy and difficulty concentrating) and was modified to include two additional cognitive symptoms (difficulty remembering and feeling confused). Each symptom was scored from 0 (no symptom or no distress) to 4 (very much distress). Descriptive statistics and graphic techniques were used to summarize the frequency and distress associated with cognitive symptoms.

Cognitive symptom frequency and distress varied; 5 reported >2 symptoms at >60% of assessments, while two reported symptoms at <33% of assessments. Mean cognitive symptom distress scores ranged from 0.09 to 2.18. Participants reporting more frequent symptoms and higher distress tended to be older, were closer to death, or had baseline cognitive impairment. This exploratory descriptive study begins to examine cognitive symptoms and distress in older adults with advanced cancer and provides directions for future research on the cognitive effects of cancer and cancer treatment in this vulnerable population.

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NOCTURNAL OXYGENATION AND SLEEP: A COMPARISON OF TWO GROUPS WITH ADVANCED CANCER. Catherine Vena, RN, PhD, and Kathy Parker, PhD, RN, FAAN, Nell Hodgson Woodruff School of Nursing, Emory University, Atlanta, GA; Donald Bliwise, PhD, Department of Neurology, Emory University, Atlanta, GA; Maria Ribiero, MD, and Wayne Harris, MD, VAMC/Winship Cancer Center, Emory University, Atlanta, GA; Sanjay Jain, PhD, MD, Winship Cancer Center, Emory University, Atlanta, GA; and Mary Kay Kohles-Baker, MSW, RN, Nell Hodgson Woodruff School of Nursing, Emory University, Atlanta, GA.

Sleep disturbances in cancer patients adversely affect patient outcomes. Because lung pathology increases the risk of sleep-disordered breathing (SDB), nocturnal oxygenation and sleep in patients with lung tumors and breast cancer patients without lung metastases were described and compared. The study framework is based on research that indicates both sleep and disease-related factors affect ventilatory control, placing patients with lung cancer at risk for SDB and nocturnal hypoxia.

The sample included lung (n=25) and breast (n=25) cancer outpatients who were part of a larger study of pain, opioids and sleep. Mean age was 53.58(9.24) years; 31 were females, 29 were African-American, and were 21 White. All subjects underwent 48-hour ambulatory polysomnography (PSG) including pulse oximetry. Data from two nights (pooled) included mean daytime and nocturnal oxygen saturation (SaO2), hypoxic burden (percentage of total sleep time [TST] with an SaO2<90%), TST (minutes), sleep efficiency (SE, %), wake after sleep onset (WASO, minutes), percentage of REM, and percentage of Stages 1 through 4 NREM sleep. Statistical analyses included descriptive and nonparametric procedures.

The only demographic, clinical, or treatment differences between groups were gender (p<.001), lower age (p=.005) and higher BMI (p=.005) in the breast group. Lung cancer subjects had lower daytime (p=.005) and nocturnal (p=.005) mean SaO2 and tended to have a greater nocturnal hypoxic burden (p=.067). While both groups demonstrated poor quality, fragmented sleep, the lung group had longer sleep latencies (p=.05), more WASO (p=.012), lower SE (p=.025), more Stage 1 (p=.017) and less Stage 3 (p=.003) and REM (p=.01) sleep. In the breast group, oxygenation was not associated with sleep variables. However, in the lung group, hypoxic burden was significantly and negatively correlated with TST (p=.002), SE (p=.004), Stage 2 sleep (p<.001) and positively correlated with WASO (p=.001).

Results suggest SDB may be occurring in lung cancer patients. Further investigation is warranted to address the adverse effects of both disturbed sleep and oxygenation.

Funding Sources: National Institute of Nursing Research, RO1 NR008124

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NEUROSENSORY AND FUNCTIONAL RECOVERY IN OLDER WOMEN AFTER BREAST CANCER SURGERY. Rebecca Crane-Okada, PhD, RN, AOCN®, Elizabeth Mandile, MSN, RN, Armando Giuliano, MD, Parisa Mirzadeghean, MPH, and Helen Mabry, MD, John Wayne Cancer Institute, Santa Monica, CA.

Queries by women about symptoms after breast cancer surgery are coupled with concerns about resumption of activities of daily living, signs of recurrence, and risk of lymphedema. Nurses are often respondents to these concerns and yet have minimal scientific evidence to guide them when assessing subjective and objective symptom patterns over time and giving information about postoperative recovery. This is most uncertain after sentinel lymph node biopsy.

The objective of this longitudinal study is to compare, over two years, the subjective and objective incidence, chronicity, and severity of postoperative sensory changes, lymphedema, and range of motion (ROM), coupled with reports of routine exercise and arm use, in women 50 years of age and older following complete axillary lymph node dissection (ALND) or sentinel lymph node biopsy (SLNB) for breast cancer.

The study was based on cancer survivorship and quality of life theory.

Study participants completed questionnaires preoperatively regarding exercise and upper arm use, symptoms in the arm, shoulder, chest or breast, anxious and depressed mood (Hospital Anxiety and Depression Scale, Center for Epidemiologic Studies-Depression), and quality of life (SF-36v2 Health Survey). An advanced practice nurse conducted an assessment at the same time for pain rating and analgesic use, body mass index, upper extremity ROM, lymphedema, and neurosensory change. Comparisons were made within and between groups and by surgery type before and immediately after surgery, and again at 6-, 12-, 18- and 24-months post-op.

Of the 94 enrolled, 80 have completed six months of follow up. Mean age of participants is 62 (50-87), most are married, White, with stage I disease treated with lumpectomy and SLNB. Data will

be presented for neurosensory symptom pattern, ROM, and other changes over time, by age (50-64 and 65 and older), and by surgery type. Preoperative identification of limitations and strengths, and understanding of symptom patterns over time, will better guide nurses and other health care providers in promoting wellness and supporting women in long-term survivorship with minimal complications.

Funding Sources: Avon Foundation

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POLYSOMNOGRAPHIC MEASURES OF SLEEP MODERATE THE RELATIONSHIP BETWEEN DEPRESSION AND PAIN. Kathy Parker, PhD, RN, FAAN, Nell Hodgson Woodruff School of Nursing, Atlanta, GA; Donald Bliwise, PhD, Emory University, Atlanta, GA; Wayne Harris, MD, Winship Cancer Institute, Atlanta, GA; Sanjay Jain, MD, PhD, Emory University, Atlanta, GA; Maria Ribeiro, MD, Winship Cancer Institute, Atlanta, GA; and Cathy Vena, PhD, RN, Emory University, Atlanta, GA.

Between 30% and 80% of people with cancer report sleep disturbances, pain, and depression. Unfortunately, both depression and treatment of pain with opioids may cause disturbed sleep patterns.

To examine the effects of polysomnographic measures of nocturnal sleep on depression and pain in individuals with advanced cancer taking opioids.

The Symptom Interactional Framework, derived from a synthesis of the theoretical and scientific literature, addresses the potential mechanisms that underlie symptom pairs and clusters.

The sample included 72 subjects with a mean age of 55.9 (9.1); 39 were male. All were taking opioids. Subjects underwent ambulatory polysomnography for 42 hours in their homes. Nocturnal sleep parameters obtained included total sleep time (minutes), sleep efficiency (SE;%); sleep latency (SL; minutes), rapid-eye-movement (REM) sleep latency (REML; minutes), the percentages (%) of Stage 1,2, and slow wave (Stages 3 and 4) non-rapid-eye-movement (NREM) and REM sleep, and the number of awakenings > 60 seconds. All kept an opioid diary, data from which were converted into a mean hourly morphine equivalent dose (HMED). Subjects also completed the Brief Pain Inventory (BPI) and the Beck Depression Inventory (BDI). Descriptive, correlation, and regression procedures were used for data analysis.

Subjects slept a mean of 399.8 (94.7) minutes. The SL was normal but the SE was low. Most sleep was light NREM Stages 1 and 2 with decreased amounts of slow wave and REM sleep. Controlling for pain intensity and interference, HMED was positively associated with Stage 1 % ($r = .360$, $p = .002$) and number of awakenings > 60 seconds ($r = .281$, $p = .019$). Controlling for age and gender, regression analyses demonstrated that slow wave and REM sleep moderated the relationship between depression and pain. Those with more slow wave sleep had less depression despite higher pain intensity ($t = -2.1$, $p = .042$) while those with more REM sleep had less pain interference despite having greater depression ($t = -2.0$, $p = .045$).

Cancer patients with pain taking opioids have disrupted nocturnal sleep patterns. Opioids may lighten and disrupt sleep and alter sleep cycle progression. The resulting decrements of deep and REM sleep may lead to increased depression and enhanced pain.

Funding Sources: National Institute of Nursing Research RO1 NR 008124 and P20 NR07798

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STRESS, SYMPTOMS AND SYMPTOM DISTRESS, AND SYMPTOM SELF-MANAGEMENT IN LOCALIZED PROSTATE CANCER. Chao-Pin Hsiao, RN, MS, and Ida M. (Ki) Moore, RN, DNS, College of Nursing, University of Arizona, Tucson, AZ.

In order to advance nursing practice, it is critical that developing the interventions and symptom self-management strategies are evidence-based. This is the first study to focus on stress, symptoms and symptom distress and symptom self-management among men with localized prostate cancer.

Prostate cancer is the most common diagnosis and second leading cause of death in American men. Patients with localized prostate cancer may experience unique and multidimensional distressful symptoms that occur from diagnosis through treatment, and thereafter. The most reported distressful symptoms are sexual dysfunction, urinary problem, and bowel problem. These physical and psychological symptoms may alter self care, physical functioning, symptom management, and treatment tolerance. Many studies have focused on health related quality of care, but no one has investigated stress, symptoms and symptom distress, and symptom self-management in localized prostate cancer. The purpose of the study has twofold: (a) to investigate the relationships among stress, symptoms and symptom distress, and symptom self-management and (b) to define the effectiveness of symptom self-management strategies among patients with localized prostate cancer following radical prostatectomy and/or radiation therapy.

The Theory of Unpleasant Symptoms was chosen to guide this prospective research. Stress, symptoms and symptom distress, and symptom self-management are the main concepts of the study.

A prospective, descriptive, and cross-sectional research design will be used in this study. Main variables include physiological and psychological stress responses measured by salivary cortisol and Perceived Stress Scale respectively, symptoms and symptom distress measured by The Symptom Index, and symptom self-management measured by The Strategies and Effectiveness Symptom Self-Management Questionnaire. Descriptive statistics, Pearson Product Moment Correlations, and path analysis with structural equation modeling will be used to analyze the data. The SPSS 13.0 and the AMOS 5.0 software will be applied to execute data analysis in this study. In this study, a power of 0.80, an alpha of 0.05, and a moderate effect size of 0.13 are selected. The estimated sample size in this study is 80.

The findings have the potential to help health care providers enhance the effectiveness of nursing interventions for stress management and symptom self-management among men with localized prostate cancer.

Funding Sources: Student Research Grant from Sigma Theta Tau International

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A PILOT CROSSOVER STUDY TO EVALUATE THE USE OF REGENECARE TOPICAL GEL IN PATIENTS WITH CUTANEOUS TOXICITY CAUSED BY EPIDERMAL GROWTH FACTOR RECEPTOR (HER1/EGFR) INHIBITORS. Kimberly Purdy-Lloyd, BS, MS BIOCHEM, MPM Medical Inc., Irving, TX; Sui-Fun Wong, PharmD, Tim Chen, PharmD, Madhavi Mumaneni, MD, Ryan Quist, PhD, and Cathy Vasko, RN, MSN, NP, Western University of Health Sciences, College of Pharmacy, Pomona, CA.

Acneform rash presents as a severe "class adverse side effect" when chemotherapeutic agents known as HER1/EGFR (epidermal growth factor receptor) inhibitors (Erbitux, erlotinib) are administered to cancer patients. Patients report pain and itching that led to discontinuation or reduction of the EGFR inhibitors. Studies indicate that the papulopustular eruption might be a surrogate marker for HER1/EGFR inhibitor efficacy; therefore better rash management is of critical importance to promote optimal use of these agents.

Secondary skin infection can occur from scratching the rash and the appearance can affect patients' quality of life. This study evaluates effectiveness of Regenecare™ Gel in relieving the clinical symptoms of HER1/EGFR inhibitors-induced skin rash. The secondary objective assesses patient tolerability and satisfaction.

Antibiotics, corticosteroids, and retinoids are treatment options for rash management with minimal or moderate success. Regenecare™ Gel contains 2% lidocaine for local pain management, marine collagen to promote tissue formation, aloe vera to enhance circulation and moisturize, and alginate to absorb exudates, which can be optimal for managing the symptoms of EGFR inhibitor-induced acneform rash.

A single center, prospective pilot crossover study is being conducted with 20 cancer patients treated with Erbitux or erlotinib. Baseline photographs are obtained. At the first sign of skin rash, subjects apply gel to the right side of the face following standardized training and consent. Subjects record in a study diary. Subjects are examined weekly for facial evaluations and photographs. When rash on the control side of the face is greater than Grade 1, Regenecare® will be applied to both sides of the face. The study will continue for a total of six weeks. Summarized data will utilize descriptive statistics for all subjects who received at least one treatment cycle of HER1/EGFR inhibitor. Wilcoxin Signed-Rank Test will be utilized to measure differences in skin scoring on left side of face versus right side. Since data will require non-parametric analysis, a paired samples' test or related samples' test is selected. Patient questionnaires will be compiled with the number of responses in each category to each question and reported as percentage of total. Data collection is ongoing and will be presented.

Funding Sources: MPM Medical Inc.

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EXERCISE FOR BODY WEIGHT AND COMPOSITION MAINTENANCE IN BREAST CANCER SURVIVORS: A PILOT STUDY. Carolyn Ingram, RN, DNSC, McMaster University School of Nursing, Hamilton, Canada; Jean Wessel, PhD, McMaster University, School of Rehabilitation Sciences, Hamilton, Canada; and Kerry Courneya, PhD, University of Alberta, Faculty of Physical Education, Calgary, Canada.

Exercise studies have demonstrated many benefits for cancer- and treatment-related symptoms. However, no interventions combining aerobic and resistance exercise have focused specifically on prevention of adverse body weight and composition changes in breast cancer survivors who begin adjuvant chemotherapy (CT) at a healthy weight.

The purpose of this pilot study of 30 women is to determine the effects of a tailored, home-based combined exercise program on the body weight and composition of women receiving adjuvant breast cancer CT. Muscle strength, fatigue, quality of life and dietary intake, and the feasibility and acceptability of the intervention, are also evaluated.

Adverse weight and body composition changes are common during adjuvant CT, and are associated with increased recurrence rates and risk for chronic disease. There are few behavioral interventions to prevent these changes, but exercise holds promise in this regard.

Women aged 18-69 beginning adjuvant CT for stage I - IIIA breast cancer, whose BMI is < 30, are randomized to usual care or the exercise program. Exercisers perform progressive walking up to 4 times per week, and resistance exercises with elastic exercise bands 3 times per week. Body weight and body fat percentage, muscle strength, quality of life, fatigue and dietary intake are measured at baseline, every-other CT cycle and the end of treatment using well validated and reliable measures. Pre- and post-CT DEXA scans are also performed, and feasibility and acceptability are assessed at treatment completion. Descriptive statistics are reported for all variables. Between-group differences are examined with repeated measures ANCOVA for weight and body composition changes using dietary intake as a covariate; repeated measures ANOVA is used for changes in fatigue, quality of life and muscle strength.

Initial results indicate that the intervention is both feasible and effective, and will provide direction for a fully powered study of the intervention.

Funding Sources: Canadian Breast Cancer Research Alliance

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EXERCISE: AN INTERVENTION FOR CARDIOPULMONARY FITNESS IN CANCER PATIENTS. Marylin Dodd, RN, PhD, FAAN, Patricia Painter, PhD, Maria Cho, RN, PhD, Steven Paul, PhD, Christine Miaskowski, RN, PhD, FAAN, and John Duda, RN, University of California, San Francisco, San Francisco, CA.

Previous studies of patients receiving chemotherapy (CTX) and/or radiation therapy (RT) have reported the benefits of exercise on fatigue, none have investigated the benefit an exercise program has on cardiopulmonary fitness (VO2max). The purpose of this randomized clinical trial (RCT) was to test the effectiveness of an intervention, the PRO-SELF: FATIGUE CONTROL Program, an individually tailored home-based exercise training program on V02max. A second purpose was to evaluate the timing of the intervention.

The Integrated Fatigue Model provided the framework for the RCT.

The sample included 104 women with breast (n=99), ovarian (n=4), or colorectal (n=1) cancers who were starting their first course of CTX. This single blind RCT involved three groups who's VO2max was assessed three times: baseline (T1), completion of CTX +/- RT (T2), and 4 to 6 months later (T3). Group 1 (EE) received the intervention at T1 and continued to T3. Group 2 (CE) received standard care T1-T2 and then the intervention from T2-T3. Group 3 (CC) received standard care T1-T3. The change in VO2max over time was compared among the three groups with a RMANOVA design.

The change in VO2max across the three times differed significantly among the three groups (p=.006). Simple effects tests revealed that the CE group experienced a decrease in VO2max between T1-T2 (p= 0.026) and a significant increase between T2-T3 (p <.001). The EE group did not increase significantly from T1-T2, or T2-T3, but the overall increase from T1-T3 was significant (p= 0.035). The CC group decreased from T1-T2 (p=.029), but did not significantly increase from T2-T3. Only p-values less than .017 would be significant if a Bonferroni adjustment is used.

The CE's changes were the most remarkable, due to the decline in VO2max during treatment and then the improvement with exercise, surpassing even T1 values. Whereas, the EE group did not decrease their VO2max during treatment, and continued to improve to T3, surpassing their T1 values. In sum, lack of exercise during cancer treatment will result in a decline in fitness, but significant improvements will occur with an exercise intervention after treatment.

Funding Sources: National Cancer Institute

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A RANDOMIZED CLINICAL TRIAL OF THE EFFECTIVENESS OF A PSYCHOEDUCATIONAL INTERVENTION IN COMBATING A SYMPTOM CLUSTER IN PATIENTS WITH ADVANCED LUNG CANCER. Carmen Chan, RN, Nethersole School of Nursing, The Chinese University of

Hong Kong, Shatin, Hong Kong; Anne Chang, PhD, Queensland University of Technology, Queensland, Australia; Sing Fai Leung, Department of Clincial Oncology, Chinese University of Hong Kong, Hong Kong; and So Shan Mak, Department of Clinical Oncology, Prince of Wales Hospital, Hong Kong.

Patients with advanced lung cancer experience many distressing symptoms, with breathlessness, fatigue and anxiety having the higher prevalence. Existing research does not provide conclusive evidence as to the most effective interventions for the aforementioned symptoms.

The aim of the study was to examine the effectiveness of a psychoeducational intervention (PEI) delivered by nurses, compared with a usual care control group in combating a symptom cluster of anxiety, breathlessness and fatigue experienced by patients with advanced lung cancer who were receiving radiotherapy (RT). The PEI comprised a combination of progressive muscle relaxation and patient education.

The study is based on the developing science of symptom cluster that supports the management of three selected symptoms simultaneously as a cluster.

A pre-test/post-test 2-group randomized controlled trial was conducted in an outpatient RT unit of a public funded hospital in Hong Kong. Instruments selected for use in the study included a breathlessness visual analogue scale, the intensity subscale of the revised Piper Fatigue Scale, the A-State scale of the State-Trait Anxiety Inventory. A total of 140 subjects completed the baseline data. Data were analyzed by doubly multivariate MANOVA.

Results indicated that there was a significant difference ($p = .003$) over time (from baseline to week 6) between the study groups on the pattern of change of a composite score of the symptom cluster. Significant effects on breathlessness ($p = .002$), fatigue ($p = .011$) and anxiety ($p = .001$) were also found. The study achieved a moderate effect size and high statistical power.

The study has generated evidence supporting the management of breathlessness, fatigue and anxiety together as a symptom cluster, and demonstrates the potential promises that PEI might have as an approach to treating multiple symptoms within a cluster simultaneously.

Funding Sources: Health Service Research Fund (HSRFS111011)

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TESTING THE EFFICACY OF TWO PRODUCTS FOR THE PREVENTION OF PERINEAL DERMATITIS IN IMMUNE COMPROMISED PATIENTS: A RANDOMIZED CLINICAL TRIAL. Carole Bauer, BSN, OCN®, CWOCN, Elizabeth A. Galvin, MS, RN, AOCNS, Alanna Kurosky, MSN, APRN-BC, Rita J. DiBiase, MSN, APRN-BC, AOCNS, and Sandra Miller, BSN, CWOCN, Karmanos Cancer Center, Detroit, MI.

Patients receiving bone marrow or stem cell transplantation (BMSCT) are at increased risk of developing perineal dermatitis (PD), primarily because of their neutropenic status and potential for development of diarrhea. Although PD increases risk for ulcerations, secondary infections, length of stay, and other serious complications, there are no published reports of interventions to prevent PD in this patient population.

The purpose of this study is to compare two treatments to answer the following research questions: 1) Is there a difference between the treatments in the percentage of patients who have clear and intact skin and score=1 on the perineal skin condition section of the Perineal Dermatitis Grading Scale; 2) Does one treatment protocol take less nursing care time to administer; 3) Is one treatment protocol preferred by patients and/or staff; 4) How do costs compare between the treatment protocols?

This study uses Brown's Model 2, a validated conceptual model of perineal dermatitis as the framework for the study. The Perineal Dermatitis Grading Scale, designed by Nix has also been tested and found valid and reliable.

This randomized clinical trial uses a pretest-posttest static group design with two treatment groups running consecutively. Patients in Group A will receive the standard treatment of cleaning with a generic baby wipe followed by the application of Balmex ointment. Patients in Group B will receive Comfortshield washcloths that contain dimethicone 3%. We plan to recruit 44 patients to each arm of the study, which will provide 80% power (2-sided test; alpha =0.05) to detect a between-group difference of 30% of patients with clear and intact skin. Descriptive statistics will be used to characterize the sample. Differences in the percentage of patients achieving clear and intact skin will be compared between treatment groups using frequency distributions and Chi Square test. Between-group differences in mean nursing care time, patient/staff preference, and costs will be assessed using t-tests.

Patients are currently being enrolled in Group A of our clinical trial. We plan to complete data collection by June of 2007.

Funding Sources: The Wound, Ostomy, and Continence Nurses Society Center for Clinical Investigation

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EVIDENCE-BASED FATIGUE MANAGEMENT. Tami Borneman, RN, MSN, CNS, Virginia Sun, RN, MSN, ANP, and Betty Ferrell, PhD, FAAN, City of Hope National Medical Center, Duarte, CA; Barbara Piper, DNSc, FAAN, University of Nebraska Medical Center College of Nursing, Omaha, NE; Marianna Koczywas, MD, City of Hope National Medical Center, Duarte, CA; and Gwen Uman, RN, PhD, partner, Vital Research, LLC, Los Angeles, CA.

Significance: Fatigue is the most common symptom experienced by cancer patients yet the least understood. Barriers to effective fatigue management have been well documented and include patient, professional, and system barriers.

Purpose: The overall purpose of this study is to test an innovative model of reducing barriers to the management of pain and fatigue in cancer patients.

Framework: The model, "Passport to Comfort" addresses patient, professional and system barriers to the relief of fatigue over three phases, and is based on evidence-based guidelines developed by the National Comprehensive Cancer Network (NCCN).

Methods: Patient eligibility included ≥18 years of age, English speaking, diagnosed ≥1 month, have breast, lung, colon, or prostate cancer and have a pain or fatigue rating of ≥ 4. Data collection involved the Piper Fatigue Scale, Barriers Fatigue Scale, Patient Knowledge Tool, Quality of Life tool, and a Fatigue Chart Audit Tool. Data were collected for all subjects at time of accrual (baseline), at 1-month, and again at 3-month. 100 patients were consented and 82 completed baseline data.

Data Analysis: Data was analyzed using SPSS derived through a descriptive design to explore the impact of barriers to fatigue through comparisons of data at baseline and 1 and 3 month follow-ups.

Findings: Patients were a mean age of 61, with 67% Caucasian, and 61% being female. Sixty-four percent were stage 3 or 4 and 81% were on treatment. The top patient-related barriers included believing that the doctor would bring up fatigue if important (53%), not believing that fatigue could be relieved (43%), and the doctor should focus on the disease, not fatigue (40%). Additionally, fatigue caused distress (mean = 5.18), interfered with activities (mean = 6.8); 80% reported fatigue ≥ 4; 84% reported fatigue as emotionally distressing. Overall, patient knowledge was accurate (82% correct) and worst scores related to exercise items. Chart audits revealed lack of

documentation on presence and severity of fatigue as well as lack of referrals to available supportive services.

Phase II of this study will evaluate the Passport to Comfort" model through high-intensity education based on the National Comprehensive Cancer Network guidelines.

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ADHERENCE TO EXERCISE; A QUALITATIVE STUDY. Kathy Ruble, RN, MSN, AOCN®, CPNP, Johns Hopkins University, Baltimore, MD; Victoria Mock, DNSc, RN, FAAN, Linda Rose, RN, PhD, and Sue Hall, RN, MSN, Johns Hopkins University, School of Nursing, Baltimore, MD.

Oncology Nurses continue to make significant contributions to research in the area of exercise for cancer patients. The evidence to support benefits of exercise is becoming stronger and oncology nurses are striving to find more effective ways to deliver this intervention. Adherence to exercise prescriptions remains difficult for some patients. In order to overcome barriers to adherence, an in-depth understanding of the patient's experience is necessary.

The purpose of this qualitative study is to explore the lived experience of cancer patients who were enrolled in an exercise intervention study. The specific aim of the analysis is to identify barriers and promoters of adherence to the exercise prescription.

A phenomenologic framework will be used to explore the lived experience of patients enrolled on the exercise intervention study. Operating under a post-positivist paradigm the condition of exercise during cancer treatment will be examined to identify themes, which will be analyzed to explain the barriers and promoters of adherence.

This study is conducted sequential to a larger randomized clinical trial of cancer patients receiving chemotherapy and/or radiation. Patients randomized to the exercise intervention will be studied to determine adherence to the prescription. Adherence is defined as a minimum of 60 minutes of exercise weekly in 3 or more sessions/week for 66% of the time enrolled on the study. A purposive sample of adherent and nonadherent patients will be selected to participate. After signed/informed consent the patients will undergo a semi-structured interview. These taped interviews will be transcribed verbatim and analyzed using NVIVO software. This analysis will identify themes in both the adherent and non-adherent group. Sample size will be determined by constant comparison for saturation of themes. Based on pilot work it is expected that 10 patients in each group will be necessary. Quality and accuracy of the data will be determined by examination of explanation credibility and inferential consistency.

To date 5 interviews have been conducted on adherent patients. Analysis of the interviews has been completed and has revealed important themes in this group. An additional 5 adherent patient and 10 nonadherent patient interviews are planned for completion during summer, 2006.

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A PILOT STUDY TO EVALUATE THE VALIDITY OF SKIN CARE PROTOCOLS FOLLOWED BY WOMEN WITH BREAST CANCER RECEIVING EXTERNAL RADIATION. Juli Aistars, RN, MS, APN, AOCN®, and Kathy Vehlow, RN, BS, OCN®, Northwest Community Hospital, Arlington Heights, IL.

Some degree of skin reaction will occur in about 90% of women receiving external radiation for breast cancer. Current skin care protocols for these women can be disruptive to their usual hygiene routine, possibly causing anxiety and affecting quality of life during the treatment experience.

It is hypothesized that continued use of deodorant and no restriction on timing of skin care products during radiation for breast cancer may promote a sense of normal routine and increase quality of life without increasing the risk or severity of skin reactions.

The practice of avoiding deodorant use and restricting skin products four hours prior to treatment in these women is not evidence-based, but is often part of their skin care instructions. A review of the literature since 1996 revealed information to refute this practice and no supporting evidence. The objective is to show that there is no significant difference in risk or severity of skin reactions when these women use their own products on a schedule that is convenient to them during treatment.

Thirty women receiving breast irradiation who use deodorant to the treated side and aloe vera gel on a convenient schedule will be compared to 30 women who avoid deodorant use and any skin care products for four hours prior to treatment. Nineteen women are currently enrolled in the study. Data has been collected for 19 women receiving standard care. Skin is assessed prior to treatment and twice a week during treatment using the Skin Toxicity Assessment Tool. Skin is also assessed 2, 4 and 6 weeks post-treatment. The patient completes a Patient Satisfaction Survey at the end of treatment. The method of data analysis has not been determined definitively.

Preliminary findings show no significant increase in skin reactions and expressed satisfaction for the women in the study.

Funding Sources: Northwest Community Hospital Nursing Research Fellowship Award 2005

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CONTRAST OF BUFFERED VERSUS UNBUFFERED LIDOCAINE IN BONE MARROW BIOPSIES. Tracy Ruegg, RN, MS, CNP, AOCN®, Ohio State University James Cancer Hospital and Solove Research Institute, Columbus, OH; Tammy Lamb MS, RN, CNP, OCN®, Mid-Ohio Oncology Associates, Columbus, OH; Christine Curran, PhD, RN, Ohio State University College of Nursing, Columbus, OH.

Oncology patients require numerous invasive procedures throughout their disease process including bone marrow biopsies (BMB). BMBs are performed by a significant number of advanced practice nurses. One of the biggest concerns for nursing is to improve patient comfort. The goal of this study was to reduce pain during BMBs.

Specific aims of the study were to determine if there is a difference in patients' perceived pain during injection of the pre-procedure anesthetic when buffered versus unbuffered lidocaine is administered to patient's receiving bone marrow biopsies.

The Symptom Management Model (SMM) (Dodd et al, 2001) provided the theoretical framework for this study. It is built on the premise that in order to effectively manage symptoms, one must consider the symptom experience, symptom management strategies and outcomes. The focus of the SMM is the person experiencing the symptom. The symptom addressed in this study is pain. The intervention (symptom management strategy) involves use of buffered versus unbuffered lidocaine. The outcome desired is a reduction in perceived pain associated with the procedure.

A double blind, experimental crossover design was used to examine the difference in pain levels when using buffered versus unbuffered lidocaine prior to the bilateral bone marrow biopsy procedure. Based on a power analysis for a paired t-test, a convenience sample of 48 patients was enrolled into the study. Patients served as their own control. The site of first biopsy, and which lidocaine solution was administered first, were randomized. A 100mm visual analogue scale (VAS) was used to measure pain.

All data has been collected, are currently under analysis, and results will be completed in August 2006. Differences in groups will

be examined using a paired t-test. A demographic questionnaire was used to gather select demographic variables. Correlative studies will be done to examine the relationship between the patient's perceived pain scores and several exploratory variables.

Results of this study may change the current type of anesthetic used pre-BMBs thus improving patient comfort.

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A BIOBEHAVIORAL MODEL FOR THE STUDY OF EXERCISE INTERVENTIONS FOR CANCER-RELATED FATIGUE. Sadeeka Al-Majid, PhD, MS, RN, Dorothy Patricia Gray, PhD, RN, and Nancy McCain, DNS, RN, FAAN, Virginia Commonwealth University, Richmond, VA.

The purpose of this presentation is to discuss a current cancer nursing research issue, specifically, lack of consistent theoretical and methodological approaches to the measurement of exercise interventions in cancer-related fatigue (CRF). This problem could be addressed through the consistent use of a holistic theoretical model, ongoing evaluation of the relationships hypothesized within the model, and refinement of the instruments used to measure variables of interest. An evidence-based theoretical model and theoretically grounded instruments are presented.

The proposed biobehavioral model is developed and supported based on a comprehensive review of English-language published research literature from 1990 to present. Variables of interest in the model include psychological components (perceived fatigue and depression), neuroimmunological components (selected pro-inflammatory and anti-inflammatory cytokines and their receptors), biological components specific to cancer-related fatigue and exercise (muscle strength, muscle endurance, cardiopulmonary fitness), and health outcomes (quality of life and functional ability). Relationships among variables are identified based on current evidence. Valid and reliable measures appropriate for the study of fatigue in cancer and consistent with the biobehavioral model are included.

CRF is a highly prevalent and highly stressful multifactorial, biobehavioral phenomenon that is caused by the interaction of multiple biological as well as psychobehavioral variables. Despite its prevalence and significance, CRF continues to be the most important undermanaged symptom in cancer patients today. A major barrier to developing systematic knowledge for effective management of CRF is the inadequate understanding of the complex interrelationships among its biological and behavioral components and how these components may be affected by a non-pharmacological intervention such as physical exercise. Knowledge development via research could be enhanced if a consistent model and related instruments for measuring variables were used.

Implementation of the proposed model and consistent use of instruments for measuring relevant variables is recommended. Knowledge that is generated using this model and recommended instruments can quickly accumulate, thus contributing to a more rapid implementation of evidence-based strategies for reducing CRF.

A biobehavioral model and related instruments can be deduced from existing evidence. These can be used to efficiently generate knowledge that will contribute to the effective nonpharmacologic treatment of CRF.

Funding Sources: Oncology Nursing Society and Virginia Commonwealth University-School of Nursing Center for Biobehavioral Research

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GINSENG FOR THE TREATMENT OF FATIGUE IN BREAST CANCER. Julie Elam, RN, MSN, OCN®, and Janet Carpenter, PhD, RN, Indiana University, Indianapolis, IN; Xiao-ou Shu, PhD, and Sonia Boyapati, PhD, Vanderbilt University, Nashville, TN.

The purpose of this abstract is to discuss methodological issues encountered during a pilot study examining the efficacy of ginseng for the treatment of cancer related fatigue in breast cancer survivors (BCS).

We encountered 3 problems including low recruitment, difficulty with blinding and equipment failures. During 8 months of recruitment 166 women were screened, 90% were ineligible due to lack of fatigue or no desire to take treatment for fatigue (22%), medical contraindications (21%), or taking medications with interactions to ginseng (47%). Only 5 eligible participants were enrolled. Second, ginseng's potent smell was hard to mask during blinding. Efforts to mask the odor by storing capsules in mint leaves failed. Participants noted an aftertaste to the ginseng tablets after ingestion which did not occur during the control week and accurately guessed treatment vs. placebo. Lastly, equipment failures were encountered with the wrist actigraph and waist accelerometers. Devices did not start as directed, did not download data properly, were damaged during use, and stopped for unknown reasons causing lost data.

Fatigue has been reported to persist for years post treatment and is the most distressing symptom during survivorship. However, because mechanisms and etiologies for fatigue are not fully understood, treatment options are limited. One alternative therapy used by Asian women for fatigue during cancer treatment is ginseng. Because ginseng's popularity has increased in the United States, a research team composed a pilot study to determine the efficacy of ginseng for the treatment of fatigue in BCS. A randomized, double blind, crossover design was used. Pre-and postmenopausal BCS who had completed treatment and were seeking treatment for fatigue were randomized into two groups after completing a baseline assessment. Outcomes included subjective and objective measures of fatigue, sleep, activity, and immune function. The study included 8 weekly visits by a research nurse for all data collection points.

Our experience suggests that ginseng is difficult to evaluate and that additional research should not be undertaken without careful consideration to these methodological issues.

Issues with recruitment and blinding suggest ginseng may not be an acceptable treatment for fatigue in BCS.

Funding Sources: Vanderbilt University Departmental Funds

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THE EFFECTS OF EXERCISE, SCREENING FOR TREATABLE ETIOLOGIES, ENERGY CONSERVATION, EDUCATION, SLEEP HYGIENE, RELAXATION, AND MASSAGE THERAPY ON FATIGUE LEVELS IN ADULT PATIENTS UNDERGOING RADIATION THERAPY AT A COMMUNITY CANCER CENTER. Laura Beamer, RN, MS, AOCNP, AOCNS, Judith Balbuena, BSN, RN, Jill Benedeck, BSN, OCN®, and Christa Shelton, RN, OCN®, Centegra Sage Cancer Center, McHenry, IL.

Fatigue is the most commonly occurring symptom in patients receiving radiation therapy. It significantly disrupts the completion of activities of daily living and impairs quality of life in cancer patients.

Little is known about fatigue in patients receiving radiation therapy in a rural community setting. This three phase study will establish the baseline incidence of fatigue (2005); examine the timing of the onset, peak, and resolution of fatigue in relationship to radiation therapy treatments (2006-2007); and explore the impact of exercise, screening for treatable etiologies, energy conservation, education, sleep hygiene, relaxation, and massage therapy on fatigue in cancer patients receiving radiation therapy.

Model for Restoration of Functional Abilities for People with Cancer

One hundred forty-nine charts from calendar year 2005 were abstracted to formulate a baseline of the local radiation oncology population describing fatigue incidence and severity. Fatigue was present in 90% of these patients. A prospective study will be conducted during fiscal year 2007 and 2008 using repeated measures. Data will be collected from the fatigue score on the Oncology Nursing Society (ONS) Radiation Therapy Patient Care Record: A Tool for Documenting Nursing Care, Cancer Related Fatigue Distress Scale, Brief Fatigue Inventory, and the M D Anderson Symptom Inventory Core Items at the start (T0), between the third and fourth week (T1), at the conclusion (T2), and between the third and fourth week following the conclusion of radiation therapy (T3). During fiscal year 2008, nursing intervention from the ONS Putting Evidence Into Practice Guideline on fatigue (exercise, screening for treatable etiologies, energy conservation, education, sleep hygiene, relaxation, and massage therapy) will be offered from the start to the conclusion of radiation therapy and the repeated measures assessed at the same four points in time as the previous year.

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EVIDENCE FOR BIOLOGIC THERAPY RIGOR CONTROL—A PLACEBO-CONTROLLED TRIAL OF INTRAVENOUS MORPHINE. Laurel Barbour, RN, MSN, AOCN®, Jane Frugo, RN, MSN, and Jane Kosirog-Glowacki, PharmD, Advocate Lutheran General Hospital, Park Ridge, IL; Sowjany Reganti, MD, Loyola University, Maywood, IL; Paula Goff, RN, BSN, and Jon Richards, MD, PhD, Advocate Lutheran General Hospital, Park Ridge, IL.

Rigors can be a reaction from transfusions, medications and anesthetics. Aldesleukin (IL2) is a biological response modulator used for treatment of metastatic melanoma, renal cell carcinoma; most patients receiving IL2 experience rigors. In approximately 30% of these patients, rigors resolve spontaneously without pharmacologic intervention.

Administration of meperidine is common without evidence to support its use. The metabolite of meperidine has a prolonged half-life in renal insufficiency, causing undesirable central nervous system stimulation. Many patients develop renal insufficiency during Interleukin 2 therapy. Alternative rigor treatments are being investigated because of these adverse effects. Morphine has not been studied in IL2-induced rigors.

A prospective randomized placebo controlled study was conducted to evaluate efficacy and dose of morphine for IL2-induced rigors. Inclusion criteria include informed consent, age>18, performance status and IL2 therapy. Patients are excluded if allergic to morphine, have preexisting organ failure or on opioids.

IL2 patients were randomized into two groups, one group received morphine 5mg IV and the other received placebo at the onset of first rigor. Response is assessed 5 minutes after each study medication dose (2 dose maximum). If rigors do not resolve after first 5 minutes, then a repeat study medication dose is administered. If rigors do not abate after second dose, or they recur within 10 minutes of resolution, further management is at physician discretion. The study procedure takes approximately 10 minutes. Study data (time of rigor, number of doses, resolution, vital signs, adverse events) are recorded by nurses performing direct observation of the patient. Nurse education was provided to assure standardized evaluation of patient response.

35 Caucasian and 1 Hispanic patents were enrolled, 28 male and 8 female. Twelve patients were not eligible (1 received opiods, 6 without rigors, 5 inappropriate interval assessment). T-test analysis will be done to analyze data. Results will determine whether morphine is effective in treating IL2-induced rigors.

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SELF-REPORTED ADHERENCE TO A FOUR-COMPONENT BEHAVIORAL SLEEP INTERVENTION DURING ADJUVANT BREAST CANCER CHEMOTHERAPY. Ann Berger, PhD, RN, AOCN®, FAAN, Julie Chamberlain, MS, BSN, Brett Kuhn, PhD, Mary Pat Roh, BSN, RN, and Patricia Fischer, BSN, RN, CCRC, University of Nebraska Medical Center, Omaha, NE.

Women receiving chemotherapy for breast cancer experience high levels of fatigue. Adhering to a sleep intervention early in chemotherapy may prevent the distressing side effect of fatigue. This analysis will determine if women are able to adhere to a behavioral intervention designed to improve sleep and reduce fatigue at this time.

To evaluate self-reported adherence to a tailored four component behavioral sleep intervention, beginning two days before and for seven days after chemotherapy treatments (Tx) 1-4.

Piper's Integrated Fatigue Model

Randomized control trial comparing a behavioral sleep intervention (N=89) to healthy eating control; postoperative, with Stage I/II/IIIA breast cancer, receiving adjuvant chemotherapy; mean age =51; most married and employed The Individual Sleep Promotion Plan (ISPP©) was used to self-report adherence to the tailored intervention. Descriptive statistics and RM-ANOVA were conducted.

Adherence to each of the components of the ISPP was: Sleep restriction mean at Tx 1-4 was 66.7%-68.4 % (SD=19); Stimulus control mean at Tx 1-4 was 84.9%-88.6% (SD =20); Relaxation mean at Tx 1 was 85.4% (SD=27.4) and at Tx 2-4 was 91.7%- 93.2 % (SD=17); Sleep Hygiene mean at Tx 1 was 84.4% (SD=16.5) and at Tx 2-4 was 89.2%-91.6% (SD=12). RM-ANOVA revealed that adherence to all four components improved significantly over time ($p=0.003$); and from Tx 1-2 ($p=0.05$) and Tx 1-4 ($p=0.001$). Adherence to the relaxation component improved from Tx 1-4 ($p=0.05$). Adherence to sleep hygiene improved significantly over time ($p<0.001$) and also Tx 1 to each subsequent treatment ($p<0.002$). There was greater than 65% mean adherence at all treatments. Adherence to relaxation and sleep hygiene components improved after Tx 1, but adherence to sleep restriction remained the most difficult component to adhere to over time. Women were willing to act as co-scientists developing and revising the ISPP. They were able to follow the four component sleep intervention but need reinforcement on adoption of regular bed and wake-up times. The ISPP will be compared to actigraphy sleep data to verify self-report at the end of the study.

Funding Sources: National Institutes of Health/National Institute of Nursing Research R01 NR7762-05

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BENEFITS OF MEMORY TRAINING FOR CANCER SURVIVORS. Graham McDougall, PhD, APRN-BC, FAAN, and Heather Becker, PhD, University of Texas at Austin, Austin, TX.

More than 6 million people in the US are considered at high-risk for memory impairments and mild cognitive impairment (MCI), both because they are cancer survivors and because they are over 55 years of age.

The purpose of the intervention is to provide participants with the confidence, knowledge, skills, and support necessary to improve their memory performance and consequently their everyday functioning.

Self-Efficacy theory

Participants were enrolled in the study for 26 months and tested on five occasions for 2 years post-intervention. The study aimed to im-

prove everyday memory (RBMT), verbal memory (Hopkins Verbal Learning), and visuospatial (Benton Visual Memory Test) memory performance, memory self-efficacy (MSEQ), state and trait anxiety with the Spielberger State-Trait Anxiety Inventory (STAI), depression (Center Epidemiological Studies-D), and performance-based functional ability, specifically the instrumental activities of daily living (IADLs) measured with the Direct Assessment of Functional Status (DAFS). Internal consistency reliabilities were computed for all measures used in the analyses reported here; all were above .75

Moderate to large effects were associated with changes in SPS and HVLT memory performance scores, in memory self-efficacy and the Complaints and Strategies Subscales of the metamemory self-report. There were also moderate effects for group by time interactions on the BVMT memory performance measure, the memory self-efficacy measure, the CESD, the trait anxiety measure, and the Complaints subscales of the metamemory measure. On many of these measures there was a tendency for the intervention group to improve more than the comparison group, although the trend was not always consistent across time. Although the number of cancer survivors in this analysis was small, the results do suggest that cancer survivors can benefit from both interventions and the memory intervention seems to have specific impacts on self-reported memory measures.

Funding Sources: National Institutes on Aging (R01 AG 15284), 2001-2006.

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EXERCISE IN PATIENTS RECEIVING INTENSIVE CANCER THERAPY. Eileen Hacker, PhD, RN, AOCN®, Janet Larson, PhD, RN, FAAN, David Peace, MD, and Koen Van Besien, MD, University of Illinois at Chicago, Chicago, IL.

Patients receiving high dose chemotherapy followed by autologous stem cell transplantation (SCT) frequently experience considerable deterioration of their health status as a result of the dose-intensive therapy. A marked reduction in physical activity following the high-dose chemotherapy and autologous SCT is observed clinically. The physical inactivity may be protracted and sufficient to cause physical deconditioning, loss of muscle mass, and decreased strength and endurance.

The purpose of this study is to determine the effects of a strength training exercise program on physical activity, muscle strength, fatigue, health status perceptions, and quality of life (QOL) in patients following high-dose chemotherapy and autologous SCT. During the Phase 1 of the study, the intervention is being pilot tested to determine acceptability and feasibility with respect to the appropriate time for initiating the intervention and intensity of the exercise intervention.

Exercise has been identified as an effective intervention to increase levels of physical activity in cancer patients and to combat fatigue. In the cancer literature, most studies investigating the effects of an exercise program employed aerobic training and did not incorporate strength training into the exercise routine. While aerobic exercise improves cardiorespiratory conditioning, strength training is more effective in minimizing skeletal muscle wasting associated with prolonged physical inactivity. A strength training intervention that minimizes muscle wasting in autologous SCT patients is particularly attractive if the end result is enhanced ability to perform activities of daily living and improved health status perceptions and QOL.

This pilot study uses a prospective, repeated measures design to evaluate the feasibility and acceptability of the home-based exercise intervention. The home-based strength training intervention is introduced in the hospital and continues for six weeks following discharge from the hospital. Dependent variables include physical activity, muscle strength, fatigue, perceived health status, and quality of life. These variables are measured during three time periods: (a) prior to admission to the hospital for autologous SCT (time 1); (b) day 8 following autologous SCT (time 2); and (c) six weeks following discharge from the hospital (time 3). Descriptive statistics and repeated measures ANOVA will be conducted.

Phase 1 of the study is in progress.

Funding Sources: This research is supported by the National Institutes of Health, National Institute of Nursing Research (K01 NR009375-02)

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DISTRESS AND QUALITY OF LIFE CONCERNS OF FAMILY CAREGIVERS OF PATIENTS UNDERGOING PALLIATIVE SURGERY. Gloria Juarez, RN, PhD, and Betty Ferrell, RN, PhD, FAAN, City of Hope National Medical Center, Duarte, CA; and Gwen Uman, RN, PhD, Vital Research, Los Angeles, CA.

There has been limited research in the field of palliative care and even far more limited focus on the area of palliative surgery. Family caregivers require information and support at the time surrounding surgery for advanced disease.

The aim of this prospective cohort study of family caregivers of patients with advanced malignancies seeks to measure the impact of palliative surgery on dimensions quality of life (QOL) for these family members. The decision making model in palliative surgery and QOL model form the theoretical underpinnings for this study.

Family caregivers were followed preoperatively and at 3 months post-operatively. Descriptive and non-parametric statistics were used. Parameters of physical, psychological, social, and spiritual QOL were measured on a scale of 0 (worst) to 10 (best) using the City of Hope QOL-Family instrument. Caregivers recorded their general distress on the Distress Thermometer (Holland, 1998) using a scale of 0-none to10-severe.

Analysis of the QOL data revealed that family caregivers had similar QOL disruptions as patients in overall physical, psychological, social, and spiritual QOL. Caregiver distress (mean 7.75) was worse than patient distress (mean 5.25) preoperatively. Caregiver distress (mean 4.31) was similar to patient's distress (mean 4.50) at 3 months. Findings suggest that caregivers need to be assessed for distress and QOL concerns both prior to and following surgery for patients with advanced malignancies. Over the last two decades, there has been a shift from care in acute care facilities to the home environment. Health care professionals need to make a united effort to identify resources and implement interventions for supporting family caregivers. Although caregiver concerns cannot always be eradicated, resources and interventions to support family caregivers are vital to improving QOL.

Funding Sources: American Cancer Society

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SYMPTOMS OF CHILDREN DURING END-OF-LIFE CARE. Verna Hendricks-Ferguson, DNSc, RN, MSN, CS, Barnes-Jewish College of Nursing, St. Louis, MO; Pam Hinds, PhD, RN, St. Jude's Children's Research Hospital, Memphis, TN; and Pat Jamerson, PhD, RN, St. Louis Children's Hospital, St. Louis, MO.

Knowledge is limited on how to improve end-of-life (EOL) care for children due to a lack of research-based information on the type, frequency, and pattern of symptoms experienced by dying children. In addition, no research-based, healthcare guidelines are available to initiate EOL care or to implement symptom-management strategies. A paucity of literature also exists regarding research focused on parental observation of symptoms that children experienced during

EOL care. A limitation of this particular research is the varied length of time between the child's death and the parents' interview, making the findings suspect due to the risk of incomplete memories.

The purpose of this study was to: (1) identify the type, frequency, and pattern of symptoms that most concerned parents during the last week of their child's life,

(2) identify strategies used by parents and nurses to manage symptoms and to comfort the dying child, (3) determine parental satisfaction with selected strategies, and (4) describe parental perceptions of nurses' efforts to help the parents and child during the last week of the child's life. A retrospective, descriptive design was used, employing a single semi-structured telephone interview.

Descriptive and content analysis methods and convenience sampling were used. Supporting authors reviewed and assisted with coding data. Taped-telephone interviews with each parent lasted between 1 to 3 hours. Analysis of data is currently in progress. The sample included parents whose children died from cancer or another illness within the prior 6 months to 5 years. A total of 30 parents were recruited over a 2-year period. The mean age of participants was 35 years; 28 were Caucasian and 2 were African-American.

Preliminary results suggest that the majority of children in this study experienced few distressing symptoms when receiving care from a home-based pediatric hospice program. The findings in this study will contribute to the body of knowledge related to identification of symptoms that concern parents during the last week of their child's life and may contribute to the 2005-2009 Oncology Nursing Society research agenda for the development of health-care guidelines to improve EOL care for dying children.

Funding Sources: 2005 ONS Foundation Research Fellowship

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EXPLORING THE MEANING, EXPERIENCE, AND PROCESSES OF HOPE FOR THE OLDER, FEMALE, SPOUSAL, BEREAVED CAREGIVER OF A PALLIATIVE CANCER PATIENT. Lorraine Holtslander, RN, MN, PhD(c), Saskatoon Home Care, Saskatoon, Canada.

Cancer will be the world's leading cause of death (Proctor, 1995), greatly affecting the lives of bereaved family caregivers. Oncology nurses offer support to families, extending into the time of bereavement, however, little is known about the needs and experience of the bereaved palliative caregiver.

Hope is a psychosocial resource and a protective factor in grief. Previous qualitative research has not examined the experience of hope during bereavement. Therefore the proposed research will explore the experience of hope for the unique population of older, female, bereaved spousal caregivers of a palliative cancer patient and develop a substantive theory of hope for this population. The specific aims are a) to generate and compare concepts of hope, b) to analyze their meanings, definitions, actions, and processes of hope within a social context, and c) to construct a substantive grounded theory of their hope experience during bereavement.

Constructivist grounded theory methods, originating from symbolic interactionism, will be used to explore and build a theory of the processes of hope for this population.

Rich, detailed data will be gathered through in-depth interviews, participant journals, field notes, and memos. Data analysis will consist of open, focused, and theoretical coding, using constant comparative methods. Women, ages 60 years of age and older, bereaved within the last year after providing care to a palliative cancer patient, will be purposively and theoretically sampled. A palliative care volunteer will recruit participants. Data will be entered into N6 software for coding and analysis. Confirmation interviews will be conducted with each participant. Scientific rigor will be sought by the specific criteria of credibility, originality, resonance and usefulness.

The researcher will begin data collection in July 2006. The unique perspective of the older, female, spousal, bereaved caregiver of a palliative cancer patient will provide a theory, grounded in the data. The results will provide knowledge from an "insider's" perspective, useful for researchers, health care professionals, educators, and decision-makers. Cancer deaths will continue to rise due to an aging population. Support for family caregivers after the death of the palliative patient is urgently needed, based on research examining their unique needs.

Funding Sources: Canadian Institutes of Health Research

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A STUDY IN THAI FAMILY CULTURE: THE ROLE OF MEDITATION AND PRAYER IN EMPOWERING A WOMAN COPING WITH CANCER AND FACING END OF LIFE. Yaowarat Matchim, BNS, MS, PhD, Nursing Student, Prince of Songkla University, Hat Yai, Thailand; and Jane Armer, RN, PhD, University of Missouri–Columbia, Columbia, MO.

People cannot fully understand meditation and prayer by simply reading and discussing. Although some people may think that meditation and prayer are unnecessary daily practices, this case study illustrates how their application can effectively empower a person coping with cancer and facing end of life. As part of holistic nursing practice, nurses should more fully understand the phenomena of meditation and prayer and their potential applications in assisting patients to cope with cancer and face the uncertainties of end of life.

The study objective was to explore the experience of a Thai woman and family who faced cancer and coped with end of life through use of meditation and prayer. This case study provides a narrative story demonstrating a personal experience of empowerment through meditation and prayer.

The qualitative approach of choice, single-case study design, is viewed as ideal for revelatory cases where an observer may have access to a phenomenon that was previously inaccessible.

This single-case study utilized direct observation and participant observation in data collection related to both personal and collective meditation training and practice, and meditation and prayer at the end of life in the care of a hospitalized patient. Tenets of meditation will be summarized along with the chronological and historical experience of one Thai woman facing end of life due to lung cancer as assisted by a family member trained in meditation.

These narrative data and summary add to our understanding of how meditation and prayer accompanied by family support can effectively empower a person coping with cancer and facing the end of life. To enhance culturally-appropriate care, nurses should know more about the phenomena of meditation and prayer and should more fully understand their potential applications in holistic nursing practice. There is a need for further nursing research focused on the roles of meditation and prayer in coping with other types of cancer and facing end of life situations. This research might take the form of both descriptive research (as in the form of case studies such as this), other more rigorous qualitative work, and, eventually, intervention research.

Funding Sources: Prince of Songkla University funding for PhD study at University of Missouri-Columbia Sinclair School of Nursing

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PARENTAL AWARENESS OF THEIR CHILD'S IMPENDING DEATH DUE TO CANCER IMPACTS THEIR LONG-TERM PSYCHOLOGICAL MORBIDITY. Ulrika Kreicbergs, PhD, RN, Dana-Farber Cancer Insti-

tute, Phyllis F. Cantor Center, Boston, MA; Unnur Valdimarsdottir, PhD, Arna Hauksdottir, Hayley Hunt, MPH, Erik Onelov, MS, Jan-Inge Henter, PhD, and Gunnar Steineck, PhD, MD, Karolinska Institute, Stockholm, Sweden.

Findings from this study are expected to increase oncology nurses' understanding of the significance of parental awareness about their child's impending death and its effect on parental long-term wellbeing.

The purpose of this study was to investigate how and when parents gain awareness of their child's impending death and how this is associated with the risk of long-term psychological morbidity among bereaved parents.

In a Swedish population-based study 80% (449/561) of the parents who had lost a child due to malignancy 4-9 years earlier responded to an anonymous postal questionnaire. The time of awareness before the child's death the parents were intellectually and emotionally aware was determined. Parent's self-assessed anxiety and depression at follow-up were estimated, as were potential predictors of the intellectual and emotional awareness. The relative risk [RR] of long-term depression and anxiety in relation to time of intellectual and emotional awareness was assessed with a 95% confidence interval [CI] according to the Mantel-Haenszel method.

195 parents (45%) reported an emotional awareness of a few hours or less; 110 of 247 mothers (45%) and 85 of 186 fathers (46%). Compared to fathers with a longer preceding period of emotional awareness, those reporting a few hours or less had an increased risk of depression (RR 1.8, CI 1.0-3.3), unresolved grief (RR 2.1, CI 1.3-3.4) and sick-leave period (RR 8.5, CI 1.1-67.8). Mothers with an emotional awareness time of a few hours or less showed an increased risk of anxiety (RR 1.4, CI 0.9-2.4) compared to those with a longer preceding period of awareness. Thus, a short time of awareness of a child's impending death is associated with an increased risk of psychological morbidity in bereaved parents. Absence of information on the child's poor prognosis and curative treatment towards the end-of-life predicted short parental awareness. Pediatric oncology staff should provide parents with accurate information on the child's poor prognosis at the transition to palliative care in order to reduce bereaved parents long-term psychological morbidity. Health-care staff may need education on the importance of communication in end-of-life.

Funding Sources: The Swedish Children's Cancer Foundation & The Swedish Society for Medical Research

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SUPPORT FROM HEALTHCARE STAFF CAN FACILITATE PARENTAL GRIEVING FOLLOWING THE LOSS OF A CHILD TO CANCER. Ulrika Kreicbergs, PhD, RN, Dana-Farber Cancer Institute, Phyllis F. Cantor Center, Boston, MA; Patrizia Lannen Lic Phil, Dana-Farber Cancer Institute, Boston, MA; and Erik Onelov, MS, Karolinska Institutet, Stockholm, Sweden.

Findings from this study can be expected to increase oncology nurses' understanding and their role as facilitators of parental grief following the loss of a child to cancer.

The purpose of this study was to investigate if support from oncology staff and others may facilitate parental grieving. This study investigated whether communication and support from the health care staff prior to and following a child's death impacts the parents' grieving process.

In a Swedish population-based study using an anonymous mailed questionnaire to 561 parents who had lost a child due to malignancy 4 to 9 years earlier, 449 (80%) responded. The questionnaire used was based on previous in-depth interviews, face-to-face tests and a pilot study on bereaved parents. Questions were asked regarding the parents' communication about their experiences and the support given by the health care staff. Parents were also asked whether they had resolved their grief. We assessed resolved grief in relation to potential predictors in terms of relative risks [RR] with a 95% confidence interval [CI] according to the Mantel-Haenszel method.

318 (72%) parents stated that they had resolved their grief "a lot" or "completely" 4 to 9 years following the loss of their child. Parents who had shared their problems with others were more likely to have resolved their grief (fathers: RR 3.0, CI 1.7-5.0; mothers: RR 1.9, CI 1.2-2.8). Parents who had someone to talk to during the last month prior to follow-up were also more likely to have resolved their grief (mothers: RR 2.6, CI 1.3-5.2; fathers: 2.6, CI 1.2-5.5). This also applied to parents who had access to psychological support during the last month of their child's life (mothers: RR 1.3, CI 1.1-1.6; fathers: RR 1.4, CI 1.1-1.6). Parents who had shared their experiences with others are more likely to have resolved their grief in a long-term perspective. To facilitate the grieving process oncology health care staff should provide psychological support and encourage parents to share their experiences with others not only during the child's illness but also following the loss.

Funding Sources: The Swedish Society for Medical Research

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COMMUNICATION AS THE LINK BETWEEN THE SOCIAL AND SPIRITUAL DOMAINS OF THE QUALITY OF LIFE AT THE END OF LIFE. Maryjo Prince-Paul, PhD, APRN, BC-PCM, and Barbara J. Daly, PhD, RN, FAAN, Case Western Reserve University, Cleveland, OH.

Cancer is often described as leading to a heightened awareness and appreciation for family, life, and relationships. The importance of communication in personal relationships has been well documented and seems to have heightened importance at the end of life. Thus, facilitating communication with significant others may be an important focus for nursing intervention.

The communicative acts of gratitude, love, and forgiveness, as components of relationship-affirmation, may be well recognized by clinicians, but have not received systematic investigation. Specific components of each domain have not identified and it is not known how they relate to one another. The opportunity to communicate and raise awareness about close, personal relationships may link these two important domains. The purpose of this descriptive, correlational study was to investigate the extent to which the communicative acts, social well-being, and spiritual well-being predict total quality of life at the end of life (QOLEOL). Ferrell and Grant's Quality of Life Conceptual Framework guided this study.

Following a qualitative pilot study to explore domains of interest, a convenience sample of adult hospice patients (n=45), with a cancer diagnosis, who resided in their private residence, was recruited. Investigator designed, visual analog scales were developed to measure the expressions of love, gratitude, and forgiveness. Social well-being was measured using the FACIT Social/Family Well-Being Subscale (1997). The JAREL Spiritual Well-Being scale was utilized to measure spiritual well-being. The QUAL-E tool was employed to measure the quality of life at the end of life.

Correlation and multiple regressions were used to describe the relationships among the social and spiritual domains as well as the specific communicative acts. Factors predicting overall quality of life will be reported. The results of this study will contribute to empirical knowledge of close, personal relationships at the end of life and relationship-affirmation and its related components of love, gratitude, and forgiveness. The knowledge gained through this investigation will be directly useful to practicing nurses in establishing the importance of explicitly assessing relationships and supporting patients and families in their communication.

Funding Sources: American Cancer Society Doctoral Scholarship, 2005 Grant DSCN-05-188-01

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RNs LEAD THE CHANGE IN CHANGING PALLIATIVE CARE. Marcia Grant, RN, DNSC, FAAN, and Jo Hanson, RN, MSN, OCN®, City of Hope National Medical Center, Duarte, CA.

The American Cancer Society's "Cancer Facts and Figures 2006" estimates this year nearly 1,400,000 new cancers will be diagnosed and 564,830 cancer deaths will occur. Findings indicate a rapidly growing need for palliative care services but few prepared healthcare providers.

To provide an overview of a palliative care educational course for interdisciplinary healthcare teams and to describe the RN's unique role on the team.

The framework components included: 1) performance improvement; 2) adult education principles; and 3) educational content based on the Precepts of Palliative Care.

Between 2002-2005 four annual three day palliative courses, Disseminating End-of-Life Education (DELEtCC) were provided. Two-person teams, made up of a combination of RNs, MDs, social workers, pharmacists, chaplains, and others, from nationwide cancer centers, were competitively selected to attend. Applications included both participant and institutional demographics. Prior to course attendance, teams completed chart audits, case analysis, institutional surveys and assessments. During the course, teams developed palliative care institutional goals to implement in their institution. Follow up evaluation included 6, 12, and 18 months post-course goal updates, chart audits, case analysis, institutional surveys, and phone interview with the DELEtCC project office and at 12 months an institutional assessment. Between 2002-2005 four annual three day palliative courses, Disseminating End-of-Life Education (DELEtCC) were provided. Two-person teams, made up of a combination of RNs, MDs, social workerss, pharmacists, chaplains, and others, from nationwide cancer centers, were competitively selected to attend. Applications included both participant and institutional demographics. Prior to course attendance, teams completed chart audits, case analysis, institutional surveys and assessments. During the course, teams developed palliative care institutional goals to implement in their institution. Follow up evaluation included 6, 12, and 18 months post-course goal updates, chart audits, case analysis, institutional surveys, and phone interview with the DELEtCC project office and at 12 months an institutional assessment.

Over 400 individuals attended the DELEtCC courses, 86% female and 14% male. Disciplines represented included RNs 60%, SWs 19%, MDs12%, and others 8%. Course evaluations indicated overall opinion of the course was 4.74 on a scale of 1-5, 5 being the highest rating. Successful teams, measured by goal achievement, overwhelmingly included at least one RN. RNs were valued for their ability as leaders in developing creative approaches for program development, recognizing patient's needs beyond the physical aspects, to obtain pertinent clinical data, and to develop and provide staff education. Teams without RNs were challenged to provide the long term follow up data and often were unable to begin the goal implementation process. These findings suggest nursing leadership is a key element in successful palliative care programs.

Funding Sources: National Institutes of Health

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DNA METHYLATION AND BREAST CANCER IN A COHORT OF HIGH-RISK WOMEN: ASSOCIATIONS WITH CLINICAL, ENVIRONMENTAL, AND FAMILY HISTORY FACTORS. Theresa Swift-Scanlan, MS, RN, Johns Hopkins University School of Nursing, Baltimore, MD; Russell Vang, MD, Department of Pathology, Amanda Blackford, MS, Department of Biostatistics, Johns Hopkins University School of Medicine, Baltimore, MD; Mary Jo Fackler, PhD, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Victoria Mock, DNSc, RN, AOCN®, FAAN, Johns Hopkins University School of Nursing, Baltimore, MD; and Saraswati Sukumar PhD, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD.

Over 90 hypermethylated genes have been described in breast cancer, yet the nature and contribution of these genes in their methylated state to overall risk and prognosis is not known. At present, the best clinical and histopathologic indicators of breast cancer risk, treatment and prognosis are based on family history, tumor size/grade, age-of-onset, and lymph node, BRCA gene mutation, and hormone receptor status. Yet, due to the clinical and genetic heterogeneity of breast cancer, none of these indicators are reliable on an individual basis for predicting progression or survival outcomes.

The primary aim was to quantify methylation in breast tumor tissue, as compared to histologically normal breast tissue in a cohort of high risk women. The high risk cohort, as defined by a family history of breast cancer and/or a BRCA1 or BRCA2 gene mutation, consisted of two groups: 1. women with breast cancer and 2. women who never had breast cancer.

This case-control study significantly expands upon Knudson's Two Hit Model of carcinogenesis by evaluating clinical and family history variables, together with DNA methylation in selected genes, as predictors of breast cancer risk and occurrence.

A sample size of approximately 280 archival breast tissues included 58% White, 21% Ashkenazi, 16% Black, and 3% Asian/Mediterranean women. Tissues were cut onto 5 μM sections on standard microscope slides. DNA was extracted from the slides and quantified for methylation using the highly sensitive and specific Two Color QM-MSP method.

Descriptive statistics showed a comparable age distribution between cases and controls with approximately 2/3 of the women in both groups aged 49 or younger. Hormone receptor and lymph node status of the cases mirrored population data; 2/3 were estrogen/progesterone receptor positive, and 2/3 were lymph node negative at diagnosis.

Recent studies suggest that specific gene methylation patterns are associated with distinct histopathologic categories. This study's large sample size will likely better define and expand these categories, and potentially identify sub-groups by endogenous and exogenous exposure to estrogen, smoking or alcohol use. Such predictive factors may eventually be used by nurses and physicians to indicate best screening, therapeutic, or prevention practices for breast cancer.

Funding Sources: Predoctoral National Research Service Award from the National Institutes of Health/National Institute of Nursing Research F31 NR008311-01A1, Doctoral Scholarship in Cancer Nursing DSCN-04-162-01

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A BRIEF EDUCATIONAL VIDEO ABOUT PROSTATE CANCER SCREENING: A COMMUNITY INTERVENTION. Caryn Sheehan, MS, APRN, BC, Saint Anselm College, Manchester, NH.

Prostate cancer is the leading cause of solid cancers in men and the second leading cause of cancer deaths in men. Without compelling evidence to recommend mass prostate screening, most national organizations recommend that men should be active participants in their screening choices. However, men have difficulty understanding the issues involved with prostate cancer screening and are therefore

inadequately prepared to participate in shared decision making. The nursing profession must take action, as nurses are uniquely qualified to provide patient education. While randomized clinical trials have demonstrated efficacy of prostate education in the form of pamphlets and lengthy videos, there is little known about the value of a brief video intervention.

The purpose of this quasi-experimental study will be to test if watching a short informational video will influence knowledge of screening or change the level of perceived individual risk of developing prostate cancer in men.

Personalizing the risk and providing factual information, according to the Transtheoretical Model, may encourage movement beyond passivity to a stage of change where informed men contemplate, prepare, or actually engage their primary care providers in discussion about prostate cancer screening.

A convenience sample of approximately 100 men, ages 45-75 years, will be recruited from community settings (civic groups and churches) in the Northeast United States. This one group, pretest/post-test design will include a brief (less than 5 minute) digital video intervention presenting information based on the CDC guidelines for prostate screening education. In addition to demographic information, instrumentation will include the 10-item PROCASE Knowledge Index (validity and reliability well established in a similar population), and a single item risk assessment prior to and immediately following the video.

If the video demonstrates efficacy, such an educational intervention may be implemented and evaluated on a large scale. The digital video can be uploaded in medical offices, or sent by e-mail with little or no cost involved. Ultimately a widespread, inexpensive education tool may assist nurses to promote awareness of prostate cancer and better prepare a generation of men to discuss prostate cancer screening and make informed choices.

Funding Sources: Funded in part by Saint Anselm College

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RISK CONTROL BEHAVIORS FOLLOWING *BRCA* GENETIC PREDISPOSITION TESTING. Lois J. Loescher, PhD, RN, and Kyunghee Lim, RN, MS, University of Arizona, Tucson, AZ; Ofri Leitner, MS, CGC, Virginia G. Piper Cancer Center, Scottsdale, AZ; Jessica Ray, MS, University of Arizona, Tucson, AZ; and Joyce D'Souza, RN, MS, and Cary Armstrong, MS, CGC, Virginia G. Piper Cancer Center, Scottsdale, AZ.

This study enhances knowledge of risk control (cancer surveillance, prevention) behaviors of women undergoing BRCA susceptibility testing for hereditary breast/ovarian cancer (HBOC). These behaviors range from breast self-examination to preventive mastectomy/oophorectomy. We address reasons why women chose, declined or anticipated practicing these behaviors. Oncology nurses working in cancer genetic risk have a responsibility to provide tailored information regarding risk control behaviors and follow-up of women who have undergone genetic testing.

Few studies target cancer risk control outcomes in women undergoing commercial BRCA testing. Existing research focuses on women who test positive; there is sparse information on women with test results of negative or variant of unclear significance. In clinical settings, risk control outcomes typically are not tracked by oncology genetics professionals, constituting a knowledge gap of what happens to high-risk women who have undergone BRCA testing. One aim of this descriptive, multidisciplinary study was to identify specific risk control behaviors practiced by women, and their decision processes for engaging in those behaviors. The precaution adoption process model framed the continuum of risk-control decisions.

We recruited women from a university and community cancer genetic risk program. Participants were ages 18+, fluent in English, and had undergone BRCA testing for HBOC. We based the targeted sample size of 100 on site-specific counseling visits, testing rates, and anticipated study refusals. Eligible women contacted the investigator who mailed them materials for enrollment. Genetic counselors provided BRCA results. Three months after receiving their BRCA test results, participants completed the Cancer Surveillance and Prevention Checklist. We used descriptive statistics to assess demographic/disease characteristics, behaviors frequencies, and decision choices; and chi-square to analyze uptake/non-uptake of risk control behaviors. Reasons for practicing, declining or delaying/anticipating behaviors were analyzed using content analysis.

100 participants are enrolled; most recruited from the community site. Final data analysis will occur in August 2006. Clinically, study findings will help genetics professionals tailor risk control counseling and provide an improved foundation for post-BRCA testing follow up. The findings will inform future research of risk control in HBOC women, including behaviors in women who do not test positive.

Funding Sources: National Institute of Nursing Research 1 P20 NR07794-04, Phi Beta Psi (Sigma Kappa & Sigma Mu Chapters)

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THE RELATIONSHIP BETWEEN BODY COMPOSITION AND INITIAL DISEASE STAGE IN WOMEN WITH BREAST CANCER. Li-Ni Liu and Mei-Ling Chen, RN, PhD, Chang Gung University, Tao-Yuan, Taiwan; Christine Miaskowski, RN, PhD, and Claudia M. West, RN, MS, University of California, San Francisco, San Francisco, CA.

Although the negative effects of obesity on health have been well documented, the relationship between body fat and disease status of breast cancer at diagnosis is still equivocal. Most of previous studies used body weight-related parameters, such as body mass index (BMI), to represent the amount body fat. Little is known about the role of direct parameter, i.e., body fat percentage, on breast cancer women's initial disease status.

The purpose of this study was to examine the association between body composition (percent over the ideal body weight, BMI, body fat percentage) and breast cancer women's initial disease status (i.e., disease stage, tumor size and lymph node involvement) and to identify potential moderators (such as age, menopause status, bra cup size, and breast feeding experience) on the relationship between body composition parameters and initial disease stage.

This ongoing prospective study recruited newly diagnosed breast cancer women who had no distant metastasis and were expected to receive breast surgery in Chang Gung Memorial Hospital, Taiwan. Women's demographic and medical-related information was collected at the time before breast surgery. Body fat was measured by bioelectrical impedance analysis device. Women were categorized into high- or low-parameter groups based on percent over the ideal body weight, BMI and body fat percentage. The cut points for these parameters were 20%, 24, and 30%, respectively. This reports analyzed data from 129 enrolled women. Descriptive statistics such as percentage and means as well as odds ratio were used to analyze data.

Women who were classified as high-parameter group based on any one of the three parameters had higher possibility to have late stage (OR: 2.08 to 2.73) and have lymph node involvement (OR: 2.32 to3.59). However, only those with percent over the ideal body weight greater than 20% had significantly larger tumor size (OR: 2.24). Further stratified analysis showed that the relationship between the three parameters and disease stage only existed on women who were pre-

menopausal, younger, having small bra cup size, or without experience of breast-feeding. Findings from this study provide foundation for healthcare professionals to establish a more efficient weight-reducing program among some high-risk population in the future.

Funding Sources: National Science Council: NSC94-2314-B-182-025

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COMMUNICATING ABOUT CANCER RISK IN HIGH-RISK FAMILIES: A COMPARISON BETWEEN BREAST AND OVARIAN CANCER SURVIVORS AND THEIR FEMALE RELATIVES. Suzanne Mellon, RN, PhD, University of Detroit Mercy, Detroit, MI; Lisa Berry-Bobovski, BA, and Robin Gold, MS, CGC, Karmanos Cancer Institute, Detroit, MI; James Janisse, PhD, Wayne State University, Detroit, MI; and Michael Tainsky, PhD, Wayne State University and Karmanos Cancer Institute, Detroit, MI.

Although families live with a history of cancer that may signify a genetic risk such as BRCA1/2, few studies have examined communication within families about inherited breast/ovarian cancer risk. Understanding family communication patterns is critical to assist survivors and their family members make informed decisions about possible surveillance and/or treatment options.

The purpose of this study was to explore who survivors and unaffected female relatives would most likely talk to about inherited cancer risk and reasons for selection of these individuals. This research was part of a larger study testing a family decision-making model about inherited cancer risk information. A family stress framework and the transtheoretical model of change guided the overall research.

A qualitative design was used with several open-ended questions asked of all participants during the main study. A population-based sample of 146 breast and/or ovarian cancer survivors and 146 unaffected female relatives (N=292) was randomly selected from the National Cancer Institute Surveilance Epidemiology and End Results Cancer Registry in southeastern Michigan. Analyses included descriptive statistics and content analysis of transcribed responses using the qualitative software package NVivo.

Analysis revealed similarities and differences between survivors and relatives in their selection of individuals to talk to about cancer risk. For all participants who were married, husbands were identified first by a majority of women. Following in priority ranking, survivors selected daughters, health professionals and sisters, whereas unaffected female relatives preferred mothers, sisters, and then health professionals. Preliminary themes for communication with select individuals included closeness of the relationship, keeping family members informed, receiving emotional support, relying on the knowledge of the individual selected (particularly healthcare professionals), and concern for family members at potential risk. Themes for not discussing cancer risk with individuals in their networks included uncertainty about reactions, adding more stress, previous family conflict, emotional distance, and young age of family members. Results from this study suggest the inclusion of multiple family members, particularly husbands, in discussion of cancer risk, the importance of health professionals in genetic risk education, and potential clinical implications to assist individuals in overcoming barriers to discuss cancer risk within their families.

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EXPERIENCE OF RISK AMONG *BRCA* MUTATION–NEGATIVE WOMEN FROM HEREDITARY BREAST/OVARIAN CANCER (HBOC) FAMILIES. Sadie Hutson, PhD, RN, CRNP, East Tennessee State University, Johnson City, TN; Alexis B. Bakos, PhD, MPH, RN, National Institute of Nursing Research, Bethesda, MD; and Jennifer Loud, MSN, CRNP, Department of Health and Human Services, Rockville, MD.

The Clinical Genetics Branch of the National Cancer Institute is currently enrolling women from HBOC families to a breast imaging protocol (01-C-0009) which uses techniques such as mammographic density, breast magnetic resonance imaging (MRI), positron emission tomography (PET), and breast duct lavage for breast cancer surveillance. This protocol permits both BRCA mutation carriers and mutation-negative women to enroll. A surprising number of women chose to participate in this study after having been informed that they were not BRCA mutation carriers. Following BRCA testing in the clinical cancer genetics community, most mutation-negative women return to the care of primary care providers; the heightened interest among mutation-negative women to enroll in this protocol suggests that there is an unmet psychosocial or clinical need.

The purpose of this study was to 1) understand why BRCA mutation-negative women participate in a highly burdensome breast cancer surveillance study with no apparent personal benefit; 2) assess participants' level of understanding regarding breast cancer risk; and 3) identify unmet clinical needs of mutation-negative HBOC family members. Given the qualitative nature of this study, the naturalistic paradigm was used as the philosophic frame of reference.

The investigators employed a qualitative descriptive design to inductively explore the experience of risk among BRCA mutation-negative women from HBOC families. A convenience sample of 11 women enrolled in the aforementioned breast imaging protocol was recruited to participate in in-depth, semi-structured telephone interviews. The interviews were audio-recorded and transcribed verbatim; NVivo 2.0 software facilitated qualitative content analysis of the data. Peer debriefing with the research team was used to review and validate the themes which emerged from the data.

Several preliminary themes have been inductively derived from interview data: 1) skepticism regarding genetic test results; 2) breast cancer risk inflation; 3) the expectation of a cancer-related demise; 4) survivor guilt; and 5) access to otherwise unavailable cutting-edge care. Initial findings from this study indicate that mutation-negative women from HBOC families have unmet psychosocial needs that must be addressed by healthcare professionals, particularly in the primary care setting following genetic disclosure of a reassuring result for population breast cancer risk.

Funding Sources: Clinical Genetics Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, National Institutes of Health, Department of Health and Human Services Protocol 01-C-0009

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EXPLORING THE ROLE OF POLYMORPHISMS IN THE DEVELOPMENT OF SECONDARY BREAST CANCER AFTER PEDIATRIC HODGKIN DISEASE. Belinda Mandrell, RN, CPNP, St. Jude Children's Research Hospital, Memphis, TN; Ann Cashion, PhD, RN, and Carolyn Driscoll, PhD, RN, University of Tennessee Health Sciences, Memphis, TN; and Melissa Hudson, MD, St. Jude Children's Research Hospital, Memphis, TN.

Overall survival of pediatric Hodgkin disease (HD) is 90%; however, survival decreases with time due to secondary cancers. Women survivors of pediatric HD have an increased morbidity and mortality associated with radiation. Identification of genetic risk factors associated with the development of secondary cancers could facilitate identification of at risk patients and permit modification of therapy and heightened surveillance that may reduce cancer-related morbidity and mortality.

The purpose of this ongoing study is to identify candidate polymorphisms that may be risk factors for the development of second-

ary breast cancer after pediatric HD. An evidenced-based conceptual framework was developed and titled, Inherent and Treatment Related-Risk Factors in Women at Risk of Secondary Breast Cancer.

Study methods will focus on identifying differential gene expressions between two groups of women who are pediatric HD survivors, those who developed secondary breast cancer (case) and those who did not (control). The study of identifying differential gene expression will be accomplished through examination of the individuals' global gene expression and characterization of the association of the expressed gene to an expressed polymorphism (mutation). This study will yield gene and polymorphism expression differences between the case and control and will further identify global gene expression and the associated genotype allele frequency among the cases. Association data will provide candidate polymorphisms for consideration in the etiology of secondary breast cancer after HD therapy.

A retrospective chart analysis between 07/01/70 and 07/01/91 found 19 of 190 women developed secondary breast cancer with 12 surviving. Each case will be matched with two controls.

Each individual begins treatment with known and unknown characteristics that determine treatment response. Guided by empirical data, the known risk factors associated with the development of secondary breast cancer are age at HD diagnosis, radiation field and dose, chemotherapy, years from radiation to breast cancer diagnosis, and family history. The unknown risk factor is the effect of inherent or individual polymorphisms and individual response. A study in progress is exploring the candidate polymorphism that contributes to the development of a secondary cancer. Ultimately, the contribution of each risk factor will be assessed for individual and combined ability to accurately identify women at risk of secondary breast cancer.

Funding Sources: American Cancer Society and St. Jude Children's Research Hospital

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OUTCOMES OF AN EXPLANATORY STUDY OF PATIENT/PROVIDER BREAST CANCER RISK MANAGEMENT PRACTICES. Sandra Underwood, RN, PhD, FAAN, University of Wisconsin–Milwaukee College of Nursing, Milwaukee, WI.

Breast cancer is the most common form of cancer diagnosed and the second most common cause of cancer death among American women. While the exact cause of breast cancer has yet to be determined, scientists have discovered that breast cancer results from accumulations of mutations in genes that control or regulate the growth and function of breast cells. Identifying genetic mutations that are associated with an inherited or familial risk for developing breast cancer is deemed to be an essential component of quality breast care. Knowledge relative to the presence or absence of inherited or familial risk factors can aid patients and health care providers in making decisions of the most optimal breast cancer risk management options.

A significant body of literature exists that emphasizes the importance of breast cancer risk communication and breast cancer risk management to control breast cancer among women with increased risk for developing breast cancer. However, little research has been conducted that examines the breast cancer risk communication and the breast cancer risk management decisions that occur between primary care providers and women with a predisposition for developing breast cancer. The Extended Parallel Process Framework and the Evidence-based Decision Clinical Making Model were used to guide the design and evaluation of the study.

This cross-sectional, correlational, and comparative group study aimed to identify factors associated with the breast cancer risk management decisions made by White, African American, and Hispanic women at risk for developing breast cancer and their healthcare providers. The study involved the collection of data from a stratified sample of women at risk for developing breast cancer and from a selected group of primary care providers. Inferential and descriptive statistics were used to analyze the study data.

Analysis of data collected during the course of the study suggest a need for the development of tailored interventions for women at (average, moderate, and high) risk of developing breast cancer and for providers to improve and support decision making and evidence-based practice; interventions to enhance patient and provider knowledge and understanding of breast cancer genetics; and, interventions to improve provider competence in the area of breast cancer risk assessment, breast cancer genetic counseling, breast cancer risk communication, and breast cancer risk management.

Funding Sources: Susan G. Komen Foundation

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EFFECT OF HORMONE ENVIRONMENT ON UNSCHEDULED DNA SYNTHESIS IN WOMEN AT HIGH RISK VERSUS NORMAL RISK FOR BREAST CANCER. Julie Eggert, RN, PhD, GNP-C, AOCN®, and Lyndon Larcom, PhD, Clemson University, Clemson, SC.

Though more is known about the relationship of hormones and breast cancer, there are still unanswered questions of the relationship of hormones have with a malignancy in the female breast. More information would galvanize the tool kit of information available for oncology nurses to share with their patients and families.

Determine if there is a relationship between female hormones and their effect on unscheduled DNA synthesis (UDS) in women at high risk for breast cancer versus women at normal risk.

The Gail Model was used to determine level of risk. Physiologic principles of DNA synthesis and the immune response were used as the basis for this study.

Each participant served as their own control. Blood samples were provided by 2 groups of women with different risks for developing breast cancer. Alloquots were saved for hormone evaluation post-study and sub-populations of white blood cells were extracted. The DNA was damaged with ultraviolet light and allowed to repair during incubation in utologous serum with tritiated thymidine to mark the damaged nucleotide sites. The damage was determined with a Coulter counter.

There was a significant correlation between UDS and both serum progresterone and estradiol levels. In addition, women at high risk who took hormone replacement therapy were also found to have significant changes in the levels of UDS. These results indicate that hormones have an effect on UDS and women, both normal and high risk, should carefully evaluate their decision to take hormone replacement therapy.

Funding Sources: Clemson University Department of Microbiology and School of Nursing

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SMOKING CESSATION INTERVENTIONS IN CANCER CARE: MISSED OPPORTUNITIES. Mary Cooley, PhD, RN, and Beth Xiarhos, MPH, Dana-Farber Cancer Institute, Boston, MA.

Tobacco use accounts for 16% of cancers and 30% of cancer deaths in developed countries. Smoking cessation is important to prevent cancer and also to improve outcomes after the diagnosis. The purposes of this presentation are to 1) critique and synthesize multidisciplinary research related to smoking cessation interventions (SCI) in cancer care; 2) discuss biopsychosocial, behavioral, and health policy factors that influence smoking behaviors in cancer care; 3)

articulate directions for future research; and 4) identify clinical and ethical implications of SCI.

The results of this review provide direction for future research and clinical interventions. It appears that the cancer diagnosis is a "teachable moment" but teaching is not enough. Future interventions need to address the high level of nicotine addiction and the low readiness to quit among continued smokers. In addition, it may be particularly helpful to target family members who are smokers as part of the SCI. Because smoking after the diagnosis is stigmatized, patients may not be willing to disclose their smoking behaviors or may not let their family members know that they continue to smoke. Therefore, ethical dilemmas may emerge during smoking cessation research and clinical care. Reimbursement for smoking cessation services has recently been approved creating new opportunities for oncology nurses to successfully integrate smoking cessation services into their practice.

Data sources used in this review were published peer-reviewed articles, textbooks, and computerized databases. Thirteen studies were identified for review through computer searches. Critique and synthesis of the articles resulted in knowledge gained about the type and effectiveness of SCI in cancer care, predictors of continued smoking, and theoretical, conceptual, and methodological issues that can be improved in future studies. Most studies were conducted in the treatment setting and targeted patients with smoking-related cancers. Only one study targeted family members and an additional study targeted pediatric cancer survivors. Sixty-nine percent of studies attempted to induce smoking cessation and the remaining 31% targeted smokers who wanted to make a quit attempt. Ninety-two percent of the SCI were implemented by health care providers (physicians, dentists, nurses) or tobacco treatment counselors. The remaining study used peer counselors to deliver the SCI. Only one study had statistically significant differences between the intervention and control group. Childhood cancer survivors receiving a peer-delivered SCI consisting of up to six telephone calls from a trained childhood cancer survivor, tailored materials, and nicotine replacement were twice as likely to quit smoking compared with a self-help group. Forty-six percent of the studies tested a nurse-delivered SCI. Although the sample sizes of these studies were small, the results suggested that that nurse-delivered SCI were promising. In particular, interventions that used a combination of counseling and pharmacotherapy were most effective demonstrating that 71% of the intervention group was abstinent at 6 months after the intervention as compared to 55% of the usual care group. Predictors of continued smoking included: type of diagnosis, type of treatment, number of smokers in social network, level of nicotine dependence, and readiness to quit smoking. Patients who did not have a smoking-related malignancy, received radiation therapy only, had more smokers in their social network, higher levels of nicotine dependence and lower readiness to quit smoking were more likely to remain smokers. Only 31% of the studies used an explicit theoretical framework to guide behavioral change. Seventy percent of the studies defined smoking cessation and used biochemical verification to confirm abstinence. All studies used smoking cessation as a dichotomous variable in the analysis. Some analyses were limited by using percentages only to detect differences between the treatment and control groups. Similarly, not all studies explicitly stated that an intention-to-treat analysis was done.

Funding Sources: National Cancer Institute

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PSYCHOSOCIAL FACTORS INFLUENCING TIMELY COMPLETION OF FOLLOW-UP AFTER INCOMPLETE OR ABNORMAL SCREENING MAMMOGRAPHY RESULTS IN A MEDICALLY UNDERSERVED POPULATION. Debra Wujcik, RN, MSN, PhD(c), Vanderbilt Ingram Cancer Center, Nashville, TN; Sally Lin, PhD, Centers for Disease Control and Prevention, Atlanta, GA; Ana Grau, MD, Meharry Medical College, Nashville, TN; Victoria Champion, RN, PhD, Indiana University, Indianapolis, IN; Wei Zheng, MD, PhD, and Kathleen Egan, ScD, Vanderbilt University, Nashville, TN; and Alecia Malin, DrPH, Meharry Medical College, Nashville, TN.

Breast cancer (BC) is the most frequently diagnosed cancer in women. Although screening mammography (SM) is recognized as an effective procedure for diagnosing BC at an early, more treatable stage, underinsured and minority populations often lack access to SM. Approximately 15%-25% of women screened for BC receive an incomplete or abnormal report. About half of these women never return to complete the testing, negating the benefits of this screening modality. Delays in follow-up after incomplete or abnormal results have been correlated with African American race and low socioeconomic status. Although the incidence of BC is lower in African American Women (AAW) than Caucasian women (CW), the survival rates for AAW are significantly lower.

The purpose of this study was to examine factors that affect AAW follow-up of incomplete mammography results using the Health Belief Model and Social Cognitive Theory.

To date, the sample consists of 61 women, 27 who completed follow-up in < 3 months and 34 who delayed follow-up > 3 months between 2003 and 2005 at a city hospital in Nashville. Women were identified from medical records and invited by their physician to participate in the study. A toll free number was provided for the woman to call to refuse participation. Women who did not refuse provided verbal consent and participated in a 30-minute telephone interview using the Return after Mammography Study questionnaire. The questionnaire has 162 items with scales measuring perceived barriers and benefits of SM follow-up, self efficacy, knowledge, risk, health orientation, locus of control (internal and spiritual), fatalism, and standard cancer risk assessment factors. Data analysis included two sample t-tests and nonparametric tests as appropriate.

Findings indicate both groups had high perceived barriers, low perceived benefits, low knowledge of breast cancer risks and guidelines, high fatalism and low health orientation. Internal LOC was the only factor predictive of timely completion of SM testing ($p<.01$). Conclusions: Beliefs and barriers to completion after incomplete SM are similar to published reports of beliefs and barriers of SM. Further exploration is needed of the role of Internal LOC in completion of SM in underserved and minority women.

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LUNG CANCER STIGMA PERCEIVED BY PATIENTS AND INFORMAL CAREGIVERS: PRELIMINARY RESULTS. Michelle Lobchuk, RN, PhD, and Susan McClement, RN, PhD, University of Manitoba, Faculty of Nursing, Winnipeg, Canada; and Christine McPherson, RN, PhD, Elisabeth Bruyere Research Institute, Ottawa, Canada.

Lung cancer is a stigmatized disease where communication difficulties have been reported by patients and informal caregivers who do not always share illness concerns with one another as a result of anger or blame. Illness attributions have not been explored in relation to help-intended communication and perceptual agreement between patients and caregivers on patient symptoms.

To explore the effects of patient and caregiver illness attributions on caregiver perspective-taking and patient-caregiver agreement on patient symptoms. Weiner's Theory of Social Conduct will guide the examination of relationships among illness attributions, caregiver perspective-taking and perceptual agreement on patient symptom experiences.

A correlational study to investigate relationships in a cohort of 84 lung cancer patients and caregivers over a 36-month period. Information is being collected to describe sociodemographic characteristics, the caregiving relationship, and smoking history. The abbreviated Memorial Symptom Assessment Scale is being employed to capture dyadic perceptions of patient symptoms, and has alphas ranging from 0.83 and 0.88. Dyad members are also being asked to complete a series of 5-point Likert-type questions to capture 'onset' (responsibility for onset of lung cancer) and 'offset' (responsibility for offset of disease progression) reactions. The 20-item, 5-point Likert-type Caregiver Perspective-Taking Scale captures caregiver perspective-taking, and alphas range from 0.86 to 0.95 with married couples, and 0.80 for mothers and 0.87 for daughters. Descriptive analysis will describe sample sociodemographics and illness-related variables, smoking history, and other study variables. Internal consistency reliability of the perspective-taking scale will be analyzed. A series of regression models will determine predictors of caregiver perspective-taking and patient-caregiver agreement on patient symptoms. Agreement scores will be based on the absolute difference between dyadic ratings on patient symptoms.

It is expected that results will lay the groundwork in developing a profile of informal caregivers who are at risk for faulty assessments of lung cancer symptoms based on the potential effect of illness attributions held by patients and caregivers. The long-term impact is to develop interventions that target high risk caregivers to improve their communication with lung cancer patients, enhance their understanding of patient symptoms and optimize patient symptom management.

Funding Sources: National Cancer Institute of Canada

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"WE ARE STRONGER THAN THE CANCER." THE VOICES OF MEXICAN AMERICAN FAMILY CAREGIVERS OF CANCER PATIENTS.

Jo Wells, RN, PhD, OCN®, Carolyn Spence Cagle, PhD, RN, RNC, and Pat Bradley, DNS, RN, Texas Christian University, Fort Worth, TX.

An increasing number of Mexican Americans (MAs), aging that will increase their cancer risk, and an identified unequal burden of cancer in this ethnic group support the reality that many MA females care for a family member with cancer. This care frequently occurs in the home by family females due to strong cultural values of familism and gender-specific roles.

Despite this knowledge, limited research has explored the influence of culture on MA female cancer family caregiving. Such knowledge is needed to identify effective culturally and socially relevant interventions to improve the lives of these caregivers and those dependent on their care.

A grounded theory qualitative approach served as a framework to generate understanding of the social-psychological process and structure of MA female cancer caregiving. Concepts informing the study centered on cultural community, including family; acculturation; patient and caregiver health; cultural values; and, health beliefs about cancer. These concepts appeared salient to influencing the experience voiced by the MA caregivers in the study.

Interviews with 34 female MA caregivers, through a collaborative education-clinic research partnership, provided qualitative data for the study presented here. Glaser and Strauss' methods for concurrent data collection and analysis and development of open, axial, and selective codes evolving from the data were followed over an 18 month period. A week-long immersion with the data by the investigators allowed identification of a core category and congruent subcategories supportive of the MA caregivers' voices.

MA family caregivers, within the context of "duty to family" and "belief in God", described a social-psychological process of "Becoming Stronger" during their experience with cancer. Relationships among this core category and sub-categories of "Strategies: Prioritizing the Patient" and "Struggles: Hurting too Much" allowed creation of a model supporting a theory of female MA cancer family caregiving. Findings from the study lend evidence to transform current health care approaches to cancer within the MA population group in order to provide perceived accessible and quality health care for this group.

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THE EXPERIENCE OF INFORMAL CAREGIVERS OF PATIENTS WITH BRAIN TUMORS.

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Caregivers of patients with primary brain tumors face particular challenges as they deal with the life changes that accompany this diagnosis. Oncology nursing seeks to understand and support the role of caregivers of oncology patients.

There is limited research involving the experience of caregivers of patients with primary brain tumors. The objective of this study is to explore the experience of informal caregivers of patients with a primary brain tumor, identifying themes of the caregiving experience specific to this population.

The model of informal caregiving dynamics describes the relationship of the informal caregiver and the patient in terms of past, present, and future experiences and energy sources for this dynamic include commitment, expectation management, and role negotiation, as well as caring for self, gaining insight, and connecting with others.

Data collection involved a single tape-recorded, face-to-face dialogue with the caregiver utilizing the methods of Story Theory. Patient and caregiver demographic information were collected. Twenty family caregivers were recruited for the study. Data analysis includes 1. descriptive statistics regarding patient and caregiver sociodemographics and medical data; 2. descriptive exploratory analysis of the transcribed dialogues to identify themes describing the caregivers' experience. The process of analysis includes an initial review by the researcher, a second review by a second researcher, with consensus being reached on the final description of the experience. A third researcher will be reviewing the final analysis for enhanced accuracy in analysis.

Preliminary analysis involving five subjects reveals energy sources utilized by these caregivers, including maintaining commitment by focusing on positive outcomes, managing expectations by taking it one day at a time, and connecting with others by seeking competent medical care for the patient. In contrast to a similar study involving caregivers of patients undergoing bone marrow transplant, these caregivers report having more trouble sustaining caregiving, perhaps related to disease trajectory. Understanding the caregiver perspective of the experience of caring for a patient with a primary brain tumor will suggest directions for future research and implications for clinical practice with this population of patients and caregivers.

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FAMILY CAREGIVERS' PERCEPTIONS OF PATIENT'S LEVEL OF UPSET BY CANCER PAIN AND THEIR EFFECTS ON FAMILY CAREGIVER OUTCOMES.

Claudia Marie West, RN, and Marylin Dodd, RN, PhD, FAAN,

University of California, San Francisco, San Francisco, CA; Karen Schumacher, RN, PhD, University of Nebraska Medical Center, Omaha, NE; Steven Paul, PhD, University of California, San Francisco, San Francisco, CA; Debu Tripathy, MD, University of Texas, Southwestern Medical Center, Dallas, TX; and Christine Miaskowski, RN, PhD, FAAN, University of California, San Francisco, San Francisco, CA.

Family caregivers' (FCs') misperceptions of their family members' pain intensity can have deleterious effects on FC outcomes. However, little is known about the degree of FC concordance with the patients' level of upset by pain or its effect on FC outcomes. The purposes of this study were to examine FCs' concordance with the patients' level of upset by pain and its effect on FCs' strain, mood, and QOL. The UCSF Symptom Management Model was the theoretical framework for this study.

FCs were recruited as part of a large randomized clinical trial that tested the effectiveness of a psychoeducational intervention in decreasing pain intensity in oncology outpatients with metastatic bone pain. Patients and FCs rated the patients' level of upset by pain on a visual analogue scale. FCs completed a demographic questionnaire, the Caregiver Reaction Assessment (CRA), the Profile of Mood States, and the adapted MQOL Scale. These instruments have been previously tested and found to be reliable and valid. Demographic characteristics were analyzed using frequency distributions and descriptive statistics. Discordance was defined as a difference greater than +/- 1 unit between the patients' and FCs' ratings of the patients' level of upset by pain. One-way ANOVA was performed to test for differences in FC outcomes by whether the FCs over- or underestimated or were concordant with the patients' level of upset by pain.

93 patient-caregiver dyads participated in the study. FCs were related to the patients as spouses or partners (75%); 45.2% of FCs were concordant with, 17.2% underestimated, and 37.6% overestimated the patients' level of upset. FCs who overestimated or were concordant with the patient had worse total CRA (p=0.024), total mood disorder (p=0.037), and QOL (p=0.048). These data suggest that the majority of FCs were discordant in their perceptions of the patients' level of upset by pain. Either overestimation or concordance with the patients' level of upset resulted in worse caregiver strain, mood disorder, and QOL. Efforts must be made to assist FCs and patients to communicate more clearly about the patients' pain experience and to help FCs cope with their response to the patients' pain and distress.

Funding Sources: National Cancer Institute Grant RO1 CA64734

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INTERACTION PATTERNS BETWEEN PARENTS WITH ADVANCED CANCER AND THEIR ADOLESCENT CHILDREN.

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The research literature on parents with advanced cancer and their children focuses on psychosocial and emotional distress, functional changes within the family, and economic burdens. Few researchers have considered end of life as an opportunity for growth and healing. Studies are needed to understand the process by which parents with advanced cancer interact with their children, a complex psychosocial process.

The purpose of this study is to describe the process by which parents with advanced cancer interact with their adolescent children through the course of the illness and specific strategies they use to prepare their children for living without them.

The guiding framework for this study is symbolic interactionism. People interact with each other differently depending on their relationship to each other and the circumstances in which they find themselves. Both parents and adolescents respond to the meaning the parent's illness has for them. The meanings emerge from their interactions and are modified through interpretation. The diagnosis of advanced cancer and the potential for an early death may change the interactive process. The timeline for being together is suddenly reduced. The time available may be further shortened by the parents' extreme fatigue and desire to protect the children by not discussing their imminent death.

Parents who are near the end of their lives and their adolescent children share a common problem and the ways in which they and their families manage their experiences are best understood as a series of complex interactions that change over time and are influenced by sociocultural context. Therefore, grounded theory methods, which are based on symbolic interactionism, will be used to build the theoretical framework.

Approximately 30 participants will be interviewed including both parents and adolescents. Potential participants have been recruited from a hospice program and interviewed individually. The interviews were audiotaped and transcribed. Data will be analyzed using grounded theory methods. Analysis is currently incomplete, but is expected to be complete prior to presentation.

Funding Sources: Sigma Theta Tau International and Midwest Nursing Research Society grant; Akron General Development Foundation grant

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PREVALENCE AND SEVERITY OF SYMPTOMS IN FAMILY CAREGIVERS OF MEN WITH PROSTATE CANCER.

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In a recent survey by the National Alliance for Caregiving and the American Association of Retired Persons, an estimated 44.4 million American caregivers aged 18 and older provided unpaid care to an adult at an economic value of nearly $257 billion annually. However, little is known about symptoms in family caregivers (FCs) and how these symptoms impact outcomes in FCs.

The purposes of this study were to determine the prevalence and severity of depression, anxiety, pain, fatigue, and sleep disturbance in a sample of FCs of men with prostate cancer and to evaluate for differences in functional status and QOL between those FCs with and without clinically significant levels of these five symptoms. The University of California San Francisco Symptom Management Model provided the theoretical framework for this study.

FCs were recruited prior to the patient's initiation of radiation therapy (RT) and completed baseline measures using the Center for Epidemiological Studies-Depression Scale, Spielberger State Trait Anxiety Inventory, Lee Fatigue Inventory, General Sleep Disturbance Scale and a NRS for worst pain intensity. Sixty female FCs participated with a mean age of 64.24 years and an average Karnofsky Performance Status Score of 94.0. Established cut points for each instrument were used to categorize symptoms as clinically significant.

Twelve percent of FCs had clinically significant depression, 40.7% for state anxiety, 36.7% for sleep disturbance, 15.0% for pain, and 32.2% for fatigue. Differences between the two groups were evaluated using Independent Student t-tests. For all five symptoms, FCs with clinically significant levels of each symptom had poorer QOL scores ($p < 0.05$). Those FCs with clinically significant levels of pain, sleep disturbance, trait anxiety, and daytime fatigue had poorer functional status scores ($p < 0.05$). These findings suggest that a high percentage of FCs experience clinically significant levels of a variety of symptoms. In addition, those FCs with higher levels of symptoms

are at risk for poorer outcomes. Additional research is warranted to determine how symptoms in FCs change over time and during the course of the patient's disease trajectory.

Funding Sources: Funded by the National Institute of Nursing Research (NRO4835) and the National Cancer Institute

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PARENTS' EXPERIENCES WITH CANCER TREATMENT DECISION MAKING. Janet Stewart, PhD, RN, University of Pittsburgh School of Nursing, Pittsburgh, PA; Kimberly Pyke-Grimm, MN, RN, Children's Hospital San Diego, San Diego, CA; and Katherine Kelly, RN, Children's National Medical Center, Washington, DC.

Pediatric oncology nurses play a crucial role in supporting parents in major treatment decisions for their children with cancer, one of the most stressful challenges parents face.

The purpose of this study is to learn more about how parents of children with cancer participate in major treatment decisions, and to determine the immediate and enduring impact that participating in treatment decision-making (TDM) has on parents and families.

Our sensitizing framework for studying parental TDM in the context of childhood cancer is derived from four theoretical perspectives: Degner's control preferences construct, O'Connor's decisional conflict model, Thorne and Robinson's healthcare relationships framework, and Chu and Power's interactive model of synchrony.

Grounded theory methods have directed sampling and analytic decisions. Using a semi-structured interview guide, we asked parents to reflect on the treatment decisions made since their child's diagnosis, to consider what factors influenced the role they assumed in making those decisions, and what impact participating in TDM has had on themselves and their family. Analysis began following the completion of the first interview and continues simultaneously with data collection.

Seven mothers and 4 fathers of 10 children with cancer have been interviewed to date. Preliminary analysis reveals that parents' perceived imperative to make the right decision for their child defines the TDM process, and that making the right decision is an extension of their parental responsibilities and intimate relationship with their child. Parents use a variety of decision making strategies in order to achieve their goal of making the right decision, including seeking information and expertise, monitoring physician behaviors and communication, balancing risks and benefits, and relying on faith and prayer. Parents seek very little decisional support from their social network, relying instead on their child's treating physician, their own experiences, and their privileged knowledge of their child. Our findings confirm that TDM is an emotionally demanding aspect of parenting a child with cancer, and we plan to use these findings to develop and test the effects of a parental TDM support intervention.

Funding Sources: American Nurses Foundation

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MIND-BODY INTERACTIONS IN NEURO-ONCOLOGY CAREGIVERS. Paula Sherwood, RN, PhD, CNRN, University of Pittsburgh School of Nursing, Pittsburgh, PA; Barbara Given, RN, PhD, FAAN, Michigan State University, East Lansing, MI; Catherine Bender, RN, PhD, Andrew Baum, PhD, Richard Schulz, PhD, Frank Lieberman, MD, and Susan Sereika, PhD, University of Pittsburgh, Pittsburgh, PA.

Persons with a primary malignant brain tumor (PMBT) often suffer significant functional and neurologic morbidity causing family caregivers to assume the care recipient's familial, social, and financial obligations. Although research has shown that caregivers of persons with other types of cancer develop negative consequences as a result of providing care, caregiver issues in neuro-oncology have been virtually ignored.

The purpose of this study is to use a multidisciplinary, integrative theoretical model, the Pittsburgh Mind Body Center Model, to explore the psycho-behavioral responses, biologic responses and overall health of family members of persons with a PMBT at the time of diagnosis and at 3 months after diagnosis. The specific aims of the project are to explore how caregivers' psycho-behavioral responses (depressive symptoms, anxiety, caregiver burden, positive responses to care, energy expenditure, sleep), biologic responses (blood pressure, interleukin 1, interleukin 6) and overall health change over time in relation to changes in care recipients' disease status (tumor type and grade, functional, neurologic, and symptom status) and in relation to caregivers' personal characteristics (personality type, mastery, marital satisfaction, social support).

A descriptive longitudinal design is being used with 30 caregiver/care recipient dyads > 20 years of age (11 recruited to date). Care recipients must have been diagnosed with a PMBT within one month of accrual into the study. Phlebotomy, physiologic measurement (i.e. BP) and valid and reliable questionnaires are administered during 60 minute interviews with participants. Linear and logistic regression analysis will model baseline responses. Correlational, regression, and repeated measures analysis will examine change over time.

Correlation coefficients from the sample to date provide preliminary support for the direction of relationships posited in the model. In general, lower levels of interleukin 1 and higher mean diastolic BP were associated with higher levels of burden, depressive symptoms and anxiety and lower levels of positive aspects of care. This study, innovative in both its integration of biological and behavioral measures and focus on an underserved population, will help to identify characteristics of vulnerable caregivers so that a timely and efficient intervention to maintain or improve caregivers' health can be designed.

Funding Sources: Sherwood (PI) Pilot study funded through Integrating Cancer and Aging (National Cancer Institute/National Institute of Aging) Herberman, R, (PI), P20 CA103730; Sherwood (PI)

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PROCESS EVALUATION OF A NURSING INTERVENTION FOR PROSTATE CANCER PATIENTS AND THEIR SPOUSES. Ann Schafenacker, RN, MSN, Gail Newth, RN, MS, University of Michigan School of Nursing, Ann Arbor, MI; Margaret Falahee, RN, MSN, APRN, Joan Bickes, RN, MSN, APRN, Janet Harden, PhD, RN, Darlene Mood, PhD, Wayne State College of Nursing, Detroit, MI; and Laurel Northouse, PhD, RN, University of Michigan School of Nursing, Ann Arbor, MI.

Process evaluations are essential components of randomized clinical trials. They assess interventions from the perspective of participants and help with refinement of interventions prior to implementation in clinical practice.

The purpose of this study was to analyze process evaluations obtained from prostate cancer patients and their spouses following completion of a family intervention. This study 1) compared satisfaction with the intervention by role (patient vs. spouse) and by phase of illness (newly diagnosed, post-treatment biochemical recurrence, or advanced), and 2) examined predictors of satisfaction according to patients' and spouses' baseline quality of life, appraisal of illness/caregiving, uncertainty, self-efficacy, and risk for distress. This study was guided by a stress-coping framework.

An experimental design was utilized. Patient-spouse dyads were referred by clinic staff, completed baseline assessments, randomized to treatment or control group, and completed 4-month follow-up assessments (236 dyads). Data were obtained from 91 patients and 96 spouses who returned the process evaluation after completing the in-

tervention. The evaluation contained 17 items including a 6-item intervention satisfaction scale used in these analyses (possible scores: 6-30) (reliability alpha=.89 patients, .93 spouses). Baseline measures with established reliability and validity (FACT-G, Appraisal of Illness/Caregiving Scales, Mishel Uncertainty Scale, Lewis Self-Efficacy Scale, and Mood's Risk for Distress Scale), were used to predict participants' satisfaction with the intervention. Descriptive statistics, ANOVAs, and correlations were used to analyze the data.

Results indicated no significant differences in satisfaction by role (patients vs. spouses) or by phase of illness. Both patients and spouses reported high satisfaction with the intervention as did dyads in the three phases of illness. Patients reporting higher satisfaction had better baseline quality of life (r=.30), more self-efficacy (r=.31), less negative appraisal of illness (r=-.28), less uncertainty (r=-.34), and lower risk for distress (r=-.23). Spouses reporting higher satisfaction had less baseline uncertainty (r=-.22) and more self-efficacy (r=.24) (all ps<.05). Findings suggest that participants with more psychosocial resources were more satisfied with the intervention than participants with fewer resources. This nursing intervention program, with high participant satisfaction, will guide future clinical practice efforts to assist prostate cancer patients and their spouses to adapt to the illness.

Funding Sources: National Cancer Institute (R01CA90739)

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COUPLE-BASED INTERVENTION FOR LOW-INCOME LATINOS TREATED FOR PROSTATE CANCER: A PILOT.

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Prostate cancer is the most common noncutaneous cancer among American men. Latinos are the fastest-growing minority in the US. Treatments for prostate cancer have side effects for both the man and his partner.

Low income, lack of insurance, and minority status have been associated with poorer healthcare outcomes. Latino men present with higher stage disease than non-Latino. However, there is little research to guide culturally sensitive symptom management for low income Latino men treated for prostate cancer and even less addressing partners' concerns. Therefore, the purpose of this pilot is to test a couple-based telephone intervention among low-income Latino couples treated for prostate cancer for feasibility. Based on Social Cognitive Theory, the intervention is designed to enhance self-efficacy for symptom management among couples. Intervention development is based in our previous work with this population qualitatively describing the meaning of symptoms for the men, symptom clusters, and studies demonstrating the success of telephone interventions.

We will use a small randomized controlled trial sampling from a state-funded program that provides prostate cancer treatment to low-income, uninsured men. A bilingual, male nurse will administer an 8-week telephone couple-based intervention to 10 Latino couples and usual care to a comparison group of 10 Latino couples. We will administer 2 self-efficacy measures, the SF-12, a prostate cancer specific quality of life measure, and the Dyadic Adjustment Scale prior to the intervention and 1 week following the intervention in Spanish or English. Analysis will include t-tests and descriptive statistics to assess change pre and post intervention and differences between intervention and comparison groups. The intervention nurse will maintain extensive process notes on the implementation of the intervention and couples will be asked to comment on acceptability and helpfulness of the intervention.

We are beginning participant recruitment and administration of the initial measures. When findings become available in 3-4 months, they will have major implications for guiding development and testing on a larger scale of culturally sensitive, couple-based interventions for low-income Latinos treated for prostate cancer.

Funding Sources: University of California Los Angeles School of Nursing Intramural Grant

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ASSESSING RISK FOR DISTRESS IN CANCER PATIENTS AND FAMILY CAREGIVERS.

Darlene Mood, PhD, Wayne State University, Detroit, MI; Lixin Song, University of Michigan School of Nursing, Ann Arbor, MI; Trace Kershaw, PhD, Yale University School of Epidemiology and Public Health, New Haven, CT; and Laurel Northouse, PhD, RN, FAAN, University of Michigan School of Nursing, Ann Arbor, MI.

While many patients and their family members experience some emotional distress during their cancer experiences, most are able to cope effectively and maintain stability. However, many investigators have found that 30%-60% of patients/caregivers show signs of significant distress months and years later. Additional research has demonstrated that these challenges to well-being can be treated effectively with psychoeducational nursing interventions.

The concept of "risk for distress" suggests that, based on information provided by patients at the time of diagnosis and/or the beginning of a treatment regimen, patients at greatest risk for experiencing significant levels of emotional distress during their cancer experience can be identified. As the changing health care system curtails the already limited resources to address psychosocial concerns, it becomes essential to have an empirically valid basis for identifying those patients with the greatest needs. The purpose of the current study was to replicate earlier psychometric findings of a measure of risk for distress (RFD), but focuses on patients with advanced disease and their family caregivers.

The RFD scale is a self-administered version of Weisman and Worden's Omega Screening Interview, developed originally from extensive clinical experience and empirical literature on factors affecting patients' distress. Mood reconceptualized the measure as an aspect of self-care/dependent-care deficit within Orem's framework of nursing practice.

Data were derived from 180 women with recurrent breast cancer and their family caregiver who participated in a RCT of a family-focused intervention. The RFD scale was administered at baseline to each dyad member and used to predict quality of life outcomes at 3 and 6 months. Patients with high risk for distress at baseline were 7.14 times more likely at 3 months, and 6.80 times more likely at 6 months, to have low QOL (all ps<.001). Higher baseline risk for distress correlated with more negative appraisal of illness, more hopelessness, and higher uncertainty at both follow-ups. Similar results were found for caregivers.

These findings suggest that the RFD scale is a reliable and valid predictor of cancer patients' and caregivers' risk of poorer short- and long-term QOL outcomes.

Funding Sources: National Cancer Institute, National Institutes of Health

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MOTHERS WITH BREAST CANCER—EXPERIENCES PARENTING ADOLESCENT DAUGHTERS.

Barbara Hosei, BA, Joan E. Haase, PhD, RN, Deborah Stiffler, PhD, RN, CNM, and Brooke Barada, RN, BSN, MSN student, Indiana University School of Nursing, Indianapolis, IN.

Approximately 269,730 women will be diagnosed with breast cancer this year and 50,000 children—many adolescents, will be affected. Research indicates these mothers experience symptoms that may impair their ability to parent effectively and may affect parent/adolescent daughter long-term relationships and adjustment.

Little research has been done on mothers' efforts to parent adolescent daughters during the acute phase of illness. The purpose of this paper, one of three abstracts submitted as part of a larger study, describes mothers' lived experiences of parenting an adolescent daughter during and after their diagnosis and treatment for breast cancer.

This paper is based on an empirical phenomenological study of both mothers with breast cancer and their adolescent daughters that was an outgrowth of an National Cancer Institute-funded intervention study to help the mother with breast cancer support her school age child. We assumed 1) future planned interventions will need to be adjusted to experiences of parenting when the child is an adolescent; and 2) mother/daughter experiences are different than mother/son experiences.

The sample consisted of 8 mother/daughter dyads recruited from two sites. Mothers' ages ranged at time of diagnosis from 37-46 (M=32.875) with age at time of interview 42-54 (M=36.25). Mothers' cancer stages ranged from 0-III (M=2.125) and they were at least 6 months from treatment completion. Open-ended, audiotape-recorded interviews were conducted with each participant. Data were analyzed using Colaizzi's 8-step method. Data analysis was done collaboratively with the research team until consensus was reached. Audit trails, peer and member checks were strategies used for trustworthiness and credibility.

Findings included the following theme categories: A Battle to be fought—What Is at Stake if Battle Is Lost; I Tried to Tell Her…; Standout Moments in Our Family's Cancer Journey; Mobilizing to Protect Self While Preserving Parenting; Tailor-making Mom to Meet Adolescent's Needs; Voices of Fear--Consequences of Parenting While Enduring Cancer; After Treatment Is Over You Are Not Done. Clinical implications include assessment of the level and nature of parenting concerns regarding adolescent daughters and developing/testing communication interventions to enhance mother/daughter communication.

Funding Sources: ONS Foundation

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UNDERSTANDING THE NEEDS OF TAIWANESE ADULT CANCER PATIENTS AND THEIR FAMILIES. Ya-Jung Wang, RN, MS, Hope Society for Cancer Care, Taipei, Taiwan; Shiu-yu Katie C. Lee, DNSc, Taipei College of Nursing, Taipei, Taiwan; Siew Tzuh Tang, DNSc, Chun-Gung University, Taipei, Taiwan; Cheng-Hsu Wang, MD, Chun-Gung Medical Center, Taipei, Taiwan; and Lien-Ying Su, MS, Hope Society for Cancer Care, Taipei, Taiwan.

Understanding the needs of cancer patients and their family is a vital step for designing cancer support program and providing need-sensitive supportive care for cancer patients and their family. Cancer is the leading cause of death for the past 24 years in Taiwan. The needs of Taiwanese cancer patients and their family along the cancer trajectory not yet fully explored.

To better understand the need of Taiwanese adult cancer patients and their family along cancer trajectory, key-informant and cancer-patient-and-family focus groups were conducted. The philosophic underpinnings of this study are based on the belief that the assessment of needs for cancer care is best to be discovered through the cancer experience of the human beings with cancer and the caregiving experience of family and healthcare professionals.

A purpose sample of 23 adult cancer patients, family members and cancer care professionals were recruited in Taipei city. The patient-family group included 10 patients with various cancers and having treatment experience, and two family caregivers. The key informant groups comprised one cancer patient, one family caregiver, and nine professionals, including medical oncologists, radiation oncologists, nurses, social workers, and one psychologist.

Using content analysis, the main themes identified in focus groups of the qualitative study were: being treated as a human being, being able to have trust on professionals and gaining support, and keeping away from suffering, getting connected with resources, returning to community. Being as a human being was characterized as being informed, understood and accepted and having confidence. The needs to be connected with cancer care providers and cancer survivors both in clinic and in community were stressed. The results of this qualitative study have been used to develop cancer support programs and to network cancer resources and cancer care providers.

Funding Sources: Funded by Department of Health, Taiwan, Republic of China

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FAMILY CAREGIVER QUALITY OF LIFE IN A PEDIATRIC ONCOLOGY SETTING. Michael Mueller, University of Florida, Gainesville, FL.

A number of factors have contributed to a shift in healthcare from the hospital to the home, including pressures by managed health care organizations to limit hospital days as well as improved treatment options that no longer require in-patient stays. With this shift generally comes a transfer of care for the patient from trained professionals to the family of the patient. This transfer of care can often have a profound effect on a number of aspects of the family caregiver's life including their overall quality of life (QOL).

This research examines the QOL of family caregivers of pediatric oncology patients. To better understand the QOL of this population of family caregivers we have established two primary objectives for this study. The first objective is to test a cognitive appraisal model of stress to help identify factors that influence family caregiver QOL. Specific focus of this objective will be on how demands of caregiving, hassles of medication management, and the appraisal of stress related to caregiving affect family caregiver QOL. A secondary objective will be on the influence of select caregiver, patient and disease specific variables on QOL.

This study looks to gain a better understanding of the impact caregiving can have on family caregivers by looking at how select factors from a cognitive appraisal of stress model influence the caregivers QOL. Factors include variables tied to the patient, the caregiver, the disease, the demands of caregiving, the hassles associated with managing the patient's medication use and the stress of caregiving. A secondary objective will be on the influence of select caregiver, patient and disease specific variables on QOL.

Caregivers will fill out questionnaire packets containing copies of the Family Caregiver Quality of Life Index-Cancer, the Care of my Child With Cancer, the Family Caregiver Medication Administration Hassles Scale and the Appraisal of Caregiving Scale. Correlations will be run followed by multiple regressions to identify direct and indirect effects of variables on family caregiver QOL. Patient, caregiver and disease variables that are significantly correlated with caregiver QOL will also be included in the regressions.

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MULTIKINASE INHIBITORS (MKIs) IN CANCER TREATMENT: SAFETY AND NURSING RECOMMENDATIONS. Michelle Purdom, RN, Luis H. Camacho, MD, MPH, and Roy S. Herbst, MD, PhD, University of texas M.D. Anderson Cancer Center, Houston, TX.

Numerous receptor tyrosine kinases, including vascular endothelial growth factor receptor (VEGFR), epidermal growth factor (EGFR), and platelet-derived growth factor receptor (PDGFR), have been implicated in the pathogenesis of solid and nonsolid tumors such as chronic myelogenous leukemia (CML), acute myeloid

leukemia (AML), hereditary endocrine tumors, and gastrointestinal stromal tumor (GIST). Multikinase inhibitors, a new class of targeted compounds, have demonstrated their activity in various cancers (e.g., imatinib in GIST/CML). Targeted therapeutics are designed to increase efficacy and minimize adverse events (AEs) by inhibiting certain proteins with high specificity. Several MKIs are currently under investigation in clinical trials, including AMG 706, an oral MKI with antiangiogenesis and direct antitumor activity. AMG 706 potently inhibits VEGFR, PDGFR, and Kit in preclinical models. A broad phase I trial in subjects with advanced solid tumors has completed, and additional phase 1b and phase 2 monotherapy and combination therapy trials are ongoing in imatinib-resistant GIST, thyroid cancer, breast cancer, NSCLC, colorectal cancer, and others.

To familiarize oncology nurses with the mechanism of action (MOA) of MKIs, the most common AEs seen with AMG 706 and strategies for patient care.

We explored the toxicities and pharmacokinetics of AMG 706 in 71 patients with solid tumors treated in a dose-escalating phase I study. AEs were manageable and most commonly included hypertension (34%), fatigue (37%), headache (24%), nausea (18%), vomiting (11%), and diarrhea (27%).

The AE requiring most attention with AMG 706 monotherapy is hypertension, which may be related to VEGF inhibition. Nurses need to pay special attention to management of hypertension. Patient education is also crucial. Antihypertensive medications are often sufficient, and in cases of uncontrolled hypertension, a dose reduction and/or consultation with a cardiologist are suggested. Importantly, when MKIs are withheld or discontinued, blood pressures usually return to baseline. Other predictable and manageable AEs of AMG 706 include diarrhea and headache. In contrast, some MKIs lead to drug accumulation and/or other toxicities that may require interrupted dosing schedules.

MKIs such as AMG 706 are increasingly used for cancer treatment. It is critical for oncology nurses to familiarize themselves with the MOA of MKIs and their potential toxicities.

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EVALUATION OF A HOSPITAL STAFF TRAINING PROGRAM FOCUSED ON SMOKING CESSATION FOR PATIENTS. Dana Rutledge, RN, PhD, California State University, Fullerton, Fullerton, CA; Pam Matten, RN, OCN®, Ryan Quist, PhD, Chung Eunice, PharmD, and Wong Siu-Fun, PharmD, St. Joseph Hospital, Orange, CA.

Smoking-related diseases cause deaths and disabling conditions. Hospitalization may be an optimal time to assist smokers in cessation.

While interventions can increase patients' odds of quitting, hospital nurses are ill-prepared to assist patients who might be "ready" for counseling/education about smoking cessation.

This study is a pilot within a program evaluation of smoking cessation training aimed at hospital staff; aim of overall evaluation - determine effectiveness in improving healthcare professional's ability to conduct patient-centered smoking cessation. Training program based upon adult learning principles, aimed at engaging learners in assessing patients' stage of change and applying patient-oriented interventions.

Intervention: Modified Rx for Change: Clinician-Assisted Tobacco Cessation Program, designed for pharmacy schools. Based on US-DHHS guidelines, hospital-based classes taught by oncology nurse, pharmacist focus on cessation counseling using 5As (Ask, Advise, Assess, Assist, Arrange).

Measures: Investigator-developed measures of confidence, perceived level of counseling skills/knowledge about smoking cessation (pre/post); measures of smoking cessation experiences, level of skills (3, 6, 12 months).

Analysis: Descriptive statistics.

Initial class (03/2006) taught to 20 hospital staff (95% nurses). Post-tests indicated (a) about half of content new to participants, 70% potentially useful; (b) enhanced attitudes, levels of skills/confidence in abilities to advise patients. Examples: (a) change in overall ability to help patients quit tobacco as "good/very good/excellent": pre-25% of participants/post-75%; (b) confidence in their knowledge to ask appropriate questions: pre-31% of participants/post-94%. At post-test, participants were more likely to report having good/excellent skills to advise patients (100% of participants) and to perceive professionals as having a role in tobacco cessation (100%) than to be able to provide tobacco cessation assistance (56%).

Findings from the pre/postassessment, from 3 and 6-month follow-ups will be available for the poster presentation.

Results will assist course developers fine-tune the course prior to it being offered again. They will also assist others planning similar interventions in understanding knowledge and attitudes of hospital nurses attending tobacco cessation programs. Follow up with participants will determine if learners use new tobacco cessation skills with patients. Further research should address retention of tobacco cessation knowledge.

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PATIENTS' EXPERIENCES IN MANAGING ONCOLOGY MEDICATION. Marilyn Smith-Stoner, RN, PhD, CHPN, California State University, San Bernardino, San Bernardino, CA.

Medication self-management is a key skill for patients to maintain the highest level of functional status and symptom management.The aim of this project is to understand the experience of medication self-management for elderly cancer patients. Orem's Self Care Deficit Nursing Theory is used as a guiding frame work for this study. Orem's self care theory focuses nursing activity on performing actions that promote the patient or caregiver's ability to manage the effects of disease.

This qualitative study interviewed 10 elderly cancer patients about their medications, self-management strategies and their experiences in talking with healthcare providers about their medication concerns. Interviews were analyzed and themes identified.

Findings from the preliminary stage of the study indicated that patients experienced significant financial hardships as a result of the transition to Medicare Part D, difficulty communicating with health care providers and feelings of being overwhelmed with the multiple medications that had been prescribed for all their health-related conditions.

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ADULT CHEMOTHERAPY INFUSION PATIENTS HAVE A HIGH LEVEL OF SATISFACTION WITH AMBULATORY TREATMENT. Dorothy Haddrill, RN, PhD, OCN®, LPC, InfuSystem, Inc., Madison Heights, MI.

While it is generally accepted that patient quality of life issues play a major role in quality cancer treatment, currently, the literature lacks evidence-based assessments relative to patient satisfaction with the ambulatory method of chemotherapy infusion.

The purpose of this study is to determine if adult cancer patients using ambulatory chemotherapy infusion devices are satisfied with this outpatient method of medication delivery. Additional questions explored are the impact of daily quality of life issues on patients, gender and age differences, and the implications on nursing standards of care for ambulatory chemotherapy infusion.

Unlike generations of Americans that have gone before, baby boomers are conditioned to expect convenience, choice, and service. It is reasonable to assume that as a group they will continue to value and demand enhanced customer services as they age. The data presented will be beneficial to healthcare providers in facilitating ethical decision-making and will contribute to further advancements in the efficacy of and patient satisfaction with cancer treatment methods.

An additional, critical goal of this study was to analyze and gauge geriatric and gender special population subgroup survey data to support the formulation of acceptable clinical practice outcomes. A closer examination of these special population groups will be significant to determining the appropriate method of chemotherapy infusion for their particular needs.

A total of 480 on-call support surveys and 480 patient satisfaction surveys were mailed to patients over the period of June 2003 through May 2005. 226 on-call surveys were returned for a 47% response rate; 124 patient satisfaction surveys were returned for a 26% response rate. The study also includes special geriatric and gender population information. The results were NULL in relation to the hypothesis. The study found that the satisfaction rates for both patient satisfaction and on-call support surveys were high. The patient cohort sampled were principally representative of a group born between the years of 1921 to 1945; however, it is acknowledged that these individuals share a different demographic profile than will be presented by future patients, the Baby Boomers.

After comparing age and gender satisfaction differences amongst those surveyed and reviewing Baby Boom generation demographics, the study concludes that increased emphasis should be placed on surveying to uncover future patient expectations and lifestyle needs.

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QUALITY OF LIFE AND UTILIZATION OF SERVICES IN THE LUNG CANCER POPULATION AT HOAG CANCER CENTER. Sian Wing, RNC, Hoag Hospital, Newport Beach, CA; and Nancy Raymon, RN, MN, AOCN®, Hoag Cancer Center, North Beach, CA.

More than 200 patients are treated each year for lung cancer at Hoag Cancer Center. Experience at Hoag indicated a difference in perception of Quality of Life (QOL) and well-being of lung cancer patients between nurses and thoracic surgeons. Since the oncology nurse's role is critical in promoting QOL, it is important to understand QOL issues so that appropriate nursing interventions can be utilized.

The research aims to evaluate QOL and satisfaction with services for patients experiencing all stages of lung cancer, in order to increase our knowledge about QOL for these patients and to improve Hoag services.

Objectives were to

1. Evaluate QOL of patients undergoing treatment for lung cancer at Hoag Cancer Center over time
2. Identify problem areas at each interval
3. Evaluate patient satisfaction with services provided at Hoag

Rationale: In a study supporting development of the ONC exam, activities in the QOL domain comprised the largest subset, supporting the nurse's role in promoting QOL. It is important to understand QOL in this population so that appropriate nursing interventions can be utilized.

A pilot survey of QOL for Hoag lung cancer surgical patients (n=100) used the SF-12 Health Survey to find that QOL was similar to normative data for the general population at comparable ages. Based on lessons learned, this study expanded the study population to include all lung cancer patients and to interview patients with a combined SF-12 and Satisfaction Questionnaire at initial treatment and every 6 months thereafter for 3 years, to ascertain QOL, problem areas and satisfaction with program services. SF-12 data from this new design will be analyzed using a paired t-test when n=50 patients have been surveyed twice (38 completed baseline and 6-month surveys as of 5/24/06). Satisfaction score analysis and content analysis will also be conducted.

Satisfaction and content analysis was performed on responses from 91 patients at baseline and 36 patients at 6-month follow-up. Results suggest high satisfaction with program services and clustering of problems at baseline around concerns about undergoing chemotherapy.

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MAGNET STATUS: BUILDING RESEARCH CAPACITY IN COMMUNITY HOSPITALS. Lisa Aiello-Laws, RN, MSN, APNG, Shore Memorial Hospital, Somers Point, NJ.

Oncology nurses and the Oncology Nursing Society strongly support nursing research and evidence-based practice. As many small community hospitals are pursuing Magnet status, many nurses are being asked to take part in these activities. It is important as oncology nurses to help develop our colleagues, as it is important to our professional to improve its scientific base.

Community hospitals are increasingly interested in becoming Magnet Hospitals. The Nursing Research Council was a new endeavor in our institution. Nurses in our institution have varied educational backgrounds, but currently there are no doctorally prepared nurses. Given the educational profiles of our nursing staff we were faced with the challenge of developing a nursing research program in a setting with nurses who have primarily entry-level RN education.

Using Patricia Benner's model of Novice to Expert, we wanted to identify what knowledge-base the nurses had, and then build on that to provide them with the skills to take part in nursing research.

We randomly and anonymously surveyed staff nurses throughout the hospital, from all units, who expressed an interest in research, as well as those who expressed a disinterest in research. After our educational initiatives, we resurveyed the same types of nurses. We then collated the results, comparing and contrasting the different results.

- After the implementation of our nursing research infrastructure, the staff has indicated a breakdown of barriers to participating in nursing research.
- The number of nurses pursuing higher education and attaining national certifications has rapidly grown.
- The needs survey was an invaluable tool to direct us in our development of our nursing research infrastructure.

It directed us to where the deficits in knowledge were located, and also provided us with the goals of the staff, not the administrative team developing the program. If we were to repeat this study, we would attempt a larger sample size, as the power of our survey is low.

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MAKING A DIFFERENCE; THE HOPE OF HEALTHCARE PROFESSIONALS CARING FOR CANCER PATIENTS AT THE END OF LIFE. Wendy Duggleby, DSN, RN, AOCN®, and Karen Wright, PhD, RN, University of Saskatchewan, Saskatoon, Canada.

Hope is a coping mechanism used by nurses and other health care providers to deal with their work related stress associated with caring for terminally ill cancer patients. Understanding the hope of health care providers is important because of its influence on work related stress which can impact quality of care.

Very little research has been reported on the hope of health care professionals, yet it has an impact on the hope of patients. The pur-

pose of this study was to describe hope of health care providers caring for palliative patients and families. The specific aims were to: 1) describe the level of hope of health care professionals using the Herth Hope Index and 2)describe how they define hope and 3) what fosters and hinders their hope. The Hope Process Framework was the conceptual framework for this study.

A concurrent triangulation mixed method design was used to describe the hope of formal caregivers of advanced cancer patients. Prior to attending a conference workshop 113 palliative health care providers completed a demographic form, the Herth Hope Index and an open-ended hope survey. Mann Whitney U, t-test and Chi square tests were used to examine differences among group means for hope scores and demographic variables. Qualitative data was analyzed using Patton's thematic analysis techniques.

Nurses had significantly lower hope scores associated with goals and positive outlook than other healthcare providers (U=935, p=.008).

Thematic analysis of their responses on the hope survey suggested that subjects described their hope as making a difference, peace, a better future, and spirituality (faith and finding meaning and purpose). Hope helped them to foster positive relationships and communication with palliative patients and families, provide comfort and to offer hope. Their hope was hindered by lack of resources, poor relationships and the inability to make a difference in the lives of those they cared for. The findings suggest that the hope of providers of care should also be considered when discussing quality end of life care as their hope helped them to provide comfort, establishing relationships and communicate with patients and families at the end of life.

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CANCER PATIENTS' TRUST IN ONCOLOGY NURSING CARE. Laurel Radwin, RN, PhD, University of Massachusetts–Boston, Boston, MA; Gail Wilkes, RN, MS, AOCN®, Boston Medical Center, Boston, MA; Linda Curtin, RN, MS, Brockton Hospital, Brockton, MA; Mary Hackel, RN, BS, Massachusetts General Hospital, Boston, MA; Christine Saba, RN, BS, Falmouth Hospital, Falmouth, MA; Joanne Garvey, RN, MS, Brigham and Women's Hospital, Boston, MA; and Amber Schrantz, RN, BS, University of Massachusetts–Boston, Boston, MA.

A crisis in the public's trust in healthcare has been declared. The effect of organizational factors on patients' trust in oncology nurses has yet to be examined.

Although nursing focused health care system characteristics (N-HCSC) were found to affect adverse patient events, little is known about whether N-HCSC influences desired outcomes, such as patients' trust in nursing care. The purpose of this analysis is to determine whether N-HCSC affect patient trust.

The Quality Health Outcomes Model delineates that nursing interventions do not directly affect outcomes, but rather are mediated by both client characteristics and HCSC. The QHOM provides an appropriate framework to examine the effect of N-HCSC on patient trust.

Design: Nonexperimental causal modeling design; individual patient the unit of analysis.

Site and Sample: Patient participants recruited from inpatient hematology-oncology unit at an urban safety net hospital (N=231). Majority were male (52.4%); 59.2% White, 30.3% African American/Black, 1% Asian, 2.6% American Indian/Native Alaskan. 11%Hispanic; 14% spoke language other than English at home. Mean age was 59.3 (13.8); mean education 12.1 years (3.4). Nurse participants (N=39) almost entirely women. Mean age=39.8 years (9.1), Mean years of experience in nursing 14 (8.79); oncology nursing, mean=10.6 (7.6).

Procedure: Patients completed questionnaires over the course of a minimum 3-day stay. Nurses who delivered direct care completed a total of 6 questionnaires over course of 18 months.

Measurement: Dependent variable measured by the Trust in Nurses Scale (alpha=.77), construct validity acceptable via exploratory factor analysis (EFA). Independent variables operationalizing N-HCSC included years in nursing/oncology nursing, education, Oncology Nursing Society certification. Nurse staffing, defined as nurse hours/patient hours, collected from administrative records. Nurse-Physician Collaboration measured by the CSCDS (alpha=.96); one factor explained 76% of variance. The effect of N-HCSC on Trust was adjusted for patient illness severity.

Data Analysisa; Multivariate regression used to test the hypothesized effects of N-HCSC on patient trust.

A cancer diagnosis presents an extreme personal challenge; oncology patients' trust in nurses is critical to their well-being. The findings from this study will inform nursing practice and nurse leaders regarding practice environments that enhance patient trust.

Funding Sources: Agency for Health Care Research and Quality

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HEALTHCARE ACCESS: PATTERNS OF POSTPROSTATECTOMY FOLLOW-UP. Elizabeth Ercolano, RN, MSN, DNSc, Yale University School of Nursing, New Haven, CT.

Cancer advocates, providers, scientists, and federal agencies have identified possible socioeconomic and system barriers to follow-up care, after primary treatment ends. Guidelines specific to follow-up care have not been widely disseminated or evaluated. To date, research about the quality and accessibility of cancer follow-up services has been limited.

Due to gaps in service delivery, a study was designed to describe the determinants to access, during the post-treatment phase. The research's major aim was to describe patients' sociodemographic and health status characteristics, provider characteristics, and health plan characteristics, and examine their association to survivors' utilization.

Research about access to and use of cancer follow-up services and the factors that influence access is minimal. A conceptual framework of access to cancer services, illustrating study variables, guided the study design.

A cross-sectional descriptive study was conducted. The sample was 57 men with prostate cancer, treated by radical prostatectomy, 3-5 years earlier. A survey was created and it's content validity established by experts, since no standardized instruments existed. Subjects responded to questions about follow-up schedules, tests, provider(s) visited, cancer status, and health plan requirements. Descriptive and inferential statistics (Chi-square, t-tests, ANOVA) were computed to analyze the associations among patient and health system characteristics to utilization, post-treatment.

Since their prostatectomy, all men (100%) had participated in follow-up visits to a cancer care provider (urologist). The urologists monitored recurrence by PSA testing, either every 6 months or yearly (100%). Fewer men (80.7%) had rectal examinations performed at that schedule. For 28 men (49.1%), the generalist duplicated the PSA test, indicating a lack of coordination between the providers. Nearly 100% of the men had health insurance; no subjects identified barriers to care due to health plan rules or finances. The follow-up identified two men with recurrence (3.5%) and late effects including urinary incontinence (60%) and erectile dysfunction (71.9%). No significant associations were found among patient, provider, and health plan characteristics to their utilization. Although access was unimpeded, inconsistent follow-up schedules were noted. Cancer nurses should

play a role in developing, disseminating, and evaluating best-practice guidelines for survivors' long-term monitoring.

Funding Sources: Columbia University School of Nursing Alumnae Organization

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CHEMOTHERAPY EDUCATION: EFFECTS ON KNOWLEDGE AND UNCERTAINTY IN CANCER PATIENTS. Rita J. DiBiase, MSN, APRN-BC, AOCNS, Karmanos Cancer Hospital, Detroit, MI; and Virginia Rice, PhD, RN, APRN-BC, FAAN, Wayne State University, Detroit, MI.

According to the American Cancer Society (2005) an estimated 1.37 million people will develop some form of cancer. A diagnosis of cancer can be devastating, propelling a person into a world of fear and uncertainty. Nurses need to determine the means and value of conveying information while reducing uncertainty associated with illness and/or new treatments.

The purpose of this study was to examine the effects of a structured chemotherapy class on knowledge and uncertainty in cancer patients scheduled for first time chemotherapy. Mishel's Uncertainty in Illness Model was used as the theoretical framework for this study.

A quasi-experimental design with pretest and posttest (untreated comparison group) was used to examine the study hypothesis. A structured information class was offered to all first time chemotherapy patients. Those who attended the class prior to their first treatment were identified as the experimental group; those that did not were assigned to the comparison group. All participants completed demographic, chemotherapy knowledge, and Mishel's Uncertainty in Illness scales. The experimental group provided data after the class, while both groups provided data at the time of their first chemotherapy treatment.

Sixty-one adults participated in the study; 30 elected to attend the class and 31 chose not to. Findings in this study show that patients scheduled for their first time chemotherapy (who had participated in a structured class) reported significantly higher knowledge ($p=<0.5$) and lower uncertainty scores ($p=<0.5$) after the class than those not attending. Uncertainty scores were highest at the time of treatment for untaught patients. The knowledge scores for the intervention group were higher at the time of their first chemotherapy.

This research showed that uncertainty can be decreased and knowledge increased if nurses assess patient/family informational needs and establish structured classes to meet them. This study supports the position that structured education meets information needs, while decreasing uncertainty and reaffirms that patient teaching is an integral part of evidence-based nursing practice. Further studies are needed applying Mishel's Uncertainty in Illness model to knowledge and uncertainty in cancer patients.

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A PILOT STUDY OF YOUNG ADULT CANCER SURVIVORS' EXPERIENCES OF CONNECTEDNESS WITH THEIR HEALTHCARE PROVIDERS. Celeste Phillips, MSN, RN, CPON®, and Joan Haase, PhD, RN, Indiana University School of Nursing, Indianapolis, IN.

Adolescents and young adults diagnosed with cancer have poorer treatment and survivorship outcomes than either younger or older cancer patients. These individuals also have psychosocial late effects and engage in lifestyle behaviors that increase their risk of subsequent cancer and other chronic illnesses. There is a need to identify factors during diagnosis and treatment that foster healthy lifestyle behaviors. Connectedness with healthcare providers is a potential protective factor that may diminish risk-taking behaviors and promote resilience.

Little is known about the experiences of connectedness with healthcare providers as perceived by young adult cancer survivors who were diagnosed and treated for cancer during adolescence. The purposes of this pilot study are to (1) evaluate the processes of recruitment, data collection, and analysis for a study of connectedness in young adult cancer survivors and (2) identify preliminary theme categories that can be used in a subsequent study.

The method used to examine connectedness in this study will be empirical phenomenology, a qualitative research approach that seeks to describe the essential commonalities of an experience across participants.

Colaizzi's method of phenomenology will be used for data collection and analysis. A purposive sample (N = 3 to 5) of young adult cancer survivors will be recruited for the pilot study (subsequent study will involve 15 participants). Unstructured, one-on-one interviews will be conducted using an open-ended data-generating question. Narrative data will be analyzed using Colaizzi's method, which involves a systematic, step-by-step process of extracting and analyzing statements for meaning and themes and then comparing themes across participants to arrive at a description of the essential structure of a phenomenon. Strategies of trustworthiness and credibility will include peer and member checks, an audit trial, and a detailed description of participants and findings.

Findings will provide information on the (1) effectiveness of processes, especially recruitment and data collection/analysis with young adult cancer survivors and (2) preliminary theme categories that can be used in the subsequent study. Based on existing literature and clinical observations, possible themes that may emerge include: the process and meaning of being unconnected with healthcare providers; violations of trust; and diminished recognition of personhood.

Funding Sources: National Research Service Award, Pre Doctoral Fellowship, T32 Training Grant (National Institute for Nursing Research); Walther Cancer Institute; American Cancer Society

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THE ROLE OF NURSE PRACTITIONERS AND PHYSICIAN ASSISTANTS IN CANCER SCREENING IN NEW YORK STATE IN 2003. Susan Lin, DRPH, and Anita Nirenberg, RN, MS, AOCNP, DNSc(c), Columbia University School of Nursing, New York, NY.

The preliminary findings suggest that the involvement of NPs and PAs in patient care may contribute to adherence of cancer screening among female elders. It remains to be investigated why their involvement in care of male Medicare beneficiaries does not have the similar impact. More studies are needed to examine in which way these nonphysician providers including advanced practice nurses can be used more effectively in providing preventive services to Medicare population.

This study was designed to examine cancer screening (mammograms [MAMMO], papanicolaou test [PAP], fecal occult blood test [FOBT] and prostate-specific antigen [PSA]) among Medicare beneficiaries cared by different types of providers in New York State in 2003.

Healthcare delivery systems and providers have been examined as factors associated with use of cancer screening services. But empirical data on cancer screening rates among elders seen by different types of providers especially advanced practice nurses are limited.

This is a cross sectional study of elderly patients age 65+ in New York State. Medicare claims data in the calendar year 2003 were used in the analyses. Different types of cancer screening were ascertained by HCPCS/CPT codes. Chi-square tests were used to compare cancer screening rates among people seen by different types of providers.

Among 1.6 million aged people in New York State who utilized Medicare program services in 2003, 86.2% of them made outpatient visits to different types of providers (generalists, medical specialists, surgical specialists, nurse practitioners [NPs] or physician assistants [PAs]). About 12.9% of Medicare beneficiaries observed had FOBT test, and only 4% had colonoscopy. Among males 33% had PSA and among females 29.9% had MAMMO and 7.1% had PAP. Breast cancer screening rate and PAP rate were higher among patients who saw NPs, PAs as well as MDs than those who saw MDs only for the care (52.7% vs. 33% for MAMMO, 14.8% vs. 7.7% for PAP). However, PSA rate was higher among patients who saw only MDs than those seen by mixed providers (physician and nonphysician providers) (38.2% vs. 26.8%). FOBT rate was similar among patients seen by different types of providers.

Funding Sources: Oncology Nursing Society Small Research Grant

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MULTIPHASIC SEQUENTIAL ANALYTIC APPROACH APPLIED TO PATIENT. Lee Ellington, PhD, University of Utah, Salt Lake City, UT; Srichand Jasti Mee, Michelle Endo, Sonia Matwin, MS, and Jacquee Williamson, MS, University of Utah, College of Nursing, Salt Lake City, UT; Debra Roter, DrPH, and Susan Larson, MS, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

Provider acknowledgement of cancer patient distress is important for patient adjustment; however, current communication coding systems fail to capture the reciprocal nature of patients' expression of distress and provider elicitation and response. A few researchers are applying sequential analytical methods to this effect, but approaches are limited.

Use multiphase analytic approach to describe dynamic communication surrounding client expressions of concern/distress in cancer genetic counseling. The study framework is based on "relationship-centered care" highlighting the importance of reciprocal communication.

Sixty five genetic counselors (GCs) were recruited at national conferences. They were randomly assigned to counsel 1 of 6 female simulated clients (SC) who presented at-risk for BRCA1. These videotaped sessions were coded with Roter Interaction Analysis System (RIAS) and then analyzed with Generalized Sequential Querier. Using RIAS categories for both SC and GC, we conducted lag analyses of the antecedents and responses to SC emotional concerns.

Phase 1: SC concerns were predominantly preceded and followed by GC statements of backchannels (35.95%; 10.55%) and agreements (28.32%; 39.31%). Phase 2: After controlling for these statements, we found that SCs most often preceded and followed their concerns with psychosocial (38.19%; 33.65%) or biomedical information (33.86%; 25.12%). GC psychosocial question-asking (13.59%), checks for understanding (9.24%), and expressions of concern (9.24%) were the most frequent elicitations of SC concerns. GCs most frequently responded to SC concerns with checks for understanding (17.18%), expressions of concern (13.66%), and empathy (9.25%). Phase 3: linear regression was used to assess differences among SCs in conditional probabilities of GC statements. One SC was more likely to express concerns after GC provision of medical information (20.5% vs. 1.3; $p<0.001$) accounting for 33% of the variation. This same SC was more likely to precede and follow a concern with psycho-social information ($p=0.001$ and $p<0.001$).

Our findings support the relationship-centered approach. That is, as a GC promotes SC talk by uttering minimal encouragers, the SC shares emotional concerns in the context of providing information about herself and her family. This study demonstrates the potential of a multiphasic, sequential analytic approach to examine dynamics of cancer communication processes related to the expression of patients' emotional concerns.

Funding Sources: NHGRI and American Cancer Society

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UNDERGRADUATE NURSING STUDENTS AND SECURING EVIDENCE FOR PRACTICE. Susan Moch, RN, PhD, and Jessica Branson, University of Wisconsin–Eau Claire, Eau Claire, WI.

Undergraduate students have the potential to be great partners for practicing nurses in securing evidence for practice. Undergraduate students know how to find evidence and have the ability to determine which articles staff nurses are most interested in reading. In addition, while gaining evidence for practice, students learn about the importance of evidence-based practice.

The goal of this project is to describe and evaluate student involvement in the New Knowledge Discussion Group process. The New Knowledge Discussion Model involves a contract with health care participants to read articles on an identified topic and to attend three of four group discussion sessions which are held two weeks apart. Groups are formed to gain current evidence/information on a topic selected by staff and twenty-one groups have been previously conducted and evaluated.

Through two recent New Knowledge Discussion Groups, undergraduate student/faculty teams worked with nurses to find literature and to discuss articles on a topic of interest to the staff. Student involvement in the New Knowledge Discussion Group process was evaluated through summaries of a critical care unit group discussing visiting hours and a medical-surgical unit group discussing family involvement in palliative care. Student reflections on the process were also used for the evaluation. Two more New Knowledge Discussions are planned with oncology nursing staff and will be evaluated according to student involvement through group summaries and evaluative questions of staff and students.

During the two group sessions with undergraduate students already conducted, the undergraduate students and the nurses discussed the articles and identified knowledge important for practice. Staff nurses asked the students how the articles were found and requested information on topics in addition to the discussion topic. Through participation in the discussions, students described being challenged through finding literature and feeling encouraged that nurses were interested in evidence.

Student involvement in finding evidence for oncology nursing practice has great potential. Students have time and expertise to find evidence and staff nurses need evidence for practice. Further evaluation research related to student involvement in New Knowledge Discussion Groups will provide information on whether student involvement is effective with this particular model.

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IMPLEMENTATION OF NATIONAL COMPREHENSIVE CANCER NETWORK PAIN GUIDELINES BY ACUTE CARE NURSE PRACTITIONERS USING AN AUDIT AND FEEDBACK STRATEGY. Dorothy Dulko, MS, RN, NP, PhD(c), Jennifer Bacik, MA, Elisheva Hertz, BSN, Jerelyn Osoria, BA, BSN, Patricia Brosnan, MPH, RN, Colleen Lyons, MS, RN, and Nessa Coyle, PhD, FAAN, NP, Memorial Sloan-Kettering Cancer Center, New York, NY.

Despite availability of clinical practice guidelines (CPG), cancer pain remains a serious problem in hospitals. Audit and feedback, a summary of performance given to individual providers, is recognized as a valuable CPG implementation strategy; however, it has

not been widely studied in nursing. Oncology nurse practitioners (NP) are positioned to implement cancer pain CPG and to study the effect of guidelines on pain outcomes.

Optimal methods for integrating CPG into practice and the impact of guidelines on outcomes remain uncertain. The purpose of the study is to examine the effect of audit and feedback on NP adoption of CPG and the resultant impact on patients' pain and function as measured by the Brief Pain Inventory.

Pain is a condition with important consequences, available CPG, measurable outcomes, and potential for improvement in current practice. Lewin's Planned Change Theory guides the intervention.

The study was conducted at an NCI-designated cancer center on two inpatient services. Eight NPs consented to participate. To determine potential differences in pain outcomes, two groups of 96 patients were accrued to detect a moderate effect size. Comparison of mean change in pain scores between groups was performed via ANOVA and ANCOVA (adjusted for admission pain or interference score, NP, service, disease extent, current treatment). Change was measured using the difference between discharge and admission pain scores. Each NP received graphed feedback of individual and aggregate pain scores and performance according to selected guideline criteria during the intervention. NP compliance with CPG was determined by percentage of times recommended practices were performed when applicable.

For each of eight selected criteria, there was increase in CPG adherence rates during the intervention. Six of eight criteria during the intervention were > 87%, including pain reassessment within suggested timeframe, which had been 5% during preintervention. Worst pain, average pain, and mean severity did not significantly differ between groups. There was a significant decrease in pain interference ($p<0.001$), interference with general activity ($p=0.0001$), and interference with sleep ($p=0.004$) in the intervention group. Improvement in functional status may be attributed to improved pain assessment and increase in prescribing of supportive medications during the intervention.

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SURVIVORSHIP EDUCATION FOR QUALITY CANCER CARE. Marcia Grant, DNS, FAAN, Betty Ferrell, PhD, FAAN, Smita Bhatia, MD, and Denice Economou, RN, MN, AOCN®, City of Hope National Medical Center, Duarte, CA.

10 million U.S. cancer survivors are living with late effects of cancer and cancer treatment as identified in the 2006 Institute of Medicine report. Health care professionals lack the background to identify, design and carry out needed survivorship activities and follow up.

The purpose of this NCI funded study is to present and evaluate annual professional caregiver courses aimed at improving quality care for cancer survivors.

The framework is composed of three concepts: institutional change, adult education principles, and the City of Hope Quality of Life Model (COH-QOL). Four annual courses are designed with pre-course and post-course (6, 12, & 18 months) evaluation data. Two-person interdisciplinary teams applied with one member being a nurse, physician, or administrator. Course content was organized around the COH-QOL domains: Physical, Psychological, Social and Spiritual. Expert faculty were selected to teach the courses. Teams were selected based on stated interests, 3 projected goals, and letters of commitment from administrators. An overwhelming 100 teams applied for the 53 spots available (106 people). Goals will be refined during the course and will be evaluated at 6, 12 & 18 months for success and changes as identified. Administrator follow up evaluations will occur at 6, 12 and 18 months.

The first program will be held July 13 – 15, 2006. Teams included nurses (48.1%), social workers (20.7%), Physicians (18.8%), Directors/Administrators (6.6%) and Psychologists (2.8%), as well as 1 docimetrist, 1 clinician, and 1 dietician. Institutions included NCI designated comprehensive cancer centers (28%), community cancer centers (55%), ambulatory/out-patient cancer centers (7.5%) and designated pediatric practices (11%) with (9%) seeing both pediatric and adult patients. The institutional barriers identified by teams were lack of survivorship knowledge (94 %), financial constraints (61%), lack of administrative support (6%), and staff philosophy that excluded survivorship (15%).

The overwhelming interest and outstanding faculty predict a successful program. Results for the first course and the 6 month data will be presented.

Funding Sources: National Cancer Institute. 1-R25-CA 107109-01-A1-Survivorship for Quality Cancer Care

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NURSE RESPONSIVENESS TO CANCER PATIENT EXPRESSIONS OF EMOTION. Lisa Kennedy-Sheldon, ARNP, AOCNP, St. Joseph Hospital, Nashua, NH; and Lee Ellington, PhD, University of Utah, College of Nursing, Salt Lake City, UT.

It is well accepted that communication skills are essential to providing optimal care in the oncology setting. Oncology nurses, often hear patients' emotional concerns. Many of these conversations are spontaneous and arise during routine care. Nurse behaviors encourage disclosure of emotional concerns and facilitate patient coping. Interactions which include negative emotions, such as anger and sadness, are seen as more difficult by nurses. Ineffective communication skills, such as blocking behaviors, may be used by nurses to decrease their own anxiety and prevent further interaction during emotionally laden conversations that ultimately lead to increased feelings of distress among patients.

Nurse-patient communication is understudied. Nurse communication affects patient mental health and well being. Previous studies have found that 25-35% of cancer patients have treatable anxiety and depression. Nurse communication can behaviors facilitate disclosure of patient emotional concerns. Yet, nurses utilize more instrumental behaviors (62%) such as giving medical information. Affective behaviors such as expressions of empathy, offering reassurance or seeking understanding, facilitate patient disclosure. Identification of variables that affect nurse responsiveness to patient expressions of emotion has implications for patient adaptation and coping to cancer diagnosis and treatment.

The Crick and Dodge Model of social information processing serves as a theoretical framework. The model is useful in designing the study and clarifying variables involved in response generation. Predictors of nurse responsiveness to patient concerns have been derived from the literature and include age, work stress, length of employment, education, self efficacy and anxiety.

Using a theoretically-based, experimental design, the present study will examine nurse responsiveness to oncology patient expressions of emotion using a novel method of role playing with videotaped scenarios with simulated patients. Videotapes will be scripted and created by a panel of expert oncology-certified nurses. The widely-used Roter Interaction Analysis System (RIAS) will be used to code nurse responses. Hierarchical linear regressions will be used to identify predictors of nurse responsiveness to patient expressions of emotion.

The identification of predictive factors that affect nurse responsiveness to oncology patient emotional concerns has implications for future interventional studies and communication skills training programs.

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OPTIMIZING CARE OF CANCER SURVIVORS: BUILDING BRIDGES TO PRIMARY CARE. Regina Cunningham, PhD, RN, AOCN®, Cancer Institute of New Jersey, New Brunswick, NJ; John G. Scott, MD, PhD, and Barbara DiCicco-Bloom, RN, PhD, Robert Wood Johnson Medical School, Department of Family Medicine, Research Division, New Brunswick, NJ; Pamela Ohman-Strickland, PhD, University of Medicine and Dentistry of New Jersey, School of Public Health, Piscataway, NJ; and Benjamin F. Crabtree, PhD, Robert Wood Johnson Medical School, Department of Family Medicine, Research Division, New Brunswick, NJ.

Developing an understanding of survivorship issues in the primary care context is essential to planning effective care transitions from oncology-focused arenas where acute and post-acute cancer care is rendered to the primary care setting. As more patients survive, providers in primary care will be increasingly involved in addressing the health care and quality of life needs of cancer survivors. Oncology nurses are in a pivotal position to ensure the quality of care to survivors by collaborating with providers in primary care. This investigation aims to provide fundamental information on existing practices and perceptions among survivors and primary care providers. This knowledge can be used to design interventions aimed at facilitating effective transitions from the acute to primary care.

The US cancer care infrastructure is not prepared to provide quality survivorship care to the growing number of survivors. The Institute of Medicine (IOM) Report on cancer survivors specifically identified Primary Care Physicians and oncology nurses as important groups to address the health care and quality of life needs of cancer survivors. Little is currently known about care of cancer survivors in the primary care setting, or survivors' perceptions of that care.

Complexity science is used as a framework for conceptualizing the primary care setting.

This project is designed as a mixed methods study and uses both quantitative and qualitative methods. A purposive sample of 10 practices from the New Jersey Family Medicine Research Network will participate. Quantitative data is collected using return cards that document care on every patient in the practice with a history of cancer. Data are entered into SPSS and descriptive statistics calculated. Practice demographics and narrative comments are also entered. Qualitative data are obtained through in-depth interviews are entered into Atlas.ti qualitative data analysis software. Analysis uses a method described by Miller and Crabtree.

This investigation provides information on current survivor practices in primary care. In addition, it helps to identify provider education needs. These data will provide insights into the challenges of survivor care in the primary care setting and facilitate the development of models that ensure the delivery of quality services.

Funding Sources: A grant application has been made to the Lance Armstrong Foundation to support this work.

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PATIENT-PROVIDER CONVERSATIONS REGARDING PATIENT-REPORTED COGNITIVE DYSFUNCTION IN CANCER CARE. Erika Machol, RN, MN, Seattle Cancer Care Alliance, Seattle, WA; and Donna L. Berry, PhD, RN, AOCN®, FAAN, and Lynn S. Mandel, PhD, University of Washington, Seattle, WA.

As a harbinger of possibly deleterious changes, cognitive impairment can alert the oncology provider into the need for medically important interventions. Symptoms of cognitive impairment may be distressing, profoundly impact an individual's quality of life, and should be openly and routinely communicated in cancer care settings.

The purpose of this study was to describe the incidence of self-reported cognitive dysfunction or distress in a sample of ambulatory patients with cancer and to evaluate the nature of the clinical discussions between patients and their providers regarding patient-reported cognitive changes experienced during their disease and treatment trajectory.

The Quality Health Outcomes Model guided our approach to this study. This model illustrates how aspects of the healthcare system mediate patient outcomes.

A secondary analysis was performed with data collected in a larger randomized trial. Specifically, scores for cognitive symptoms on the EORTC QLQ C-30 Cognitive Function subscale and Symptom Distress Scale were evaluated for threshold levels, and corresponding audio-recordings of clinic visits were content-analyzed.

Cognitive symptom reports of dysfunction or distress were found in 36 (19%) of a sample of 187 patients from hematopoietic cell transplant, radiation-oncology, and medical oncology ambulatory care settings, 4-6 weeks after treatment initiation. Content analysis of 31 recorded outpatient visits at this time period revealed minimal communication about cognitive function in which only 2 patients or family members provided unsolicited cognitive symptom information. The providers did not initiate assessment for cognitive symptoms in any participant nor did they intervene to address the symptoms when they became apparent during the patient-provider dialogue.

Funding Sources: National Institutes of Health R01 NR 008726

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TELEPHONE COUNSELING FOR AFRICAN AMERICAN MEN WITH ADVANCED PROSTATE CANCER AND THEIR PARTNERS. Gerald Bennett, PhD, FAAN, RN, and Rosalind Jones, MSN, APRN, Medical College of Georgia, Augusta, GA.

African American men have twice the risk of being diagnosed in late stage prostate cancer and are 2-3 times more likely to die of the disease as compared to White men. Men with advanced prostate cancer and their partners must cope with the fact the disease is not curable. In addition, the side effects of androgen deprivation therapy (ADT), including fatigue, hot flashes, and impotence, place these couples at risk for depression. The purpose of this study is to determine the feasibility of a telephone-delivered interpersonal (TIP) counseling intervention to improve symptom management and quality of life in African American men with advanced prostate cancer and their partners.

The framework for TIP counseling formulated by Badger and colleagues at the University of Arizona is based on the diathesis-stress vulnerability and interpersonal models of depression. Previous research has consistently shown that interpersonal psychotherapy alleviates depressive symptoms in diverse patient populations.

A repeated measures experimental design will be used to compare TIP counseling to usual care. The sample will consist of 10 African American men receiving ADT for advanced prostate cancer and their partners (N=20). The six-week intervention will consist of weekly TIP counseling for the men with prostate cancer and bi-weekly TIP counseling for their partners. Measurement will occur at baseline upon enrollment into the study (T1), after completing the intervention (T2) and one-month after T2 (T3). Measures will include the Center for Epidemiological Studies Depression Scale (CES-D), Multidimensional Fatigue Inventory (MFI), the Inventory of Socially Supportive Behaviors (ISSB), and the UCLA Prostate Cancer Index—Short Form. The small sample size (5 couples per group) used in this feasibility study provides insufficient power for hypothesis testing. The data will be analyzed using descriptive statistics, T-test,

and repeated measures ANOVA with the goals of examining indications of systematic change in the outcome variables.

The findings will be useful in the development of TIP counseling for African American men with advanced prostate cancer and their partners, and assessing its potential to provide much needed supportive care to this vulnerable population.

Funding Sources: Georgia Cancer Coalition

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MEDICATION COMPLEXITY FOLLOWING BLOOD AND MARROW TRANSPLANT. Deborah Eldredge, PhD, RN, and Lillian Nail, PhD, RN, Oregon Health and Science University, Portland, OR.

Adherence to medications following blood and marrow transplant (BMT) is essential for symptom management, as well as prevention and treatment of life threatening, long term complications, such as infections and graft-versus-host disease. Family caregivers (FCGs) are thought to be responsible for medication adherence after hospital discharge (DC), with responsibility shifting to recipients as they recover.

The purpose of this study is to describe the FCGs approaches to medication adherence during the first 100 days post BMT.

Naturalistic inquiry was used.

Twenty-four FCGs of 16 autologous and allogeneic BMT recipients were interviewed from DC to 100 days post transplant. Recipients' medical records were reviewed to look at their ongoing medication regimen. Data were collected from an academic medical center in the Pacific Northwest. Data were analyzed with descriptive statistics. The constant-comparative method was used to reveal themes in text data.

The average number of scheduled PO and SQ medications was 8.09 at DC and increased to 10.97 by Day 90, while the average number of PRN medication increased from and average of 4.55 at DC to 5.78 at Day 90. Total scheduled daily dose increased from 17.02 at DC to 19.95 by Day 90. Adjustments in the medication regimen averaged 3.2 at each clinic visit.

FCGs expressed major concerns about assuring correct medications had been taken in a timely manner; reminding or convincing patients to take medications; debating the utility of medications and treating side effects caregivers attributed to medications. FCGs' inability to prioritize amongst medications and concerns about effectiveness or side effects led to daily decision making about medication administration. If their first strategy to accomplish a goal failed, they improvised a second strategy, few of which were based on sound medical principles. Caregivers described elaborate rituals that sometimes resulted in under- or overdosing or tardy administration of immune suppressants and analgesics.

In conclusion, FCGs experience significant challenges in medication management during the first 100 days following BMT. Healthcare providers need to examine better ways to prepare FCGs for their postdischarge responsibilities and develop innovative ways to decrease the burden of medication management.

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SURVIVING POOR COMMUNICATION: NONVERBAL COMMUNICATION EXPERIENCES OF AFRICAN AMERICAN BREAST CANCER SURVIVORS. Kim Ziner, RN, MSN, Indiana University, Indianapolis, IN; Wendy Kooken, MSN, RN, Bradley University, Peoria, IL; Kathleen Russell, PhD, RN, Joan Haase, PhD, RN, and Yvonne Lu, PhD, RN, Indiana University, Indianapolis, IN.

Nonverbal communication experiences can be as powerful as verbal messages shared between cancer survivors and healthcare providers. Survivors expect healthcare providers to be informative and emotionally supportive.

Little is known about African American women breast cancer survivors' experiences of communication with their healthcare providers. The purpose of this poster is to describe the non-verbal communication experiences of African American women breast cancer survivors with their healthcare providers. Analysis was done using Colaizzi's phenomenological methods from a Group-as-a whole Theory perspective.

A cross-sectional design of three separate focus groups was used. The sample consisted of 21 African American breast cancer survivors from lower, middle and upper socioeconomic strata within the Midwestern region of USA who were 1-7 years post-diagnosis. The women's ages ranged from 38-78 (M = 59.85; SD = 9.37).

Results emerged in two major categories: Surviving Poor Communication and What Helps. Themes within Surviving Poor Communication included: Invisible Patient and Hit and Run Care. Themes within What Helps included: Being There and Strategies to Enhance Communication between African-American Breast Cancer Survivors and Healthcare Providers. Specific non-verbal communication behaviors included looks, touch, and attitudes. Findings suggest African American breast cancer survivors received undesirable nonverbal messages from healthcare providers. Healthcare providers must be aware that poor communication can be an additional burden as African American women struggle to survive breast cancer.

Funding Sources: Funded by National Institutes of Health/National Cancer Institute NCI RO3 CA 097737, African-American Breast Cancer Survivors QOL, Indiana University School of Nursing T 32 Training Grant, NR 07066 National Institute of Nursing Research, and Walther Cance

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INDEPENDENT NURSING ACTIONS—INSTRUMENT TESTING. June Eilers, PhD, RN, BC, CS, and Judy Heermann, PhD, RN, Nebraska Medical Center, Omaha, NE; Margaret Wilson, PhD, RN, and Rita Million, RN, BSN, student, University Of Nebraska College of Nursing, Omaha, NE.

In cooperative care, nurses partner with lay caregivers who assume responsibility for 24 hour care of the transplant recipient in an acute care setting. Preparation of these lay carepartners to assume care responsibilities is a key nursing intervention. Identification of independent nursing actions, which aim to improve outcomes, is critical to evaluate interventions designed to educate/prepare the carepartners for their role. Development of this instrument is part of an overall program of research involving adult family members of blood and marrow stem cell transplant (BMSCT) patients.

Although preparation of the carepartner for BMSCT is a key nursing function, no measure exists to quantify the "dose" of the nursing actions to accomplish this responsibility. The purpose of this study was to test the validity and reliability of the Independent Nursing Actions Scale (INAS) to permit more precise evaluation of interventions with the carepartner.

The model, Independent Nursing Actions to Manage Signs and Symptoms in Cooperative Care, provided the theoretical framework. The model was developed from a qualitative study of the nurses' independent nursing actions with the lay carepartner. In this model, seven categories of independent nursing actions lead to management of signs and symptoms. Surveillance leads to problem identification that in turn triggers other actions (teaching, coaching, fostering partnership, providing psychosocial support, and rescuing). Coordinating is the nursing action used to manage all aspects of care.

The design of this study was instrument development. The sample was 794 shifts during which 14 cooperative care nurses rated the

intensity of independent nursing actions for each carepartner. The data for each shift is the basic unit of analysis. INAS scores will be examined for correlations with patient acuity scores for validity testing. Data will be examined for change over time across the transplant trajectory. Cronbach alphas will be computed for internal consistency reliability.

The findings will provide evidence of the reliability and validity of an instrument developed to examine outcomes of an educational program to prepare lay caregivers and evaluate their competency. We hypothesize that individuals with higher competency will require lower doses of independent nursing actions. Future research with the instrument will test this hypothesis.

Funding Sources: ONS Foundation

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NEW FRONTIERS OF OBJECTIVE AND SUBJECTIVE HIV AND CANCER-RELATED FATIGUE MEASURES. Joachim Voss, PhD, RN, National Institutes of Health, National Institute of Neurological Disorders and Stroke, Bethesda, MD.

The purpose of this paper is to evaluate objective and subjective measures for fatigue and highlight major advances and gaps in the recent literature. Present publications (Year 2000-2006) on HIV/AIDS and cancer-related fatigue have been summarized according to key terms (HIV/AIDS, cancer, fatigue measurement, biomarkers of fatigue). Innovative measures of fatigue will be identified that have led to new areas of investigations in understanding the underlying principles of fatigue.

Symptom experiences of HIV and cancer-related fatigue share many similarities. Requiring early diagnosis and treatment, fatigue has been identified as a key symptom by healthcare providers and patients alike. Fatigue is highly prevalent, multifactorial, with causes being linked to increased resting energy expenditure, anemia and neutropenia, muscle loss and especially to mitochondrial intoxication. Some progress in treating fatigue has been made by showing that resistant and aerobic exercises are capable of decreasing fatigue, but we do not have a good understanding of why this happens. The major challenge remains the connection between subjective symptom experiences and objective measurements currently utilized.

We have made great progress in the development of disease-specific fatigue scales, yet have not found good biomarkers that correlate well between subjective symptom experience and underlying biological function. New technologies lead the way into a new dimension of specifically fatigue and possibly symptom research in general.

Fatigue is mostly measured through self-reporting on the severity and intensity dimension. Scales such as the Piper Fatigue Scale or the Schwartz Cancer Fatigue Scale are advancing this view by focusing on multiple dimensions including emotional, cognitive, psychological and physical effects of fatigue. Initial results have been published on the development of symptom diaries to follow patients over extended periods of time, looking at long-term progression or circadian rhythm differences. Objective measures including CD4 T cell count, viral load, hemoglobin, and testosterone levels have not correlated strongly with subjective fatigue perception. New microarray studies are underway to identify gene expression in different tissues of fatigued and non-fatigued HIV patients. Those studies may lead towards the discovery of indicator genes and gene pathways critical for a better understanding of the complex underlying physiology.

Funding Sources: National Institutes of Health

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ASSESSING PARTICIPANT UNDERSTANDING OF CLINICAL TRIALS AND THE INFORMED CONSENT. Rhea Debari, RN, MSN, Hartford Hospital, Cancer Clinical Research Office, Hartford, CT; Camille Servodidio, RN, MPH, CRNO, OCN®, CCRP, Edith Clark, RN, CCRP, Jonathan Newlin, BA, CCRP, Cecilia Kozlowski, AS, Maria Rodriguez-Furlow, and Maria Palomares, BA, Hartford Hospital, Hartford, CT.

Informed consent is of extreme importance in oncology nursing. It is critical that patients are empowered and informed when making decisions that affect their treatment and disease.

Recent customer survey results showed that potential enrollees rated explanation of side effects involved in the clinical research study as only "good". The purpose of the study is to use Joffe's Quality of Informed consent (QuIC) tool to measure patients' knowledge and understanding of the informed consent process. The tool will measure subjects' actual and perceived understanding of cancer clinical trials.

The informed consent process allows patients the autonomy to make decisions regarding their care. Orem's Self-Care model promotes patient involvement in decision making, and encourages patient education to improve self-control and the ability to make decisions. Diana Meyer's care concept of personal autonomy includes autonomy competency. A key component of autonomy competency is decision making.

This qualitative study will utilize a convenience sample of 50 potential cancer clinical trial subjects. Subjects meeting with the Research Coordinator for purposes of informed consent review for a cancer clinical treatment trial will be offered the opportunity to participate. Subjects will be given an introductory letter that meets all federal requirements for informed consent and HIPAA. After obtaining verbal consent, subjects will be given a copy of the QuIC tool for completion. The QuIC tool is a brief, valid, and reliable tool that provides a standardized means of assessing the outcome of the informed consent process in cancer clinical trials. Previous studies show a test-retest reliability which was good with correlation co-efficients of .66 for tests of objective understanding, and .77 for subjective understanding. The QUIC scoring algorithms will be utilized for data analysis.

Findings will be analyzed using the QuIC scoring algorithms. Subjects' understanding of the informed consent process, including explanation of side effects involved in the research study, will be assessed. Areas of the informed consent process that are in need of improvement will be identified in order to improve the quality of the informed consent process. Areas in need of further nursing research will also be identified.

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METHODOLOGICAL CONSIDERATIONS IN DEVELOPING AND IMPLEMENTING A MULTI-SITE SYMPTOM ASSESSMENT CORE. Janet Carpenter, PhD, RN, Julie Elam, MSN, Jessica Printy, BS, Suzanne Lemler, BSN, and the Consortium on Breast Cancer Pharmacogenomics, Indiana University, Indianapolis, IN.

The purpose of this presentation is to discuss methodological considerations in developing and implementing a core resource devoted to supporting physiological monitoring of hot flashes in a multi-site randomized clinical trial.

We report on our experience during the past year in developing and implementing a hot flash assessment core to support a multi-site study. Issues to be discussed include: (1) rationale to centralize vs. decentralize certain aspects of the hot flash core; (2) development of systems to provide proactive and reactive troubleshooting advice, monitor the quality of incoming data, and assess inter-rater reliabil-

ity of individuals scoring hot flash data; and (3) communicating processes and data to a multi-disciplinary investigative team.

Physiological monitoring of hot flashes using sternal skin conductance provides an accurate count of hot flash frequency, particularly in ambulatory settings where a number of distractions can interfere with consistent, accurate subjective reporting. Measurement accuracy is of vital importance when conducting studies related to the physiological impact of various pharmaceutical agents, behavioral interventions or genotype-phenotype associations. However, special consideration needs to be given to the use of physiological monitoring in multi-site studies.

Careful attention to these issues can prevent unnecessary problems and ensure the highest quality data possible.

Lessons learned during development and implementation of this core resource may be informative and valuable to other investigators considering similar research opportunities. For example, the information to be discussed is likely to apply to other physiological assessments, such as wrist actigraphy.

Funding Sources: National Institutes of Health—National Institute of General Medical Sciences U01 GM061373-05 (D. Flockhart, PI)

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THE CLINICAL TRIALS NURSE'S ROLE AS A COLLABORATOR IN A CLINICAL RESEACH PROTOCOL. Lydia Madsen, RN, MSN, OCN®, AOCNS, Richard Babaian, MD, Christopher Wood, MD, Nelda Huber, PA-C, Sijin Wen, MS, and Run Wang, MD, University of Texas M.D. Anderson Cancer Center, Houston, TX.

The Clinical Trials Research Nurse (CTRN) is an integral part of the multidisciplinary team in the comprehensive cancer center setting.

Within this Center for genitourinary cancers, a clinical trial protocol was developed to evaluate the role of a prescribed postoperative rehabilitation program in the recovery of postprostatectomy erectile dysfunction in a unilateral nerve sparing population. Data points for post-operative recovery of erectile function were collected for 98 patients that were consented and enrolled from 10/2001 through 4/2005. To control for variability in information conveyed to patient participants, standardized teaching plans and the same CTRN served as educator for the prescribed regimen for rehabilitation. However, the CTRN still observed variability in compliance in both of the prescribed treatments related to both postoperative time elapsed and the age of study participants. At the time of interim analysis, the CTRN requested that compliance, the variable of interest, be analyzed as potentially significant for study outcome.

As a core team member of the research team, the clinical trials nurse has both the opportunity and the responsibility to make clinical observations of possible significance, within the context of each specific clinical trial. These observations may lead to the development of evidence-based standards of care for both general and advanced practice nursing care.

Clinical trials are costly and time-consuming, but generally yield many data points. This poster illustrates the CTRN, as a collaborator of the clinical research protocol team, serving an essential role in making clinical observations. Taking an active role as a nurse collaborator in clinical protocols will meet the nursing research objectives of; providing a strategy to identify cooperative research opportunities with subsequent career development, encouraging the development of research partnerships and teams, and ultimately applying research findings to cancer practice, future research and patient education. The CTRN, as a collaborator in clinical protocols, is a productive addition to the research team in this era of limited research funding.

With the CTRN as primary author, the data derived from this clinical observation yielded three poster presentations, at a National, International, and a Prostate specific meeting.

Funding Sources: Department of Urology and the Prostate Cancer Research Program (Institutional)

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STRATEGIES TO SUPPORT NURSES' PARTICIPATION IN A BEHAVIORAL INTERVENTION STUDY CONDUCTED THROUGH A COOPERATIVE ONCOLOGY GROUP. Lona Roll, RN, MSN, CHRISTUS Santa Rosa Children's Hospital, San Antonio, TX; Kristin Stegenga, RN, MSN, Children's Mercy Hospital, Kansas City, MO; Barnes Yvonne, RN, MSN, CPNP, Washington University Medical Center, St. Louis, MO; Jo Meekins, RN, Methodist Children's Hospital of South Texas, San Antonio, TX; and Joan Haase, PhD, RN, Indiana University School of Nursing, Indianapolis, IN.

Significance: The National Institutes of Health Roadmap and the Oncology Nursing Society place high priority on interdisciplinary research and nursing studies conducted through cooperative oncology groups. Although nurses at all levels need to work collaboratively within and across sites to implement studies and to assure quality data and intervention integrity, the processes used to implement multi-site behavioral intervention studies within the cooperative groups aren't well described. The Stories and Music for Adolescent/Young Adult Resilience during Transplant (SMART) Study is the first behavioral intervention study implemented through Children's Oncology Group (COG).

Problem and Purpose: The purpose of this presentation is to describe strategies to support nurses' participation in a phase II behavioral intervention study conducted through COG.

Philosophical Frame of Reference: The SMART study, guided by Haase's Adolescent Resilience Model and Robb's Contextual Support Model of Music Therapy, is designed to test the efficacy of a therapeutic music video intervention aimed at increasing resilience and quality of life of adolescents and young adults undergoing stem cell transplant (SCT).

Methods and Analysis: The study sample (n=130), recruited from 9 hospitals in 5 states, are randomized to receive 6 sessions of either a therapeutic music therapy or a low-dose books-on-tape intervention. Research teams at each site include nurses, physicians, music therapists, and COG-certified data collectors (CRAs). Through conference calls, research team nurses collaborated to develop strategies to prepare nurses for the conduct of the study--maximizing participants' recruitment and involvement, assisting to maintain blinding of evaluators, providing symptom assessment data to evaluators, and, depending on group assignment, interacting appropriately with participants

Findings and Implications: Strategies to keep nursing staff informed and engaged in essential elements of the study included presentations at staff nurse meetings, flyers, posters, handouts, and care plans that delineate the day-to-day expectations for staff nurses as they care for study participants. As the research progresses, effective communication between staff nurses, project managers and principal investigators are vital to ensuring the successful completion of all aspects of this study. Lessons learned from the implementation of this study across multiple sites and multiple disciplines will be invaluable to future researchers who design interdisciplinary, multisite research.

Funding Sources: National Institutes of Health/National Institute for Nursing Research R01 NR008583 and Curesearch Childrens Oncology Group ANUR0631

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METHODS TO ANALYZE LONGITUDINAL DATA IN NURSING RESEARCH—AN EXAMPLE OF ANALYZING SYMPTOMS DATA OVER TIME IN WOMEN WITH OVARIAN CANCER. Shan Liu, MSN, RN, Janet Van Cleave, MSN, RN, APRN, Jane Dixon, PhD, Michael Dowd, PhD, and Ruth McCorkle, PhD, FAAN, Yale University School of Nursing, New Haven, CT.

Longitudinal study is important in cancer nursing research. The purpose of this poster presentation is to describe approaches for full analysis of longitudinal data for cancer nursing research – and to illustrate these approaches using a dataset on symptoms of women with newly diagnosed ovarian cancer, with 8 data collection times over a period of 6 months.

We provide an extended example based on subjects from the usual care group of a randomized clinical trial to test a nursing intervention for ovarian cancer. Women with ovarian cancer may experience substantive changes in their symptoms from diagnosis to six months post surgery. Our symptom dataset includes measures of 16 symptoms as categorical and/or continuous variables. We describe approaches to handling missing data, critique traditional statistical methods and introduce the new methods of MRM and GEE. We pose five research questions of varying complexity and show how to apply MH, MRM, and GEE to answer these complex questions. An illustrative example of the analysis, including SAS syntax, is provided for each research question.

Longitudinal study attempts to capture the reality of change over time in health variables. However, analysis may be complex, due to correlations inherent in repeated observations from an individual, possibility of covariate variables (such as treatment) which also change over time, and missing data (as some data collection sessions can not be completed for some individuals). Traditional methods, including repeated measures ANOVA and multivariate ANOVA, and Mantel-Haenszel (MH) test each have limitations in handling this complexity. More recently, statistical methods of mixed-effects regression model (MRM) and generalized estimating equations (GEE) have been developed. However, many researchers in nursing still use only the traditional statistical methods, thus possibly compromising the quality of their results.

Cancer nursing researchers are encouraged to attend to missing data and consider the use of advanced statistical approaches for longitudinal study of dynamic variables, such as symptoms, which change over time.

New statistical methods of Mixed-effects Regression Model (MRM) and Generalized Estimating Equations (GEE) are useful in exploring answers to complex research questions about health changes over time.

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DATA INTEGRITY: THE VALUE OF CLINICAL CONTEXT IN DATA PREPARATION AND ENTRY. Victoria Loerzel, RN, MSN, OCN®, Karen Dow, PhD, RN, FAAN, University of Central Florida, Orlando, FL; Patrick McNees, PhD, Applied Health Science, Inc., Orlando, FL.

The purpose of this paper is to describe the value of early involvement of the Research Nurse in data preparation and entry to improve data integrity.

Data for this paper were derived from the BCEI, a longitudinal clinical trial testing psychoeducational quality of life (QOL) interventions with 261 early-stage breast cancer survivors. Standardized QOL and study specific tools were used to collect data over a six month period. Initially, data preparation and entry were completed by graduate research assistants from various disciplines outside of healthcare. A Research Nurse was later involved in the data cleaning process.

Involving the Research Nurse in the data cleaning process resulted in the discovery of data entry errors that, if left unchecked, would have led to invalid and unreliable findings. The Research Nurse with strong clinical oncology skills was able to place the data within the context of the research and identify errors. Qualitative responses and data that were not dichotomous or scaled proved problematic for data entry staff without clinical knowledge to interpret and code.

Biostatisticians are integrally involved in designing and implementing the analytical plan for clinical research. However, this can result in data being coded and entered by individuals with little understanding of the clinical context of that data. The result can raise questions about the integrity of the data and interpretations drawn from analyses.

Researchers should consider the complexity of their data, and become involved data preparation and entry when clinical context is important for interpreting data. Prospective involvement of the researcher in data management may avoid using resources to correct problematic data after analysis.

Early involvement of the Research Nurse in data preparation and entry can improve data integrity. Errors identified and corrected prior to analysis lead to more interpretable outcomes and cost savings.

Funding Sources: This study is supported by the National Institute of Nursing Research and the Office of Cancer Survivorship, National Canter Institute (NR-R01-5332)

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PILOT OF A PSYCHOSOCIAL RESEARCH REGISTRY FOR PATIENTS WITH CANCER AND FAMILY CAREGIVERS. Helen Foley, RN, MSN, Frances Payne Bolton School of Nursing, Case Western Reserve University, Cleveland, OH; Barbara J. Daly, PhD, RN, FAAN, Sara Douglas, PhD, RN, and Amy Lipson, PhD, MSW, Case Western Reserve University, Cleveland, OH.

The purpose was to establish a Psychosocial Data Registry for cancer patients and their family caregivers. The pilot testing of the registry involved establishing an interdisciplinary design group to advise on the method and battery of instruments, forming collaborative relationships with the staff of the National Cancer Institute-designated Comprehensive Cancer Center, accessing appointment schedules, and evaluating specific data collection strategies. Following one year of initial testing, the procedures, results, and costs of the project were re-evaluated by the design group and modifications to the method were made. These results will be described.

Research registries, such as tumor registries, SEER, and NPCR, have been critically important to the advancement of our understanding of biology and epidemiology of cancer, and evaluation of treatment effects through the creation of very large, standardized, comprehensive data bases. While there has been much progress in investigating and understanding the psychosocial aspects of the experience of persons with cancer and their family members, most studies are limited by small or homogeneous samples, lack of longitudinal data, and focus on only patients or on families to the exclusion of the other group. This has hampered the evaluation of the complex inter-relationships among quality of life (QOL) domains and between the patient's and family's quality of life. Establishing a registry to obtain psychosocial data from persons with cancer and their family members would not only yield a comprehensive data base, but it would also facilitate research by identifying persons willing to be contacted for additional investigations and provide ready access to control populations for testing interventions.

A psychosocial data registry is a feasible approach to fostering research in the areas of emotional, social, and spiritual domains, as well as facilitating symptom research. Confirming the usefulness of the registry will next require demonstrating that researchers will use the registry and expanding the registry to other cancer centers.

The pilot project established that the majority of patients and family members were willing to participate and were able to complete the interviews with no adverse effects. Practical barriers such as access to a private location for interviews and scheduling time for the interviews during regular visits suggest that registries can be most efficiently conducted as part of routine cancer center operations.

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EARLY USE OF QUALITATIVE TECHNIQUES TO IMPROVE INTERVENTION INTEGRITY. Lorrie Powel, RN, PhD, and Karen Hassey Dow, RN, PhD, FAAN, University of Central Florida, Orlando, FL; Patrick McNees, PhD, Applied Health Science, Inc., Orlando, FL; and Victoria Wochna Loerzel, RN, MS, OCN®, University of Central Florida, Orlando, FL.

The purpose of this paper is to describe the value of early integration of qualitative techniques as a research tool to improve intervention integrity. Face-to-face interventions were audiotaped for the primary purpose of maintaining intervention integrity in this longitudinal clinical trial. A checklist was used to document intervention fidelity. The audiotapes were fully transcribed and the narratives of 12 women aged 49-66 were selected for additional qualitative review. Subjects offered extended responses to explicate their understanding of the intervention materials, describe how they had integrated coping strategies, and discuss feelings regarding their experience with breast cancer survivorship. The extended responses were analyzed using methods informed by grounded theory. This analysis was drawn from the BCEI, a psychoeducational quality of life intervention of 261 breast cancer survivors.

Intervention integrity in a longitudinal study is a complex undertaking. Most often, a quantitative checklist is used as the primary method to assure such integrity. However, the addition of qualitative techniques may be a valuable method to assure intervention integrity because they provide contextual meaning and richness. Thus, planning for the early integration of qualitative techniques allows the researcher the ability to focus on intervention integrity, yet avoid foreclosure on additional issues that may be important to the patient, as we seek to understand issues of survivorship.

Although the primary purpose of this study was to maintain intervention integrity, the serendipitous finding was the contextual richness of the narratives in which subjects described their survivorship experiences. Thus, it was during narrative analysis that the value of qualitative methods within this circumstance became apparent. Moreover, earlier attention to qualitative techniques at the time of the face-to-face intervention might have further enhanced data quality, improved intervention integrity, and offered a mechanism to systematically capture patients' experiences.

Funding Sources: National Institutes of Health, National Institute of Nursing Research

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METHODOLOGICAL ISSUES WHEN USING ACTIGRAPHY TO MEASURE CIRCADIAN RHYTHMS IN ADULTS WITH CANCER. Kimberly Wielgus, MSN, APRN BC, Ann Berger, PhD, RN, AOCN®, FAAN, and Lynne Farr, PhD, professor emeritus, University of Nebraska Medical Center, Omaha, NE.

Describe the methodological issues when using wrist actigraphy to quantify circadian rhythms in adults with cancer. Actigraphy uses a portable device to quantify and record body movement over time to estimate sleep, activity, and circadian rhythms. Reports of studies using actigraphy rarely detail the procedures used to make decisions regarding actigraphy sampling, device selection and settings, variable selection, data management and analysis (including inter-rater reliability [IRR] estimates), and software selection. Thus, the ability to compare study findings is limited. Best Practice Guidelines methods have been developed for use when using actigraphy to quantify circadian rhythms. Suggestions for actigraphy methods to be reported include: name of the actigraphy device, name and location of the device manufacturer, location of data collection, length of the data collection period, days of the week measured, and the epoch interval of activity count recording. Reports should include: consistent circadian rhythm variable names for clarity and ease of article retrieval, the mode and software used for data analysis, and methods for determining blocks for analysis and IRR estimates. Strengths and weaknesses of various methodological approaches and suggested procedures for the measurement and analysis of circadian rhythms will be presented.

The lack of information in the literature regarding methodological issues related to the measurement and analysis of actigraphy data raises credibility and reliability concerns and leads to difficulty when comparing findings. This precise biological instrument has great potential to increase the understanding of the influence of circadian rhythms on symptoms, sleep and activity patterns, and survival of adults with cancer.

Use of Best Practice Guidelines methods is recommended when using actigraphy to measure circadian rhythms. Adoption of clear and consistent Best Practice Guidelines methods to use to collect and report on circadian rhythms will allow comparison of study findings and lead to the advancement of knowledge learned from descriptive and intervention studies.

Using consistent procedures for actigraphy sampling, device selection and settings, selection of variables, data management and analysis (including inter-rater reliability estimates), and software selection will increase the reliability of findings and standardize reports in the scientific literature.

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SELF-REPORT SLEEP MEASURES IN CHILDREN WITH CANCER: A COMPARISON OF SELECTED CHILD-ADOLESCENT SLEEP QUALITY INSTRUMENTS. Vivian Gedaly-Duff, DNSC, RN, Oregon Health and Science University, Portland, OR; Kathryn Lee, PhD, RN, University of California School of Nursing, San Francisco, CA; Lillian Nail, PhD, RN, Oregon Health and Science University School of Nursing, Portland, OR; Kyle Johnson, MD, Oregon Health and Science University School of Medicine, Portland, OR; and Amy Johnson, PhD student, Oregon Health and Science University School of Nursing, Portland, OR.

Selection of relevant, valid and reliable instruments to assess disturbed sleep in children with cancer. In addition to actigraphy, selection of an instrument that has relevant questions for assessing sleep parameters is necessary to plan for appropriate sleep interventions. Healthy sleep is a complex set of behaviors that include nutrition, exercise, nightly routine preparation for restful sleep, falling asleep within 30 minutes, maintaining sleep and easily reinitiating sleep, awakening no more than three times during the night, not awakening too early, and daytime alertness without sleepiness or a nap. Additionally, circadian rhythms and maturation affect sleep quality. The 7

key sleep components of the Pittsburgh Sleep Quality Index and the parameters described in the Berger et al. state-of-the-science paper were used to compare nine subjective questionnaires on child sleep wake activities: Owen's BEARS, Owen's Children's Sleep Habits Questions, Carskadon's Sleep Habits Survey, LeBourgeois's Child Sleep Hygiene Scale and Child Sleep Wake Scale (as well as Adolescent Sleep Hygiene Scale and Adolescent Sleep Wake Scale), Lee &Ward's Child Clinical Sleep Assessment, and Lee's Global Sleep Disturbance Scale adapted for children.

Little is know about sleep in children with cancer. Several factors may lead to poor sleep: a) chemotherapy may alter sleep architecture, nutrition, energy levels, mood, and cognition, b) pain may fragment sleep, and c) worry and stress may contribute to hyperarousal and insomnia. Sickness occurs within the context of child development including maturation of sleep patterns. Altered family routines to care for an ill child at home and accommodate aggressive medical treatments during hospitalization and outpatient visits are also important considerations for family sleep quality.

Objective actigraphy data for wake and sleep patterns can be used to validate subjective sleep measures, and provide validity and reliability evidence for children's subjective report of sleep quality and day activity patterns.

A table of evidence will show the comparison across instruments. Important criteria for selection included: a) having items that reflect key sleep-wake parameters, b) reducing subject burden in sick children, and c) child self-report rather than parent perceptions.

Funding Sources: National Institutes of Health National Institue of Nursing Research R01 NR008570-01A2

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ECOLOGICAL MOMENTARY ASSESSMENT OF FATIGUE. Eileen Hacker, PhD, RN, AOCN®, and Carol Ferrans, PhD, RN, FAAN, University of Illinois at Chicago, Chicago, IL.

The ability to accurately assess the incidence, intensity, and timing of cancer-related fatigue is important for clinicians attempting to manage this symptom and for researchers evaluating interventions to reduce or alleviate fatigue.

The purpose of this report is to describe our experiences with ecological momentary assessment and discuss its applicability for capturing real-time, real-world assessments of fatigue in cancer patients receiving intensive therapy. To address feasibility issues, response rates were evaluated in terms of (a) overall percentage of completed responses before and after hematopoietic stem cell transplant (HSCT); (b) effect of fatigue intensity; (c) completion rates per subject; (d) influence of time of day; and (e) gender effects.

Current studies suggest that patients experience severe fatigue immediately following intensive cancer therapies. In addition to fatigue, patients frequently report simultaneous problems with multiple other symptoms. The ability to rely on self-report data retrieved from memory may be severely limited following intensive cancer therapy. Collecting real-time fatigue data, especially if subject burden is minimized, may facilitate timely obtainment of self-report fatigue information in acutely ill subjects. Wilson and Cleary's Conceptual Model of Patient Outcomes was used to guide the study.

A prospective, repeated measures design was used to assess changes in real-time fatigue three days before and three days after intensive cancer therapy and HSCT. A convenience sample (n = 20 before HSCT, and n = 17 after HSCT) was drawn from two Midwestern academic medical centers. Real-time fatigue was measured with a single-item, global, fatigue intensity scale. Multiple fatigue assessments were conducted throughout each study day. Electronic data collection facilitated examination of compliance.

Subjects responded to fatigue intensity queries 87% of the time before HSCT and 86% following HSCT. Response rates were not unduly influenced by level of fatigue, time of day or gender. The study findings demonstrate that it is feasible to use computerized EMA to collect self-report fatigue data in acutely ill oncology patients even when the patients were experiencing multiple side effects from the preparatory regimen. Ecological momentary assessment is a novel approach that holds substantial promise for investigating fatigue and other cancer symptoms.

Funding Sources: This study was supported by the ONS Foundation (supported by Ortho Biotech Products), American Cancer Society IRG-99-224, and the Center for

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AVOIDING ROADBLOCKS DURING THE INFORMED CONSENT PROCESS FOR CLINICAL RESEARCH. Laurie Adams, RN, Barbara Godfrey, RN, MScN, Soo Chin, RN, BScN, CCRP, Bernadette Southwood, RN, BScN, CON(C), and Jacqueline Galica, RN, Princess Margaret Hospital, Toronto, Canada.

The purpose of this poster presentation is to identify the roadblocks to informed consent and present possible strategies to overcome these roadblocks. Experienced clinical research nurses entered into round table discussions to corroborate and compare their observations of the roadblocks associated with the consent process. A subsequent review of scholarly literature further validated the roadblocks identified by the nurses. The round table discussion was reconvened to review the literature findings and identify methods of minimizing the impact of these barriers.

Informed consent plays a critical role for ensuring ethical entry of patients into clinical trials. Oncology patients can be a vulnerable patient population. Factors contributing to this vulnerability include level of education, language barriers and the patient's sense of futility and helplessness as a result of their illness. Patients' reluctance to ask detailed questions and nurses' variable presentation techniques during the consent process often hinder patient comprehension and their ability to make choices freely.

The following potential studies for future research were identified:

- Survey oncology patients to obtain qualitative data which could identify gaps/strengths related to their personal experiences
- Study changes in levels of knowledge from a patient's perspective through the application of a pre and post-test analysis as patients pass through their respective research environments.
- Develop and apply a tool to help guide Clinical Research Nurses through the consent process with each patient

Obtaining informed consent for oncology patients is an area of major concern for both patients and nurses within the clinical research environment. This poster identifies the roadblocks existing during the informed consent process and offers nurses strategies for avoiding them.

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DEVELOPMENT OF A MEASURE OF COMORBIDITY BURDEN AND SYMPTOM PERCEPTION IN OLDER ADULTS WITH CANCER. Cheryl Lacasse, RN, MS, OCN®, University of Arizona, Tucson, AZ.

Cancer in older adults often co-occurs with normal and pathological changes of aging and illness and may effect symptom perception due to comorbidity burden and its associated symptoms. There are few valid, reliable, and clinically useful self report measures for the integrated assessment of comorbidity and symptoms in oncology practice.

The goal of this preliminary work is to assess initial content validity of a newly developed self-report scale for measuring comorbid-

ity burden and symptom perception, the Comorbidity and Symptom Measurement in Oncology Scale (COSMOS). Initial content validity of the COSMOS is based upon a review of comorbidity and symptom assessment in multidisciplinary literature and will be further assessed by using a panel of experts.

The development of this scale is based upon a blended conceptual framework, the Perception of Unpleasant Symptoms model which integrates the Common Sense Model of symptom perception and appraisal and the Theory of Unpleasant Symptoms.

A quantitative survey approach will be used to evaluate relevancy of each item within the comorbidity burden and symptom perception subscales. A panel of 8 experts will be identified by using the following criteria: clinical and/ or research expertise in oncology, gerontology, or gero-oncology, > 3 publications and > 2 national presentations in their area of expertise. A 4-point Likert scale will be used to evaluate each item and interrater agreement for each item, subscale, and overall scale relevancy will be calculated using the content validity index (CVI) and multi-rater kappa (κ) statistic. Items with both a CVI > .88 and κ > .60 will be retained for pilot testing. Comments about scale instructions, format, and missing items will also be analyzed.

The results from this preliminary work will be used as the basis for scale revisions and pilot testing. It is projected that COSMOS could be easily used in the clinical setting as an integral component of the comprehensive geriatric assessment of older adults with cancer and in the research setting as a basis for evaluating and predicting health-related outcomes for complex cancer symptom management.

Funding Sources: National Cancer Institute Training Grant (R25 CA093831), American Cancer Society Doctoral Scholarship in Cancer Nursing (DSCN-03-200-01-SCN), and John A Hartford Building Academic Geriatric Nursing Capacity Predoctoral Scholarship (04-115).

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RELATIONAL AND TRANSACTIONAL PROCESSES IN COUPLES' EXPERIENCE WITH BREAST CANCER. Hsien-Tzu Chen, MS, RN, and Frances Lewis, PhD, RN, FAAN, University of Washington, Seattle, WA.

Based on individual reports, studies have shown that inter-spouse interactions are crucial to individual's psychological adjustment. Conjoint interviews of couples were conducted in some qualitative studies. However, the findings attributed to the relational aspect of cancer experience were still based on individual accounts. Little is known about the contingent process by which couples co-construct their experience in the relationship context.

The purpose of this paper is to present an analytic method that identifies how couples process their experience with the breast cancer.

An inductive content analysis was conducted on conjoint interviews of 26 married couples of women with early-stage breast cancer. Couples talked about their experience with minimum interruption and directions. An analytical strategy was designed based on the family system framework and inter-personal communication. Two types of processes were identified to describe the experience co-constructed by couples: relational and transactional process.

A unit of transactional-level data involved interactive dialogue that contains speaking turns of both partners, and expressed a complete idea to be understood without adjoining discourse. The analysis yielded 8 categories, organized into three higher-order domains. The first domain was related to presenting the position of self and other. The second domain was about stimulating the communication. The third domain involved processes of re-directing the communication.

Analysis at the relational level considered any one partner as valid informant. A coded unit focused on the attributes of their interaction in dyadic context. Eight domains were identified and grouped into two types of relational processes: (1) Inclusion of Both Partners, and (2) Perception about We-ness. Processes of the first type were related to the attempts to align with one another. Coupes who reported using processes of the second type created the sense of we-ness by identifying the processes they shared.

It is crucial to recognize the inconsistency between the theoretical assumption of couple's interaction and the actual procedure of data analysis. We demonstrated a proper research method to identify information that represents couples' contingent interactions. The findings provide a guideline of developing an appropriate intervention for helping couples adjust to the illness experience.

Funding Sources: Hester McLaws Nursing Scholarship, School of Nursing, University of Washington

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ENTERING A CLINICAL TRIAL: IS IT RIGHT FOR YOU? A RANDOMIZED STUDY OF THE CLINICAL TRIALS VIDEO AND ITS IMPACT ON THE INFORMED CONSENT PROCESS. Suzanne Hitchcock-Bryan, RN, Susan Bauer-Wu, DNSc, RN, Mark Powell, MED, MS, Brianna Hoffner, BA, Steven Joffe, MD, MPH, Christina Parker, MD, and Andrew Wolanski, NP, Dana-Farber Cancer Institute, Boston, MA.

Recognizing obstacles that can impede the informed consent process –- overwhelmed patients, miscommunication, misunderstanding, and complex consent forms -- we created an educational video, called "Entering a Clinical Trial: Is it Right for You?". The goal of this video is to dispel patients' misconceptions by explaining clinical trials in a clear, simple and balanced way.

The purpose of this randomized study is to assess the impact of the Video on patients' understanding and perceptions of clinical trials and how that understanding contributes to the informed consent process. Secondary aims will assess patient satisfaction with the video, decision making regarding participation in a clinical trial, and patient-provider communication related to the consent process. This study was guided by key principles of research ethics: respect for persons, beneficence, and justice.

Cancer patients (N=100) who are considering participation in a clinical trial are eligible to participate in this study. They are randomized to either the Control or Video Group. Video participants take home the video along with their clinical trial consent form. Control participants take home their clinical trial consent form only. After participants have read the clinical trial consent form +/- watched the video, we conduct a telephone interview, using a validated questionnaire assessing their understanding and perceptions about clinical trial participation. A copy of the video is then overnight-mailed to control group participants. A final questionnaire related to secondary aims is administered to all participants. Primary analysis will use analysis of covariance. Wilcoxon rank sum test and descriptive statistics will be used for the secondary aims.

61 of 74 patients (40 males, 34 famales; 67 Caucasian; 72 non-Hispanic) completed the study. To date: 37/44 patients felt better prepared to discuss their clinical trial after watching the video; 39/44 patients felt the video was an important source of information about clinical trials; and 24/24 patients who watched the video with family or friends, felt that the video enhanced their families' clinical trial understanding. If findings are sustained, oncology nurses can use this or similar tools to assist with patient education and informed consent procedures.

Funding Sources: National Cancer Institute

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IS THERE ANYTHING ELSE YOU WOULD LIKE TO TELL US? BREAST CANCER SURVIVORS' INSIGHTS FOLLOWING TREATMENT. Stephen Hadwiger, PhD, RN, Truman State University, Kirksville, MO; Jennifer Dine, and Jane Armer, PhD, RN, University of Missouri–Columbia, Columbia, MO.

As breast cancer survivorship rates improve, adverse treatment effects will present post-treatment challenges to survivors and hold increasing significance for oncology nursing. Lymphedema poses one of these challenges, impacting psychosocial well-being, family adaptation, and individuals' health-related perceptions.

The purpose of this qualitative study was to identify themes expressed by breast cancer survivors with or without lymphedema in response to the open-ended question, "Is there anything else you would like to tell us about breast cancer or lymphedema?"

These narrative data were derived from a parent study employing Armer's biobehavioral model of breast cancer lymphedema, conceptualizing the objective and subjective dimensions of lymphedema.

Sixty-four participants from a National Institutes of Health-funded study were interviewed eight times over 30 months post-operatively. Forty-three of these participants are being followed over 36-to-60 months and were asked the same question four times over 24 months. Content analysis was performed to analyze the 30-month data. Categories were formed and assigned themes as labels based on data review. Critical attributes were derived for each category based on coded responses. Similar content analysis will be carried out with the 36-60 month data. Next, responses will be divided into two paired sub-sets: 0-30 months and 36-60 months postoperative; and participants with and without lymphedema. Responses within each pair will be compared to identify predominance of themes within data subsets.

Themes elicited from the 30-month data analysis included maintaining personal normalcy, spiritually inspired faith/hope, family/friends/community as support, personal empowerment, influence of positivity/negativity, and self-directed care. Critical attributes derived from each of these themes were identified and will be reported. Themes and critical attributes for the 36-60 month data will be reported upon completion of analysis. This analysis in progress will reveal if elicited themes vary among breast cancer survivors with or without lymphedema and over time. Further study is warranted as preliminary findings suggest breast cancer treatment continues to impact overall wellness of breast cancer survivors over time.

Funding Sources: National Institutes of Health (National Institute for Nursing Research) Grant Number 3 R01 NR05342-04S1 awarded to University of Missouri-Columbia; Dr Steve Hadwiger, mentor; Dr Jane Armer, mentor and Principal Investigator

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THE PSYCHOSOCIAL AND EMOTIONAL IMPACT OF CHRONIC GRAFT-VERSUS-HOST DISEASE. Ellaine Galbizo, RN, BSN, Lori Williams, RN, DSN, and Meagan Whisenant, RN, BSN, University of Texas M. D. Anderson Cancer Center, Houston, TX.

Chronic graft-versus-host disease (cGVHD) is a serious late complication of allogeneic blood and marrow transplantation (BMT) and is the leading cause of non-relapse deaths greater than 2 years after allogeneic BMT. Little is known about the patient experience of cGVHD. Understanding of the psychosocial and emotional impact of cGVHD will allow oncology nurses to better meet the needs of patients and their families.

If patient needs are to be adequately addressed, better understanding of the psychosocial and emotional impact of cGVHD is needed. The purpose of this study is to describe the psychosocial and emotional impact of cGVHD experienced by patients.

Story Theory is the philosophical frame of reference for this study. Using Story Theory, the researcher gives the participant the opportunity to share the experience of living a complicating health challenge, such as cGVHD, in a clear and understandable way.

This is a qualitative, cross-sectional study. The study sample is projected to be 20 adults with active cGVHD at a comprehensive cancer center in the southern United States, who will describe their experience of having cGVHD in single audiotaped dialogues. Recruitment will continue until no new information is found from newly sampled participants. Using an exploratory descriptive method, the researcher is analyzing transcripts of the dialogues and developing themes of the psychosocial and emotional experience of cGVHD. The themes will be used to develop an integrated description of the psychosocial and emotional impact of cGVHD. To ensure accuracy, identification of themes by the researcher will be reviewed and confirmed by 2 other researchers experienced in qualitative analysis, oncology nursing, and BMT.

Analysis of the first 5 dialogues revealed 4 themes of the psychosocial and emotional experience of having cGVHD: the ambiguity of cGVHD, understanding cGVHD, coping with cGVHD, and acceptance of cGVHD. Describing the psychosocial and emotional impact of cGVHD will provide researchers with evidence on which to base interventions to improve outcomes for patients with cGVHD. A description of the psychosocial and emotional impact of cGVHD provides direction for clinicians in meeting the needs of patients with cGVHD.

Funding Sources: ONS Foundation 2005 Symptom Management Grant

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THE NEXT 365 DAYS: LIFE FOR WOMEN WITH BREAST CANCER AFTER TREATMENT COMPLETION. Marcia Boehmke, DNS, ANPC, RN, University at Buffalo, Buffalo, NY.

The life-long consequences of treatment for breast cancer must be recognized and managed if survivors are to enjoy the lives they will go on to live. Most health care providers are of the impression that women are glad when treatment is over when indeed often times they are not. Inviting women not only to share their feelings, but to listen carefully is a beginning. This knowledge will provide invaluable information so that long-term interventions can be developed to meet the needs of survivors.

The purpose of this study was to identify the full scope of symptoms and symptom distress that women continue to experience once adjuvant treatment is completed as well as how these symptom experiences affect their lives and relationships. This qualitative study was guided by Hermeneutic Phenomenology, which emphasizes the lived experience, holistically

Using Hermeneutic Phenomenology, women were asked to tell their stories about experiences after treatment completion. Interviews were audio-taped, transcribed, and data analysis consisted of thematic analysis of the narratives. Two reviewers reviewed the data, and if there was a discrepancy in meaning, both returned to the original narratives until 100% agreement was achieved.

Five themes emerged: uncertainty, aloneness, despondence over children, concern for family-well-being, and staunchness. Generally women felt uncertain and concerned not only about their future but the futures of their family. While undergoing treatment they felt they were fighting their cancer. When undergoing treatment, they always had health care providers available who monitored their health. After treatment they felt they were merely waiting for the "other shoe to drop," with minimal health care support. Furthermore, they simultaneously felt alone and a need to be strong, often with no one to turn to.

Funding Sources: US Army, Department of Defense

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QUALITY OF LIFE AND UNCERTAINTY IN MEN WITH PROSTATE CANCER UNDERGOING WATCHFUL WAITING: AN IRISH AMERICAN COMPARATIVE STUDY. Meredith Wallace, PhD, APRN-BC, Fairfield University, Fairfield, CT; and Josephine Hegerty, PhD, MSc, BSc, RGN, Catherine McAuley School of Nursing and Midwifery, Cork, Ireland.

Prostate cancer continues to be the most common form of cancer in males in both Europe and the United States and the second most common male cancer world-wide. There were 679,000 new cases of prostate cancer worldwide in 2002. Prostate cancer occurs mostly in older men and is rare before the age of 50. A variety of treatment options are available for men with prostate cancer. Watchful waiting is a treatment approach used mostly in the over sixty five age group for the management of prostate cancer. Little is known about the experience of men undergoing watchful waiting.

The purpose of this study was to enhance the understanding of the experience of watchful waiting for prostate cancer among Irish and American men. The specific aim was to measure quality of life and uncertainty of men over the age of 65 undergoing the watchful waiting management option for prostate cancer in order to determine differences and similarities between the Irish and U.S. samples.

Mishel's Uncertainty in Illness theory and its reconceptualization were used as the theoretical framework for this study. According to Mishel, uncertainty in illness is defined as a cognitive state resulting from insufficient cues with which to form a cognitive schema, or meaning of a situation or event. Mishel proposes that managing uncertainty is critical to adaptation during illness, and explains how individuals cognitively process illness associated events and construct meaning from them.

A cross sectional, comparative, survey design was used with a convenience sample. Twenty-nine men in Ireland (n = 10) and the U.S. (n = 19) completed quality of life and uncertainty questionnaires. The questionnaires were analyzed using descriptive statistics.

Demographic variables between the two samples were similar. Descriptive statistics revealed that men in Ireland experienced slightly less uncertainty and higher quality of life than men undergoing watchful in the U.S. The lower uncertainty and higher quality of life among men undergoing watchful waiting for prostate cancer is examined within the literature. Aspects of the healthcare delivery system may be used to explain these minor differences and to help improve uncertainty and quality of life in both countries.

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HEALING ART AS A MEANS TO ADDRESS THE PSYCHOSOCIAL NEEDS OF PATIENTS WITH CANCER: A CONCEPT ANALYSIS. Laurie Stark, RN, MSN, and Lorrie L. Powel, PhD, University of Central Florida School of Nursing, Orlando, FL.

The purpose of this paper is to report on an analysis of the concept healing art using Rodgers' Evolutionary Method. In this method, the common uses of the concept, surrogate terms, its antecedents and consequences are examined in order to more clearly distinguish its attributes and clarify the concept. Electronic bibliographic databases, reference lists from relevant primary and secondary review articles, journals, and gray literature were searched. Search words included cancer, chronic illness, healing art, creative healing and healing art intervention as well as the roots of each of the words and word combinations. The historical and scientific perspectives of a variety of methods of artistic expression were explored.

Addressing the psychosocial needs of patients with cancer is a continual challenge for oncology nurses and other care providers. One way of addressing these needs is to provide the patient an avenue of self-discovery, reflection and expression that promotes healing through art.

Based on this analysis an exemplar of the concept of healing art is proposed, and direction for future research in patients with cancer is discussed. Nurses, in collaboration with artists in the community, have an opportunity to initiate healing art as a treatment modality that can assist in addressing the psychosocial needs of patients with cancer.

The attributes of healing art were identified as an activity that enhances comfort and the quality of life. A distinction was made between healing resulting from the observation of art, e.g., architectural, decorative, or masterpieces, and the creation or participation in a form of art. The findings indicated that art provided an opportunity of individual discovery that provided comfort and transcendence through active or passive participation in movement, music or art. Moreover, those who participated in an artistic activity within a group reported the additional benefits of sharing and support from one another through working together. Thus, the art experience becomes healing when it allows the individual to articulate feelings in a way that words cannot. An unexpected finding was what seemed to be a bias on the part of art therapists regarding persons other than art therapists facilitating an art intervention.

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IMPACT OF CULTURE ON ILLNESS REPRESENTATIONS OF PATIENTS NEWLY DIAGNOSED WITH CANCER. Charuwan Kritpracha, PhD, RN, Faculty of Nursing, Hat-Yai, Songkla, Thailand; and Rebecca Lehto, PhD, RN, OCN®, University of Michigan School of Nursing, Ann Arbor, MI.

Illness representations have been shown to influence an individual's psychological and behavioral responses to illness threat. Parallel interests in understanding how different cultures impact formation of illness representations, and subsequent adaptive behaviors have increased the need for collaborative cross-cultural research.

The specific aim of the study was to compare and contrast illness representations among two culturally distinct groups of cancer patients. The self-regulation and cognitive map theory that emphasizes person-environment interactions in cognitive structure development provides a framework for this study.

A descriptive, cross-sectional study was conducted. The sample included 45 Thai women with breast cancer and 42 American men and women with lung cancer. Participants were assessed after diagnosis and before the initiation of any treatments. The Conceptual Content Cognitive Map (3CM) Method was used to assess patients' illness representations. The 3CM procedure entailed having participants think of important concepts about their illness, and write each thought on self-adhesive note. Participants coded the concepts with positive (+) signs or negative (-) signs for affect. The participants then arranged the concepts and labeled each group with a descriptive word or phrase. Results were quantified for content and structure via content analyses, frequency analyses, and developing categories based on the study's theoretical framework and the participants' responses.

Findings revealed that both groups reported similar structure, including identity, causes, consequences, and controllability components of illness representations, and were more likely to code contents negatively. Coping and social support were most common in the positively coded items. However, there were differences in contents of categories; for example, Thai participants were more likely to report various causes, including diet, stress, Karma, which were not reported by American participants. Although the structure of illness representations was similar among two cultural groups facing cancer, the contents were culturally specific. The findings support essential role of culture on the formation of illness representations in cancer patients.

Funding Sources: New investigator award

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INVOLVEMENT IN TREATMENT DECISION-MAKING AMONG CHINESE AMERICAN WOMEN WITH EARLY-STAGE BREAST CANCER. Shiu-Yu Katie Lee, RN, MSN, DNSC, National Taipei College of Nursing, Taipei, Taiwan; Lesley F. Degner, PhD, University of Manitoba, Winnipeg, Canada; and M. Tish Knobf, PhD, RN, FAAN, AOCN®, Yale School of Nursing, New Haven, CT.

Women with breast cancer preferred different levels of involvement in treatment decision making. Achieving the preferred level of involvement is the key to make an informed treatment decision. Breast cancer is the most common cancer among the growing population of Chinese American (ChA) women, but what involvement they prefer and they actually play in treatment decision-making process have not been described.

The purpose of this study was to explore the differences between the actual and preferred decisional involvement for the primary treatment in a sample of ChA women with early-stage breast cancer (ESBC).

Degner's scientific findings from qualitative studies (1992) and Ottawa Decisional Support Model were used to guide the analysis.

This was part of a larger cross-sectional, descriptive study. A convenience sample of 123 ChA women with ESBC was recruited in the larger New York area. Chinese version of Degner's Control Preference Scale (CPS) measured the preferred and actually assumed involvement in the recalled decision-making process for the primary treatment of ESBC. CPS involved sorting of five cards that displayed varying degrees of involvement by patients and physicians. The Chinese CPS has been tested in previous study as reliable and valid in understanding cancer decisional involvement in Chinese adults.

Half (52%) of the sample preferred to collaborate with their surgeons in making the treatment decision for their ESBC; while merely 13% actually played the collaborative role. Only 33.3% of the sample was able to achieve their preferred levels of involvement. Among the remaining, 36.6% engaged in a more passive role and 30.1% involved more actively than what they preferred. The women who played a passive role had significant higher decisional conflict. The ChA women who were more likely to achieve their preferred level of involvement were those who had stayed longer in USA, received more information, had less decisional conflict, and felt easier to communicate with their surgeon in the treatment decision-making process. Given the difference of involvement, this study stresses the need to improve communication for treatment decision making in this special population.

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SURVEY OF THE SPIRITUAL CARE SPECIAL INTEREST GROUP: CONFIDENCE, COMPETENCY, AND CONSISTENCY IN SPIRITUAL CARE PRACTICES. Anne Belcher, PhD, RN, AOCN®, CNE, FAAN, Johns Hopkins University School of Nursing, Baltimore, MD; and Margaret Griffiths, MSN, RN, AOCN®, Thomas Jefferson University College of Health Professions, Department of Nursing, Philadelphia, PA.

The increasing focus on holism in the US has impacted health care in numerous ways, including healthcare providers' recognition popularity and utility of complementary therapies, development of Joint Commission on Accreditation of Health Care Organization standards that address spiritual care, and nurses' creation of a nursing diagnosis (spiritual distress) which reflects concern about patients' spiritual well-being. These priorities have stimulated the origination of professional groups such as the ONS Spiritual Care Special Interest Group (SIG). The purpose of the study was to describe the perceived confidence, competency, and consistency in spiritual care practices of the members of the ONS Spiritual Care SIG. The framework for the study was derived from prior work done by the researchers with regard to examination of the concept of spirituality among nurses in various care settings and across roles, using open-ended questions.

The research design was qualitative. Members of the Spiritual Care SIG were asked to complete a questionnaire regarding their personal and professional expressions of spirituality, their perceived ability to provide spiritual care, and their self-identified knowledge deficits with regard to spiritual care of persons with cancer.

The themes identified among the study participants with regard to their confidence; competency and consistency in providing spiritual care suggest strategies for application of spiritual care interventions to meet the needs of cancer patients.

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PRIORITY SHIFT: MASCULINE IDENTITY REFRAMING BY LOW-INCOME LATINO MEN WITH PROSTATE TREATMENT–RELATED ERECTILE DYSFUNCTION. Sally Maliski, PhD, RN, University of California, Los Angeles, School of Nursing, Los Angeles, CA.

Prostate cancer is the most common noncutaneous cancer among American men. Latinos are the fastest-growing minority in the US. Erectile dysfunction is a common side effect of treatment for prostate cancer and can have profound effect on a man's self-identity.

Little is known about the meaning of prostate cancer treatment-related erectile dysfunction among Latino men within the context of a culture in which the concept of machismo is important. Therefore, the purpose of this study was to understand the meaning of prostate cancer treatment-related erectile dysfunction among low-income Latino men.

Grounded theory was the method chosen to develop a conceptual framework of masculine identity among Latino men with prostate cancer treatment-related erectile dysfunction. With underpinnings in Symbolic Interactionism, this was the frame of reference from which we approached this study.

Latino men enrolled in a state-funded program that provides prostate cancer treatment for uninsured men with incomes under 200% of the federal poverty level were invited to participate after receiving IRB approval. A bilingual, male interviewer was trained to conduct in-depth interviews using a semi-structured interview guide to elicit men's experience with their treatment-related erectile dysfunction. Each participant had an initial interview and follow-up interview 3-6 months later to confirm emerging themes and clarify questions. Interviews were audiotaped and transcribed verbatim. Spanish transcripts were translated, backtranslated, and verified to produce English transcripts. Analysis by three independent investigators proceeded from line-by-line coding to category to concept description. Concepts were checked with participants during follow-up interviews. A detailed analysis was maintained providing an audit trail for analysis decisions.

The concept of priority shift is emerging from the preliminary coding and categorization of the transcripts. This is appearing as a process of reframing masculine identity in terms of family responsibility taking priority over sexual ability. This is occurring within the context of choosing treatment for prostate cancer meaning continuing to live over sex which could mean death. Conceptual relationships and context of priority shift as a coping mechanism are being developed. These finding will inform development of culturally sensitive interventions to facilitate priority shift for low-income Latino men coping with prostate cancer treatment-related erectile dysfunction.

Funding Sources: Department of Defense

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SUPPORT AFTER BREAST CANCER: EVALUATION OF A SENIOR PEER COUNSELING TELEPHONE INTERVENTION. Rebecca Crane-Okada, PhD, RN, AOCN®, Elizabeth Mandile, MSN, RN, Parisa Mirzadehgan, MPH, Helen Mabry, MD, and Armando Giuliano, MD, John Wayne Cancer Institute, Santa Monica, CA.

Few studies address the effectiveness of support for older women during the stress-filled time between breast cancer surgery and initiation of adjuvant treatment, and none explore the use of senior peer counselors, who have the skills and life experiences to provide older adults with emotional support during life transitions.

In partnership with a community based agency's established senior peer counseling program, this study is testing the effects of telephone support provided by senior peer counselors (PC) on perceived social support, fear of recurrence, resource utilization and satisfaction, coping, and mood, in 150 older women after breast cancer surgery.

The study was based on social support and cancer survivorship theory.

Study participants were randomized to one of three schedules for receipt of telephone calls from PC during the 12 month study: (1) once weekly for five weeks, then as desired, beginning shortly after surgery (immediate support/IS); (2) once weekly for five weeks, then as desired, beginning 6 weeks after surgery (delayed support/DS); (3) on request (usual support/US). Participants complete study questionnaires on social support and conflict (Interpersonal Relationship Inventory), coping (Brief COPE), mood (Hospital Anxiety and Depression Scale), Fear of Recurrence, resource use and satisfaction. Comparisons were made within and between groups and by age (50-64 vs. 65 and older) at baseline, pre- and post-intervention, and 6 months postop.

Of the 134 enrolled to date, 89 have completed six months of follow up. Mean age of participants is 62 years(50-94), most are married, White, with stage I disease having lumpectomy with sentinel node biopsy. Significant differences were found for anxious mood and several coping strategies over time for the sample as a whole but not by group. IS and DS participants at 5 weeks after PC intervention sought out fewer resources than participants in the US group (p=.008). At 6 months, DS participants were the least likely to use denial as a coping strategy (p=.003). Participant and PC comments suggest positive effects not captured in quantitative measures.

Funding Sources: Avon Foundation

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MEETING THE NEEDS OF THE ADOLESCENT/YOUNG ADULT: LESSONS FROM THE SMART TRIAL. Kristin Stegenga, RN, MSN, CPON®, Children's Mercy Hospital, Kansas City, MO; Lona Roll, RN, MSN, Christus Santa Rosa Children's Hospital, San Antonio, TX; Yvonne Barnes, RN, MSN, CPNP, Washington University Medical Center, St. Louis, MO; Jo Meekins, RN, Methodist Children's Hospital of South Texas, San Antonio, TX; and Joan Haase, PhD, RN, Indiana University School of Nursing, Indianapolis, IN.

Adolescence/young adults (AYA) represents one of the most dynamic developmental periods in life. Cancer diagnosis and treatments, such as stem cell transplant (SCT), during this critical time may both increase and alter challenges the AYA is facing. AYAs' unique physical and psychosocial needs may be magnified by the cancer diagnosis. SCT may represent the best, and sometimes only, option for cure. The intensity of the SCT process can produce significant risk of morbidity and even mortality, These potential or actual complications can lead to significant short and long term decreases in quality of life (QOL).

Identification of developmentally appropriate and meaningful data collection approaches and interventions during SCT can foster resilience and enhance QOL. This presentation describes a randomized, controlled intervention trial, Stories and Music for AYA Resilience During Transplant (SMART). We will emphasize ways the intervention and technology were developed and used to enhance appeal and developmental appropriateness for AYA.

The SMART study aims to increase resilience and quality of life in the adolescent undergoing SCT and is guided by Haase's Adolescent Resilience Model and Robb's Music Therapy Model of Contextual Support. Lifespan developmental perspectives were used to foster developmental appropriateness.

Data guiding SMART study design features were obtained from two pilot studies of the intervention and evaluation by Teen Advisory Board cancer survivors. The SMART study (n=130 AYA) compares a therapeutic music video intervention with a books-on-CD control group, both delivered over 6 1-hour sessions. The AYA enters answers to a battery of questionnaires directly to a secure web-based server.

Examples of the unique web-based data collection that were appealing include many pictures of AYA in various settings , colorful backgrounds, cheering audio sounds, and a "non-test" feel to the website. Intervention features that foster tailoring to the AYA's developmental level include song choices from several genre that were generated by surveying AYA regarding music preferences, enhancing autonomy even in high symptom distress, and AYA development of song lyrics to facilitate identification of and coping with their concerns.

Funding Sources: National Institutes of Health/National Institute of Nursing Research R01 NR008583 and Childrens Oncology Group ANUR0631

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TREATMENT DECISION-MAKING AND COMPLEMENTARY AND ALTERNATIVE MEDICINE: ONE MODEL DOES NOT FIT ALL. Lynda Balneaves, RN, PhD, University of British Columbia (UBC) School of Nursing, Vancouver, Canada; Tracy Truant, RN, MSN, British Columbia Cancer Agency, Vancouver, Canada; Mary Kelly, MA, UBC School of Nursing, Vancouver, Canada; Marja Verhoef, PhD, University of Calgary, Calgary, Canada; and Joyce Davison, RN, PhD, Vancouver Hospital Prostate Centre, Vancouver, Canada.

Over 60% of Canadian women with breast cancer use complementary and alternative medicine (CAM). The popularity of CAM has led to a body of inquiry into the reasons why cancer patients use CAM. While knowledge of the predictors of CAM use has been helpful in identifying patients most likely to use CAM, the development of decisional models is needed to illustrate the complexity of decisions specific to CAM. The purpose of this study was to understand the processes through which women with breast cancer make decisions about CAM. The goal is to provide a foundation for the development of information and decisional resources that support cancer patients in making informed choices about CAM.

Using grounded theory methodology, this study involved 21 women living with early-stage breast cancer who were identified as being consumers of CAM. In-depth, open-ended interviews were conducted and transcribed verbatim. Thematic and open coding was initially conducted, followed by a constant comparison of the data

Three distinct styles of CAM decision-making exist among women with breast cancer. For some women, a "stepwise" decision-making model occurred, in which CAM decisions shifted as they moved through the conventional treatment trajectory. Other women expressed a "parallel" decision-making style that had conventional and

CAM treatment decisions being made concurrently but independently from one another and with minimal conflict. In the "integrative" decision-making style, women perceived conventional cancer treatments and CAM to be part of a continuum of care and made treatment decisions in an integrated manner. The results of this study have important clinical implications, including better prediction of CAM utilization across the breast cancer experience, improved provider-patient communication about CAM, and the development of appropriate educational and decisional support services, such as decision aids.

Funding Sources: Canadian Institutes of Health Research and Canadian Breast Cancer Research Alliance

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PATIENTS' PERCEPTIONS OF THE IMPORTANCE OF TREATMENT ADHERENCE IN HEAD AND NECK CANCER PATIENTS. Maura Edmonds, RN, MSN, CRNP BC, and Deborah McGuire, RN, PhD, FAAN, University of Maryland, Baltimore, MD.

In 2006, cancers of the head and neck (including the oral cavity, pharynx, and larynx) will affect approximately 40,000 Americans. Although these cancers represent only 5% of all cancers, their effect on quality of life and function is profound. Typical treatments consist of radiation and/or chemotherapy delivered over extended time periods, usually producing complex and severe side-effects.

The importance of patient adherence to treatment for achieving optimal disease outcomes is well-recognized, and there is a positive correlation between timely completion of treatment and increased survival. Nevertheless, treatment adherence remains less than optimal.A better understanding of adherence from the patient perspective will enhance development of interventions to promote adherence in a population for whom is it critical for optimal treatment outcomes. The purpose of this preliminary qualitative inquiry was to begin clarifying our understanding of head and neck cancer patients' perspectives on treatment adherence as an initial step toward a larger qualitative study.

Current theories of treatment adherence focus on healthcare providers' perspectives of patients' decision-making behaviors, ignoring the patients' perspectives, including factors beyond patients' control. A better understanding of adherence from the patient perspective will enhance development of interventions to promote adherence in a population for whom is it critical for optimal treatment outcomes.

The study used a one-on-one personal interview approach to assess patients' perceptions of the importance of treatment adherence. Participants included two patients in active treatment for head and neck cancer. An interview guide of open-ended questions based on literature and clinical experience addressed history of diagnosis and treatment, treatment experience, importance of treatment, and barriers to completing treatment. Data were transcribed, themes abstracted, and codes assigned using Atlas Software; these were verified by a second researcher.

Barriers to adherence included denial, hopelessness, fear, mental strain, and physical discomfort. Enhancements to completing treatment included family support, coping strategies, and a positive outlook. This small-scale inquiry has begun to enhance our understanding of treatment adherence issues from the patient perspective, laid a foundation for a larger study, and provided insight into methodologic challenges in data collection in this population.

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