Palliative and Supportive Care (2008), **6**, 407–414. Printed in the USA.

doi:10.1017/S1478951508000655

Clinical Update: Literature Abstracts

MEASURES

Development and Reliability Testing of the Victoria Bowel Performance Scale (BPS)

Downing, G.M., Kuziemsky, C., Lesperance, M., Lau, F., and Syme, A.

Journal of Pain and Symptom Management, *34* (2007), 513–522

With changes in bowel function being a common and often distressful issue for palliative care patients, the ability to easily monitor and record changes in bowel status would be helpful in addressing quality of care. Most bowel tools record either constipation or diarrhea, but not both. A new tool, the Victoria Bowel Performance Scale (BPS), was designed as an ordinal 9-point scale from −4 (severe constipation) to +4 (severe diarrhea) and includes three parameters: visual stool characteristics, bowel pattern, and ability to control defecation. This study tested the reliability of BPS using case scenarios in a test–retest format. Sixty-seven raters in Time Period 1 and 54 raters in Time Period 2 ranked the 18 cases. The intraclass correlation coefficients for absolute agreement were .822 and .853 for Time Periods 1 and 2, respectively. Results showed that the raters were consistent in their scoring over time, with an average Cohen's kappa of .70 over all of the raters. The average Pearson correlation coefficient between Time Periods 1 and 2 scores was .92. Further prospective testing in day-to-day clinical care is needed to further confirm the reliability and clinical utility of the BPS. A BPS management guideline has been developed to assist with decision making for each BPS score, which also requires validation.

Use of a Single-Item Screening Tool to Detect Clinically Significant Fatigue, Pain, Distress, and Anorexia in Ambulatory Cancer Practice

Butt, Z., Wagner, L., Beaumont, J., Paice, J., Peterman, A., Shevrin, D., Von Roenn, J., Carro, G., Straus, J., Muir, J.C., and Cella, D.

Journal of Pain and Symptom Management, *35* (2008), 20–30

Fatigue, pain, distress, and anorexia are four commonly encountered symptoms in cancer. To evaluate the usefulness of a single-item screening for these symptoms, 597 ambulatory outpatients with solid tumors were administered a self-report screening instrument within the first 12 weeks of chemotherapy. Patients rated the severity of each symptom on a 0–10 scale, at its worst over the past 3 days, with higher ratings associated with higher symptom levels. From this sample, 148 patients also completed a more comprehensive assessment of these symptoms. Two criteria were used to determine optimal cut-off scores on the screening items: (1) the sensitivity and specificity of each screening item to predict clinical cases using receiver-operating characteristics analysis and (2) the proportion of patients at each screening score who reported that some relief of the target symptom would significantly improve their life. Optimal cut-off scores ranged from 4 to 6 depending on the target symptom (area under the curve range = .68–.88). Use of single-item screening instruments for fatigue, pain, distress, and anorexia may assist routine clinical assessment in ambulatory oncology practice. In turn, such assessments may improve identification of those at risk of morbidity and decreased quality of life due to excess symptom burden.

Russian Brief Pain Inventory: Validation and Application in Cancer Pain

Kalyadina, S., Ionova, T., Ivanova, M., Uspenskaya, O., Kishtovich, A., Mendoza, T., Guo, H., Novik, A., Cleeland, C., and Wang, X.

Journal of Pain and Symptom Management, *35* (2008), 95–102

To validate the Russian version of the Brief Pain Inventory (BPI-R) and to examine predictors of inadequate pain management, 221 Russian patients with advanced-stage hematological malignancies or solid tumors completed the BPI-R and a Russian-language Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36-R). Factor analysis of the BPI-R found two underlying constructs, pain

severity and pain interference, with Cronbach alphas of .93 and .95, respectively. Concurrent validity was established by comparing BPI-R items with SF-36-R scales. The BPI-R detected significant differences in pain severity and interference levels by Eastern Cooperative Oncology Group (ECOG) performance status, supporting known-group validity. Determination of the Pain Management Index revealed that 68% of the patients were inadequately treated by World Health Organization standards. Having advanced-stage disease and not receiving chemotherapy predicted inadequate pain management in a multivariate logistic regression model. The Russian version of the BPI is psychometrically sound in its reliability and validity.

Validity and Reliability of a New Instrument to Measure Cancer-Related Fatigue in Adolescents

Hinds, P., Hockenberry, M., Tong, X., Rai, S., Gattuso, J., McCarthy, K., Pui, C., and Srivastava, D.

Journal of Pain and Symptom Management, *34* (2007), 607–618

Adolescents undergoing treatment for cancer rate fatigue as their most prevalent and intense cancer- and treatment-related effect. Parents and staff rate it similarly. Despite its reported prevalence, intensity, and distressing effects, cancer-related fatigue in adolescents is not routinely assessed during or after cancer treatment. We contend that the insufficient clinical attention is primarily due to the lack of a reliable and valid self-report instrument with which adolescent cancer-related fatigue can be measured. Our aim was to determine the reliability and construct validity of a new instrument and its ability to measure change in fatigue over time. Initial testing involved 64 adolescents undergoing curative treatment of cancer who completed the Fatigue Scale-Adolescent (FS-A) at two to four key points in treatment in one of four studies. Internal consistency estimates ranged from .67 to .95. Validity estimates involving the FS-A with the parent version ranged from .13 to .76; estimates involving the staff version and the Reynolds Depression Scale were .27 and .87, respectively. Additional validity findings included significant fatigue differences between anemic and nonanemic patients ($p = .042$) and the emergence of four factors in an exploratory factor analysis. Findings further indicate that the FS-A can be used to measure change over time ($t = 2.55$, $p < .01$). In summary, the FS-A has moderate to strong reliability and impressive validity coefficients for a new research instrument.

Validation of Single-Item Linear Analog Scale Assessment of Quality of Life in Neuro-Oncology Patients

Locke, D., Decker, P., Sloan, J., Brown, P., Malec, J., Clark, M., Rummans, T., Ballman, K., Schaefer, P., and Buckner, J.

Journal of Pain and Symptom Management, *34* (2007), 628–638

Assessment of patient quality of life (QOL) requires balancing the details provided by multi-item assessments with the reduced burden of single-item assessments. In this project, we investigated the psychometric properties of single-item Linear Analog Scale Assessments (LASAs) for patients with newly diagnosed high-grade gliomas. Measures included QOL LASAs (overall, physical, emotional, spiritual, intellectual), Symptom Distress Scale (SDS), Profile of Mood States (POMS; overall, confusion, fatigue), and Functional Assessment of Cancer Therapy-Brain (FACT-Br; overall, brain, physical, emotional). Associations of LASA measures with SDS, POMS, and FACT-Br domains and with Eastern Cooperative Oncology Group performance score (PS) and Mini-Mental State Examination (MMSE) were assessed. Repeated measures ANOVA models compared the change over time of LASAs and SDS, POMS, and FACT-Br. Two hundred five patients completed the assessments across three time points. To allow comparison across measures, all scores were converted to a scale of 0–100, with higher scores indicating better QOL. LASA mean scores ranged from 60 to 78; SDS, POMS, and FACT-Br ranged from 62 to 81. FACT-Br physical ($p < .001$) and POMS fatigue subscale ($p = .005$) decreased over time, as did LASA physical ($p = .08$). LASA scales were strongly associated with corresponding scales on SDS, POMS, and FACT-Br ($.44 < \text{rho} < .65$; $p < .001$). LASA was negatively associated with PS and positively with MMSE, with associations similar in magnitude to the other QOL and psychosocial measures. The data suggest that the single-item LASA scales are valid for assessing QOL of cancer patients and are an appropriate alternative when a shorter instrument is warranted.

Validation of the Brief Pain Inventory in Patients 6 Months After Cardiac Surgery

Gjeilo, K., Stenseth, R., Wahba, A., Lydersen, S., and Klepstad, P.

Journal of Pain and Symptom Management, *34* (2007), 648–656

https://doi.org/10.1017/S1478951508000655 Published online by Cambridge University Press

The Brief Pain Inventory (BPI) is a questionnaire developed to assess the severity of pain and the impact of pain on daily function. The purpose of the current study was to evaluate the psychometric properties of the BPI for use in patients undergoing cardiac surgery. Between September 2004 and September 2005, 534 patients completed the BPI before surgery and 462 responded 6 months after surgery. The BPI was validated with respect to construct validity, internal consistency, criterion validity, and responsiveness. To evaluate the criterion validity, the BPI was validated against the bodily pain (BP) scale of the Medical Outcomes Study Short-Form Health Survey (SF-36). The factor analysis resulted in two distinct factors, supporting the validity of the two-factor structure of the original BPI, with high loadings on pain severity and pain interference. Results indicated acceptable internal consistency, with Cronbach's alpha coefficients between .84 and .94. The association between the BPI and the SF-36 BP dimension supported the criterion validity, with correlation coefficients between .47 and .65. The pain severity scale and the pain interference scale declined from baseline to follow-up. These results supported the responsiveness of the BPI. The study confirmed that the BPI shows good psychometric properties of reliability, validity, and responsiveness, enabling it to be used to measure pain in patients after cardiac surgery. Validating pain measures for use in this population is an important part of establishing a foundation for future studies on chronic pain after cardiac surgery.

Validation and Comparison of the Health-Related Quality-of-Life Instruments EORTC QLQ-C30 and SF-36 in Assessment of Patients with Chronic Nonmalignant Pain

Fredheim, O., Borchgrevink, P., Saltnes, T., and Kaasa, S.

Journal of Pain and Symptom Management, *34* (2007), 657–665

The EORTC QLQ-C30 health-related quality of life (HRQoL) questionnaire was developed for use in clinical cancer trials. It has also been applied in studies of patients with chronic nonmalignant pain in spite of nondocumented validity. Validation of the EORTC QLQ-C30 in this patient population and comparison with the traditional first choice HRQoL instrument in chronic nonmalignant pain, the SF-36, are, therefore, required. Two hundred eighty-six patients admitted to the tertiary multidisciplinary pain center at St. Olavs University Hospital in Trondheim, Norway, completed both the EORTC QLQ-C30 and the SF-36 at admittance. Correlations between EORTC QLQ-C30 and SF-36 measures of the same concept were between .70 and .81 for all five domains covered by both instruments. Internal consistency was below .70 for the EORTC QLQ-C30 scales physical functioning (.57), pain (.68), role functioning (.43), cognitive functioning (.66), and nausea/vomiting (.53), as well as the SF-36 scale role emotional functioning (.66). Large floor or ceiling effects were seen for several EORTC QLQ-C30 scales. Whereas SF-36 addresses no other symptoms than pain and fatigue, the EORTC QLQ-C30 also includes sleep, financial difficulties, nausea/vomiting, dyspnea, appetite loss, constipation, and diarrhea. Even though some EORTC QLQ-C30 scales have unsatisfactory internal consistency, EORTC QLQ-C30, similar to SF-36, has overall acceptable psychometric properties. The EORTC QLQ-C30 is a valid alternative to the SF-36 when a broader assessment of symptoms is desired.

Discrepancies in Performance Status Scores as Determined by Cancer Patients and Oncologists: Are They Influenced by Depression?

Jeon, H., Shim, E.-J., Shin, Y.-W., Oh, D.-Y., Im, S.-A., Heo, D.S., and Hahm, B.-J.

General Hospital Psychiatry, *29* (2007), 555–561

In previous research studies, performance status as determined by cancer patients themselves frequently did not agree with that determined by their oncologists. However, only a few studies have evaluated the reasons for this discrepancy. One hundred eleven cancer patients attending the Comprehensive Cancer Center of Seoul National University Hospital were asked to complete a questionnaire that included questions on sociodemographic and medical status, Eastern Cooperative Oncology Group (ECOG) performance status score and the Hospital Anxiety and Depression Scale (HADS). Medical oncology records were reviewed to obtain information and oncologist-assessed ECOG performance status scores. Patients and oncologists agreed in 59 cases (53.2%; weighted $\kappa = 0.17$). There were no statistically significant gender-, cancer-type-, or cancer-stage-related differences in agreement rates. Hierarchical logistic regression analyses showed that HADS depression subscale was the only variable that significantly contributed to patient-assessed performance status scores ($\beta = 0.50$, $p = .0005$), whereas cancer stage was the only variable that significantly contributed to oncologist-assessed performance status scores ($\beta = 0.34$, $p = .0004$). The mean of HADS depression subscale and the depression rates were highest in patients who rated themselves as most impaired on ECOG performance. Depression was found to be significantly associated with patients who rated their

performance status as more impaired than with the oncologist-assessed score.

PSYCHOSOCIAL INTERVENTION

Role of a Medical Social Worker in Improving Quality of Life for Patients with Advanced Cancer with a Structured Multidisciplinary Intervention

Miller, J., Frost, M., Rummans, T., Huschka, M., Atherton, P., Brown, P., Gamble, G., Richardson, J., Hanson, J., Sloan, J., and Clark, M.

Journal of Psychosocial Oncology, *25* (2007), 105–119

Patients with advanced cancer face multiple challenges to their quality of life (QOL). Researchers investigated the impact of participation in a multidisciplinary intervention, including a social service component, on improving the QOL of patients with advanced cancer undergoing radiation therapy. A total of 115 participants with newly diagnosed advanced stage cancer, who were receiving radiation therapy, were randomly assigned to either participate in an eight-session structured multidisciplinary intervention or to receive standard care. Each 90-min session was led by either a psychologist or psychiatrist and co-led with a nurse, physical therapist, chaplain, and/or social worker. The sessions were designed to address the domains that impact QOL: emotional, spiritual, physical, and social domains (support, community resources, financial and legal issues, and advance directives). QOL was assessed at baseline, 4 weeks (end of treatment), 8 weeks, and 27 weeks. The primary end point was overall QOL assessed on a 0–100 scale at Week 4. A total of 115 patients were enrolled from October 2, 2000, to October 28, 2002. Overall QOL at Week 4 averaged 10 points higher in the intervention group than in the control group (80 vs. 70 points, $p = .047$), which was an increase of 3% from baseline in the intervention group versus a decrease of 9% in the control group ($p = .009$). Of the subscores reflecting patients' opinion regarding their QOL, there was improvement in all social domains, which contributed to the overall improvement in QOL. Significant changes from baseline to Week 4 scores were seen in the areas of financial concerns ($p = .025$) and legal issues ($p = .048$). A social work component within a structured multidisciplinary intervention results in significant advantages in the social domain of QOL and contributes to clinically meaningful improvements in the overall QOL for patients with advanced cancer undergoing active medical treatment. Numerous studies have documented the financial burdens and social changes that may occur with the diagnosis of cancer. However, previous research has not examined the role of a social worker in providing financial, social, and legal education in a structured multidisciplinary intervention and its direct impact on QOL. Outlined in this paper is the role of the medical social worker in a clinical trial, how education was provided, and strategies for future interventions.

Terminal Delirium: Recommendations from Bereaved Families' Experiences

Morita, T., Akechi, T., Ikenaga, M., Inoue, S., Kohara, S., Matsubara, T., Matsuo, N., Namba, M., Shinjo, T., Tani, K., and Uchitomi, Y.

Journal of Pain and Symptom Management, *34* (2007), 579–589

Although delirium is a common complication in terminally ill cancer patients and can cause considerable distress for family members, little is known about effective care strategies for terminal delirium. The primary aims of this study were (1) to clarify the distress levels of bereaved families and their perceived necessity of care and (2) to explore the association between these levels and family-reported professional care practice, family-reported patient behavior, and their interpretation of the causes of delirium. A multicenter questionnaire survey was conducted on 560 bereaved family members of cancer patients who developed delirium during their final 2 weeks in eight certified palliative care units across Japan. We obtained 402 effective responses (response rate, 72%) and, as 160 families denied delirium episodes, 242 responses were analyzed. The bereaved family members reported that they were very distressed (32%) and distressed (22%) about the experience of terminal delirium. On the other hand, 5.8% reported that considerable or much improvement was necessary in the professional care they had received, and 31% reported some improvement was necessary. More than half of the respondents had ambivalent wishes, guilt, and self-blame and worries about staying with the patient. One fourth to one third reported that they felt a burden concerning proxy judgments, burden to others, acceptance, and helplessness. High-level emotional distress and family-perceived necessity of improvement were associated with a younger family age, male gender, their experience of agitation and incoherent speech, their interpretation of the causes of delirium as pain/physical discomfort, medication effects, or mental weakness/death anxiety, and their perception that medical staff were not present with the family, not respecting the patient's subjective world, not explaining the expected course with daily changes, and not relieving family care burden. In terminal delirium, a considerable number of families

experienced high levels of emotional distress and felt some need for improvement of the specialized palliative care service. Control of agitation symptoms with careful consideration of ambivalent family wishes, providing information about the pathology of delirium, being present with the family, respecting the patient's subjective world, explaining the expected course with daily changes, and relieving family care burden can be useful care strategies.

Efficacy of Paroxetine in Treating Major Depressive Disorder in Persons with Multiple Sclerosis

Ehde, D., Kraft, G., Chwastiak, L., Sullivan, M., Gibbons, L., Bombardier, C., and Wadhwani, R.

General Hospital Psychiatry, *30* (2008), 40–48

The objective of this study was to evaluate the efficacy of paroxetine in treating major depressive disorder (MDD) in persons with multiple sclerosis (MS). In this double-blind trial, 42 participants with MS and MDD were randomly assigned to one of two parallel 12-week treatment arms: paroxetine or placebo. The participants started at an initial dose of 10 mg/day paroxetine or placebo, titrated up to 40 mg daily based on symptoms response and side effects. The primary outcome measure was the Hamilton Rating Scale for Depression (HAM-D). Secondary outcomes included fatigue, anxiety, and self-reported quality of life. Intent-to-treat analyses revealed that both groups improved from pretreatment to posttreatment. Although the treatment group improved more than the control group on most measures, few differences were statistically significant. For the primary outcome, 57.1% of participants in the treatment arm had at least a 50% reduction in HAM-D score, compared with 40% in the control group (nonsignificant). Treatment effects were greater among the participants who completed the study; 78.6% of completers had a treatment response compared with 42.1% of controls ($p = .073$). Although paroxetine may not be efficacious for all persons with MS and MDD, it appears to benefit some individuals.

QUALITY OF PALLIATIVE CARE

Quality of Life at the End of Life for Nursing Home Residents: Perceptions of Hospice and Nursing Home Staff Members

Roscoe, L. and Hyer, K.

Journal of Pain and Symptom Management, *35* (2008), 1–9

This study examined whether the perceptions of nursing staff members about the importance of quality-of-life domains and their perceived ability to influence those domains for residents at the end of life were affected by their institutional affiliation, level of training, or residents' cognitive status. Respondents were 146 Certified Nursing Assistants (CNAs) and Registered Nurses (RNs) from nursing homes and hospices. Magnitude estimation scales were used to rate the importance of and perceived ability to influence 11 quality-of-life domains for both cognitively intact and cognitively impaired residents. Overall, respondents' scores indicated a high level of importance of all quality-of-life domains and similarly positive perceptions that they could influence quality-of-life domains for hypothetical nursing home residents. Analysis of variance revealed that respondents reported lower average importance and ability to influence ratings when considering residents with cognitive impairment. Respondents affiliated with hospice agencies also reported lower average importance and ability to influence ratings on some domains, although the high ratings overall limit the clinical significance of these differences. Importance ratings were not affected by the level of education, but CNAs reported higher perceived ability to influence ratings on four domains than did RNs. Future studies should explore whether the domains measured adequately capture the end-of-life experience in nursing homes.

Family Members' Perceived Needs for Bereavement Follow-Up

Milberg, A., Olsson, E., Jakobsson, M., Olsson, M., and Friedrichsen, M.

Journal of Pain and Symptom Management, *35* (2008), 58–69

Palliative care does not end with the death of the patient, and many palliative care services offer specific follow-up services for the bereaved. The aims of this study were to quantitate perceived bereavement needs and to qualitatively describe these needs. The study design was cross-sectional and targeted family members 3 to 9 months after the patient's death. Two hundred forty-eight family members responded (response rate 66%) to a postal questionnaire with Likert-type and open-ended questions. The responses to the open-ended items were analyzed with manifest content analysis, and the quantitative part was analyzed with descriptive statistics. The analysis showed that about half of the family members expressed a need for bereavement follow-up. A majority favored a personal meeting, preferably in their own home, with the staff member who had had the most contact with the patient and the family. The family members wanted

to talk about what had happened during the palliative phase (e.g., if the patient had suffered or not) and also about their present situation, their feelings of loneliness, and the future. The follow-up procedure made the family member experience a feeling of being recognized as a person with their own needs and was also valuable with regard to the family members' feelings of guilt. The findings are discussed in relation to narrative theory, meaning-based coping, and the dual process model of coping with bereavement and designing follow-up procedures.

Suboptimal Depression Screening Following Cancer Diagnosis

Jones, L. and Doebbeling, C.

General Hospital Psychiatry, *29* (2007), 547–554

The aim of this study was to describe the proportion of veterans with cancer screened for depression as compared to the general population (GenPop) of veterans. Data were abstracted from electronic medical records (2000–2004) at a Midwestern Veterans Health Administration (VHA) facility and from the VHA External Peer Review Program (EPRP). Depression screening was assessed in the 12-month period following cancer diagnosis or in the 12-month period prior to EPRP medical record abstraction. Statistical analysis included multivariate logistic regression. Annual depression screening among veterans with cancer improved from 42% in 2000 to 81% in 2003. Screening was 9%–31% lower and 11%–50% lower among veterans with cancer at the Midwestern facility as compared to the GenPop of veterans nationwide and at the Midwestern facility, respectively. Of subjects with cancer at the Midwestern facility, 19% screened positive. Advanced disease (odds ratio [OR] = 0.51; 95% confidence interval [CI_{95}]: 0.38–0.68) and respiratory cancers (OR = 0.55; CI_{95}: 0.38–0.80) were associated with lower odds of screening receipt. Screening for depression among veterans with cancer improved 39% but is considerably lower than the proportion of GenPop veterans screened nationally and at the local facility. Targeted interventions to improve screening in patients with cancer are required based on evidence that screening translates into increased provider recognition and treatment of depression.

SYMPTOM CONTROL

Clinical and Demographic Characteristics Help Explain Variations in Pain at the End of Life

Strassels, S., Blough, D., Veenstra, D., Hazlet, T., and Sullivan, S.

Journal of Pain and Symptom Management, *25* (2008), 10–19

The natural history of pain at the end of life is not well understood. The purpose of this study was to estimate the association between clinical and demographic characteristics and pain in persons who received hospice care in the United States. Data for this study were obtained from a national provider of hospice pharmacy services and included information about the hospice and person receiving hospice care, including geographic location, primary diagnoses, pain intensity, and opioid analgesic use. The data were collected from 2000 to 2004. Worst pain intensity during the previous 24 h was assessed by the hospice nurse using a 0–10 numeric rating scale (0 = none, 10 = worst) at an average of 4.1 times per person during hospice care. Regression models were constructed to explain last and average pain scores using data from persons with at least two pain intensity scores. Hospice services were provided to 51,578 persons with at least two pain intensity scores. Of this cohort, 52% were female, 87.5% were Caucasian, and 66.4% had a primary diagnosis of cancer. The mean age at discharge or death was 73.8 years. Patient characteristics accounted for nearly one third and nearly one half of the variability in last and average pain scores, respectively. Severe pain on admission and frequency of pain reports were associated with less intense pain. Clinical and demographic characteristics contributed to identifying persons who had severe pain during their hospice admission. These data contribute to understanding pain in persons at the end of life.

Amitriptyline in the Treatment of Chemotherapy-Induced Neuropathic Symptoms

Kautio, A., Haanpää, M., Saarto, T., and Kalso, E.

Journal of Pain and Symptom Management, *35* (2008), 31–39

Neuropathy is common in patients receiving vinca alkaloids, platinum derivatives, or taxanes. This double-blind, randomized, placebo-controlled study assessed the efficacy of low-dose amitriptyline to relieve chemotherapy-induced symptoms in 44 patients (age 20–65 years) who had neuropathic symptoms (numbness, tingling, pain) with a severity of $\geq$3/10. They were treated with amitriptyline for 8 weeks (10 mg/day to start, then dose elevation of 10 mg/week up to 50 mg/day if tolerated, followed by a stable dose $\geq$4 weeks). The patients completed a diary twice weekly, noting the intensity of pain,

https://doi.org/10.1017/S1478951508000655 Published online by Cambridge University Press

numbness, and tingling, global improvement, and adverse effects. Neurological examination was performed at each visit (baseline and 4 and 8 weeks). The patients assessed both intensity and relief of pain and overall discomfort. They also completed the Neuropathic Pain Scale and validated measures of anxiety and depression, and quality of life (QoL). The results demonstrated that amitriptyline did not improve sensory neuropathic symptoms, although there was a trend toward global improvement and improved QoL in favor of the amitriptyline group. No statistical significance was reached, probably due to the small number of patients and too low dose of amitriptyline. Amitriptyline was well tolerated.

Oncology Nurses' Use of Nondrug Pain Interventions in Practice

Kwekkeboom, K., Bumpus, M., Britt Wanta, M., and Serlin, R.

Journal of Pain and Symptom Management, *35* (2008), 83–94

Cancer pain management guidelines recommend nondrug interventions as adjuvants to analgesic medications. Although physicians typically are responsible for pharmacologic pain treatments, oncology staff nurses, who spend considerable time with patients, are largely responsible for identifying and implementing nondrug pain treatments. Oncology nurses' use of nondrug interventions, however, has not been well studied. The purpose of this study was to describe oncology nurses' use of four nondrug interventions (music, guided imagery, relaxation, distraction) and to identify factors that influence their use in practice. A national sample of 724 oncology staff nurses completed a mailed survey regarding use of the nondrug interventions in practice, beliefs about the interventions, and demographic characteristics. The percentages of nurses who reported administering the strategies in practice *at least sometimes* were 54% for music, 40% for guided imagery, 82% for relaxation, and 80% for distraction. Use of each nondrug intervention was predicted by a composite score on beliefs about effectiveness of the intervention (e.g., perceived benefit; $p < .025$) and a composite score on beliefs about support for carrying out the intervention (e.g., time; $p < .025$). In addition, use of guided imagery was predicted by a composite score on beliefs about characteristics of patients who may benefit from the intervention (e.g., cognitive ability; $p < .05$). Some nurse demographic, professional preparation and practice environment characteristics also predicted use of individual nondrug interventions. Efforts to improve application of nondrug interventions should focus on innovative educational strategies, problem solving to secure support, and development and testing of new delivery methods that require less time from busy staff nurses.

Cancer Symptom Clusters: A Validation Study

Chen, M. and Lin, C.

Journal of Pain and Symptom Management, *34* (2007), 590–599

Cancer patients often experience multiple symptoms concurrently, a phenomenon called symptom clustering. Different symptom clusters have been identified by various symptom assessment tools, as well as by different research methods, but no study has reported whether these identified symptom clusters can be replicated in a new sample. The severity of nine symptoms in 321 cancer patients was assessed using a Taiwanese version of the M.D. Anderson Symptom Inventory. The fit between these data and a model with three symptom factors (sickness, gastrointestinal, and emotional) was evaluated using confirmatory factor analysis. Most fitness indices demonstrated a satisfactory fit between the data and a prespecified three-factor model except one; the root mean square error of approximation was <0.06. A modified model with one symptom (lack of appetite) double loaded in the sickness and gastrointestinal factors demonstrated a significantly better fit between the data and the model. Higher scores in each of the three symptom factors were associated with poorer functional status. Metastatic disease and receiving both chemotherapy and radiation therapy were associated with higher scores in sickness and gastrointestinal factors, but not in the emotional factor. Only hospitalization affected patients' scores in emotional factors. Our findings confirmed the prespecified structure of symptom clusters. A modified model showed a better fit. Patients' complex symptom experience may be better represented by subscale scores based on meaningful clusters rather than on an overall score across all symptoms.

EXISTENTIAL

Close Relationships and Emotional Processing Predict Decreased Mortality in Women with Breast Cancer: Preliminary Evidence

Weihs, K., Enright, T., and Simmens, S.

Psychosomatic Medicine, *70* (2008), 117–124

Our objective was to examine close relationships and emotional processing as predictors of breast cancer

https://doi.org/10.1017/S1478951508000655 Published online by Cambridge University Press

mortality. Ninety women were enrolled at 14 ± 5 months after diagnosis of Stage II/III breast cancer. The Nottingham Prognostic Index (NPI) quantified disease severity. Cox proportional hazards analyses were used to predict mortality using standardized variables. Twenty-one subjects developed recurrent disease and 16 died during an 8-year follow-up. NPI predicted increased mortality: risk ratio (RR) = 1.60 (CI = 1.05–2.41). Decreased mortality was predicted by confiding marriage (CONF): RR = 0.31 (CI = 0.10–0.99), and number of dependable, nonhousehold supports (SUPP): RR = 0.41 (CI = 0.21–0.80). A composite measure of close relationships (standardized CONF + SUPP = SUPPCONF) had a strong protective effect: RR = 0.30 (CI = 0.13–0.69). Two emotion processing variables, acceptance of emotion and emotional distress (POMS-TOT) were found to be negatively correlated ($r = -.49$). Acceptance of emotion predicted decreased mortality (RR = 0.46 (CI = 0.24–0.86)) when analyzed together with emotional distress, but not separately. There was a trend for a protective effect of emotional distress: RR = 0.37 (CI = 0.12–1.09) in the same analysis. RRs for mortality in a multivariable analysis were: SUPPCONF: RR = 0.55 (CI = 0.30–1.00); acceptance of emotion: RR = 0.48 (CI = 0.25–0.91); and emotional distress: RR = 0.40 (CI = 0.14–1.19). Two aspects of close relationships—marital confiding and dependable, nonhousehold supports—were protective against breast cancer progression. Acceptance of emotion, after controlling for emotional distress, also predicted decreased mortality. Analysis of close relationships together with emotion processing variables suggested unique protective effects against mortality, but a larger study is necessary to determine whether this is the case.

https://doi.org/10.1017/S1478951508000655 Published online by Cambridge University Press