

Impact of an Intensive Nursing Education Course on Nurses' Knowledge, Confidence, Attitudes, and Perceived Skills in the Care of Patients With Cancer

Suzanne K. Steginga, RN, PhD, Jeffrey Dunn, PhD,
Anne Marie Dewar, RN, Alexandra McCarthy, RN, BN, MN, MRCN,
Patsy Yates, RN, PhD, and Geoff Beadle, MBBS, FRACP, CR

Purpose/Objectives: To evaluate the impact of a cancer nursing education course on RNs.

Design: Quasi-experimental, longitudinal, pretest/post-test design, with a follow-up assessment six weeks after the completion of the nursing education course.

Setting: Urban, nongovernment, cancer control agency in Australia.

Sample: 53 RNs, of whom 93% were female, with a mean age of 44.6 years and a mean of 16.8 years of experience in nursing; 86% of the nurses resided and worked in regional areas outside of the state capital.

Methods: Scales included the Intervention With Psychosocial Needs: Perceived Importance and Skill Level Scale, Palliative Care Quiz for Nurses, Breast Cancer Knowledge, Preparedness for Cancer Nursing, and Satisfaction With Learning. Data were analyzed using multiple analysis of variance and paired t tests.

Main Research Variables: Cancer nursing-related knowledge, preparedness for cancer nursing, and attitudes toward and perceived skills in the psychosocial care of patients with cancer and their families.

Findings: Compared to nurses in the control group, nurses who attended the nursing education course improved in their cancer nursing-related knowledge, preparedness for cancer nursing, and attitudes toward and perceived skills in the psychosocial care of patients with cancer and their families. Improvements were evident at course completion and were maintained at the six-week follow-up assessment.

Conclusions: The nursing education course was effective in improving nurses' scores on all outcome variables.

Implications for Nursing: Continuing nursing education courses that use intensive mode timetabling, small group learning, and a mix of teaching methods, including didactic and interactive approaches and clinical placements, are effective and have the potential to improve nursing practice in oncology.

Key Points . . .

- ▶ Nurses play a key role in the provision of psychosocial support to patients and families.
- ▶ Intensive nursing education is effective in increasing nurses' knowledge, preparedness for cancer nursing, and attitudes toward and perceived skills in psychosocial care.
- ▶ Intensive mode timetabling educational programs with small group learning are responsive to the learning needs of regional and rural nurses working in cancer care.

their families need heightened psychosocial support from their healthcare team during the cancer experience. Patients often report inadequate support. For example, breast cancer survivors have reported that their needs for psychosocial support and for help with coping were not being met adequately (Thewes, Butow, Girgis, & Pendlebury, 2004). Additionally, studies of men with prostate cancer, patients undergoing chemotherapy and radiation therapy, and heterogeneous cancer populations have reported unmet needs for psychological and informational support (Girgis, Boyes, Sanson-Fisher, & Burrows, 2000; Newell, Sanson-Fisher, Girgis, & Ackland, 1999; Sanson-Fisher et al., 2000; Steginga et al., 2001). Given such findings, interventions to enable healthcare professionals to better meet patients' psychosocial needs are a priority.

Suzanne K. Steginga, RN, PhD, is director of community services at the Queensland Cancer Fund; Jeffrey Dunn, PhD, is executive director of the Queensland Cancer Fund and an associate professor in the School of Population Health and adjunct professor in the School of Social Science at the University of Queensland; Anne Marie Dewar, RN, is cancer support coordinator of the Queensland Cancer Fund; Alexandra McCarthy, RN, BN, MN, MRCN, is a lecturer in the School of Nursing at Griffith University; Patsy Yates, RN, PhD, is an associate professor of nursing in the School of Nursing at the Queensland University of Technology; and Geoff Beadle, MBBS, FRACP, CR, is a medical oncologist at the Queensland Institute of Medical Research, all in Brisbane, Queensland, Australia. (Submitted September 2003. Accepted for publication June 15, 2004.)

Digital Object Identifier: 10.1188/05.ONF.375-381

People with cancer and their families experience a range of distressing sequelae at diagnosis and through the experience of cancer treatment, recovery and rehabilitation, or recurrence. In addition to the physical effects that result from cancer treatments, patients may experience psychological symptoms of depression and anxiety, fears about cancer recurrence and uncertainty about the future, changes in self-image and interpersonal relationships, and feelings of social isolation (Andersen, 1993; Dunn & Steginga, 2000; Steginga, Occhipinti, Wilson, & Dunn, 1998). Consequently, patients and

Nurses play a central role as caregivers and coordinators of care for patients with cancer, particularly in rural areas where nurses may be the only healthcare professionals to whom patients with cancer and their families have access (McCarthy et al., 2003). Furthermore, the potential for nurses to assist patients and families in coping effectively with the challenges of cancer is relevant to generalist and defined nurse specialist roles, such as the breast care and rural nurse practitioner model (Curtiss, 1993; Watson, Denton, Baum, & Greer, 1988; White, Given, & Devoss, 1996). In this regard, continuing nursing education programs play an essential role in helping specialist and generalist nurses to work effectively with patients and their families (Nelson-Marten, Skiba, Howell, & Krebs, 1997; Williams, 1995). Previous studies have demonstrated improvements in nurses' cancer-related knowledge as a result of educational interventions, particularly in pain management (Lasch, Wilkes, Lee, & Blanchard, 2000; Loftus & Thompson, 2002). Others have suggested that nurses' attitudes toward cancer are an important target for intervention (Howell, Nelson-Marten, Krebs, Kaszyk, & Wold, 1998). For example, James, Jones, Rodin, and Catton (2001) found that front-line healthcare workers, such as nurses, were less oriented to psychosocial care compared with other healthcare professionals, such as social workers. The researchers suggested educational interventions for nurses that incorporate specific information about patients' psychosocial needs and strategies to overcome barriers to the delivery of such care in daily practice. Thus, assessing the extent to which educational programs can positively influence nurses' awareness of the psychosocial needs of patients with cancer and their families and their preparedness to engage in this aspect of cancer nursing, as well as their cancer-specific knowledge, is important.

However, many barriers prevent nurses from attending such educational programs, particularly in regional and rural areas (Curtiss, 1993). Barriers include distance from tertiary educational institutions, cost, and personal time commitments (Pelletier, Donoghue, Duffield, & Adams, 1998). In addition, because of the demands of rural practice and the variety of contexts in which rural nurses work, they often have different educational needs from their metropolitan colleagues with regard to cancer care (Hegney, Rogers-Clark, Gorman, Baker, & McCarthy, 2001; McCarthy et al., 2003). For example, previous research has demonstrated that Australian nurses, rural nurses in particular, prefer face-to-face, hands-on education delivered by clinical educators because they find it more relevant to their clinical needs and more easily adaptable to their different contexts of practice (Hegney et al.; McCarthy et al.). This approach helps nurses establish peer support networks with clinical experts for the ongoing maintenance of clinical skills.

One method of nursing education that has been developed in Australia by the Queensland Cancer Fund (QCF) to meet the needs of regional and rural RNs is an intensive, five-day, residential education course. The courses are held centrally in the Queensland state capital. The learning groups are small, typically involving 14 nurses from across the state, with participants purposefully chosen from representative regional areas. Acceptance into the course is competitive and based on the quality of the nurse's written application as well as the potential for the nurse to use knowledge and skills gained from the course in his or her current work role. Courses are offered annually in four topic areas: chemotherapy, breast

cancer, palliative care, and introduction to cancer nursing. Teaching methods include clinical visits, as well as interactive and didactic learning sessions with clinical experts. Interactive components include goal setting and identification of individual and group learning priorities, group discussion and problem solving of hypothetical clinical scenarios in different contexts of practice, and reflective practice sessions that emphasize the value of lifelong learning and ways to achieve it despite the professional isolation that may characterize regional and rural cancer nursing practice.

In a quality-assurance evaluation of the courses, nurses reported high levels of satisfaction with the programs, improvements in their confidence in cancer nursing in their individual contexts of practice, and increased activity in patient education and referral to community support services (Dewar et al., 2003). Nurses also described improved knowledge about cancer, its treatment, community resources, and the development of professional networks as helpful aspects of the course. However, quality-assurance evaluations to date have not prospectively assessed changes in participants' knowledge base or in perceived competence in delivering psychosocial care.

Accordingly, the current research used a longitudinal, controlled design to evaluate the impact of the QCF nursing education courses on nurses' attitudes toward and perceived skills in the psychosocial care of patients with cancer and their families, cancer nursing-related knowledge, and preparedness for cancer nursing. In addition, nurses' satisfaction with the courses and ways they had used learning from the courses in their nursing practice were assessed.

Methods

Design and Procedure

The research design was a quasiexperimental, longitudinal, pretest/post-test design, with a follow-up assessment six weeks after completion of the nursing education course. The study had two arms comparing a control and intervention group. The aim of the study was to assess the impact of the cancer nursing education course on nurses' (a) knowledge about cancer and its treatment, (b) attitudes toward and perceived skills in the psychosocial care of patients with cancer and their families, and (c) preparedness for cancer nursing.

The researchers had four education courses for RNs from which to recruit participants. Participants for the intervention group were recruited from nurses attending the Palliative Care Course and the Breast Cancer Nursing Education Course. The two education courses include a total of 31 hours of educational content, of which about 60% of each curriculum covers disease and treatment, 30% addresses psychosocial care, and 10% addresses professional development and support. Participants for the control group were recruited from nurses who were on a waiting list to attend the Chemotherapy Awareness Nursing Education Course and the Introductory Cancer Nursing Course. Thus, the researchers assessed nurses in the control group in the time period preceding their attendance at the nursing education course.

For the intervention group, assessments were made at three time points: time 1: pretest, preceding course attendance; time 2: post-test at the end of the course (day 5 of the course); and time 3: follow-up, six weeks after completion of the course. The control group nurses were assessed twice,

with the first assessment corresponding with the intervention group pretest and the second assessment corresponding with the intervention group's follow-up assessment. Thus, the third assessment for the intervention group corresponded in time with the second assessment for the control group (see Table 1). Unlike the approach with the intervention group, the researchers did not assess nurses in the control group one week after their initial test. This was not feasible because the survey was mailed. Also, they did not expect that the nurses' scores would change in such a short time frame when no educational intervention had been provided. Finally, the longer-term follow-up assessment was deemed to be more critical for comparison.

For the intervention group, all 31 nurses who attend the two nursing education courses agreed to participate in the study, with 30 nurses completing the second assessment and 24 completing the third and final assessment (80%). For the control group, all 22 nurses who were waiting to attend a course agreed to participate in the study and completed the first assessment, with 19 of them completing the final assessment (86%).

Instruments

Assessment materials included previously developed self-report measures and questions derived specifically for the study based on previous pilot work (Dewar et al., 2003). Outcome measures were administered at all assessments. Questions to assess perceptions of course effectiveness were administered only at the post-test and follow-up assessments for the intervention group.

Attitudes toward and perceived skills in the psychosocial care of patients with cancer and their families: A revised version of the Intervention With Psychosocial Needs: Perceived Importance and Skill Level Scale (Frost, Brueggen, & Mangan, 1997) was used to measure the effect of the education course on nurses' attitudes toward and perceived skills in psychosocial intervention. In all, 17 items were used to assess nurses' perceptions of the importance of psychosocial skills and their own level of skill in each area. A shortened version was used to reduce the study burden for participants. Items selected assessed assisting patients and families in coping with the difficult emotions associated with a cancer diagnosis and effects of treatment, as well as informational support and referral to community services. Examples of items include "Listen to concerns expressed by patients" and "Assisting family members with accepting the

diagnosis of cancer." For each item, participants were asked to indicate how important the item was for nursing practice on a scale of 1 (not at all important) to 5 (very important) and also their own level of perceived skill on a scale of 1 (lacking skill) to 5 (very skillful). In the present study, Cronbach's alpha at time 1 for perceived importance was $\alpha = 0.95$ and for skill level was $\alpha = 0.91$. These values were consistent with those reported by Frost et al. for the longer original version.

Knowledge about cancer and cancer nursing: For knowledge about cancer, questionnaires specific to course material were used. For the palliative care nursing education program and for the control group, the Palliative Care Quiz for Nurses (Proctor, Grealish, Coates, & Sears, 2000; Ross, McDonald, & McGuiness, 1996) was used with minor revision. An example of items is "Individuals who are taking opioids should also follow a bowel regimen." The revised measure had 21 knowledge statements for which nurses answered true, false, or don't know. For the breast cancer nursing education program, a similar 21-item measure specific to breast cancer nursing was developed based on specific content from the course and items from a previously developed measure (Maurer, 1997). An example of items is "Women who have a lumpectomy experience less psychological distress compared to women who have a mastectomy." To assess the face validity of the knowledge measures, they were reviewed by four RNs who were involved in the delivery of the courses, and both scales were judged as matching the course content.

Preparedness for cancer nursing: A novel question was developed specifically for the current study to assess preparedness for cancer nursing. Nurses were asked to indicate how well prepared they believed they were for their work in caring for people with cancer on a 10-point, Likert-type scale of 1 (not at all prepared) to 10 (very well prepared).

Participants' perceptions of course effectiveness: Perceptions of course effectiveness were examined only for nurses in the intervention group at the second and third assessments. Seven questions were directed toward nurses' perceptions of how effective the nursing education course had been in improving their knowledge about cancer and cancer support services, their confidence in their ability to work effectively with patients with cancer, and their ability to network effectively with other nurses working in cancer care. The questions used a 5-point, Likert-type scale, where a score of 1 indicated no improvement and a score of 5 indicated great improvement. Reliability for the total scale was good ($\alpha = 0.88$). Also, two open-ended questions were used to ask nurses to describe ways in which attending the nursing course had affected their nursing practice and any barriers that they had experienced in implementing new knowledge.

Nurses also were asked to indicate how important being able to use the nursing education course toward credit for university study was. This was measured with a scale of 1 (not at all important) to 5 (very important). In addition, nurses were asked to indicate whether they intended to use their course attendance in this way in the future using a yes, no, or unsure answer format.

Results

Sample

Demographic information about participants in the intervention and control groups is described in Table 2. The mean

Table 1. Assessment and Intervention Protocol

Assessment	Intervention Group	Control Group
Pretest	Outcome measures Five-day educational course	Outcome measures
Post-test	Outcome measures Perceptions of course Effectiveness	
Six-week follow-up	Outcome measures Perceptions of course Effectiveness	Outcome measures

Note. Scores on the outcome measures were compared between the intervention and control groups at the pretest and six-week follow-up.

Table 2. Background Characteristics of Participants

Variable	Control Group X̄ (SD)	Intervention Group X̄ (SD)
Age (years)	42.0 (8.6)	46.5 (8.0)
Experience in nursing (years)	14.9 (9.7)	18.2 (10.4)
	%	%
Nursing qualifications		
Hospital trained	59	74
Bachelor degree in nursing	50	58
Postregistration certificate	27	32
Postgraduate oncology qualification	5	6

N = 53

Note. Because some nurses had multiple qualifications, percentages may not total 100.

age for the total group of participants was similar to the average age of employed RNs in Australia (44.6 years versus 40.5 years, respectively) (Australian Institute of Health and Welfare, 2003). Reflecting the focus of the courses on providing educational opportunities for more geographically remote nurses, 86% of all participants resided and worked in regional or rural areas outside of the state capital.

Comparative Analyses

In a preliminary step, baseline comparisons using independent sample t tests and chi-square analyses found no significant differences between nurses in the control and intervention groups for age, years of nursing experience and nursing qualifications, or the outcome variables of cancer knowledge, preparedness for working in cancer nursing, perceived importance of psychosocial interventions, and perceived psychosocial skills. Accordingly, to examine the effect of the nursing education course, a series of analyses of variance were conducted on the primary outcome variables with the final follow-up assessment as the dependent variable and the pretest score as the covariate respectively in each analysis. Analyses were run as 2 (group: control versus intervention) X 2 (time pre versus follow-up) designs. Initially, a multiple analysis of variance produced a significant group by time interaction (multivariate $F(4, 38) = 8.626$, Pillai's trace = 0.476, $p < 0.0005$). Follow-up univariate analyses showed that the interaction was significant for all outcome variables (All $F_s(1, 41)$, $p < 0.0005$; cancer knowledge = 18.069; preparedness for working in cancer nursing = 19.127; perceived psychosocial skills = 15.143; perceived importance of psychosocial interventions $F(1, 38) = 4.290$, $p < 0.045$). Next, the simple main effect of time within groups was examined for each outcome variable. In each case, a significant effect of time was found for the intervention group but not for the control group (see Table 3).

Finally, a series of paired t tests was conducted to assess the patterns of change in scores for outcome variables at the three assessment points for nurses in the intervention group. Nurses in the intervention group had significantly improved scores for all outcome variables at the time 2 assessment compared to their baselines scores (cancer

knowledge $t = 8.172$, $p < 0.0005$; preparedness for working in cancer nursing $t = 6.138$, $p < 0.0005$; perceived psychosocial skills $t = 6.936$, $p < 0.0005$; perceived importance of psychosocial interventions $t = 3.367$, $p < 0.005$). The nurses' scores at time 3 did not differ significantly from their time 2 scores, indicating that the improvements in scores at the second assessment were maintained at the final assessment. Mean scores for all outcome variables are presented in Table 4.

Self-Reports of Course Effectiveness

Nurses in the intervention group rated the nursing education course as highly effective in improving their knowledge about cancer and cancer support services, their confidence in their ability to work effectively with patients with cancer, and their ability to network effectively with other nurses working in cancer care. Mean scores for the time 2 assessments are presented in Table 5. Effectiveness scores at the time 3 assessment did not differ significantly from the time 2 values. At the time 2 assessment, 10 nurses indicated that they intended to use their attendance at the nursing education program as credit toward a university-based course, 12 nurses indicated that they did not intend to do this, and 9 nurses indicated that they were unsure. In all, 64% of nurses in the intervention group indicated that it was somewhat to not important that the nursing education program provide credit toward a university-based course, with the remaining 36% indicating that it was very important.

Implementing New Learning

Qualitative data from the open-ended question about the effect of the course on the nurses' practice and barriers to implementing new knowledge were collated and grouped into themes by two of the nurse researchers on the project. Nurses described feeling more confident and willing to discuss patient care in a holistic way with other nurses and physicians after attending the course. In addition, they reported being more willing to discuss psychosocial concerns with patients and family members. Some nurses reported

Table 3. Effect of Time Within Groups for Outcome Variables

Outcome Variable	F	df	Mean Squares	p
Cancer knowledge				
Intervention group	41.79	1,41	285.19	< 0.001
Control group	0.00	1,41	0.03	0.951
Perceived psychosocial importance				
Intervention group	5.53	1,41	111.02	0.024
Control group	0.16	1,41	3.18	0.693
Perceived psychosocial skills				
Intervention group	39.18	1,41	1,552.69	< 0.001
Control group	0.13	1,41	5.16	0.720
Preparedness for cancer nursing				
Intervention group	39.86	1,41	75.0	< 0.001
Control group	0.06	1,41	0.11	0.814

Table 4. Mean Scores (SDs) at Each Assessment

Outcome Variables	Pretest	Post-Test	Follow-Up
Cancer knowledge			
Intervention group	15.25 (3.61)	19.79 (2.65)	20.13 (2.64)
Control group	17.32 (4.27)	–	17.37 (3.96)
Perceived importance of psychosocial intervention			
Intervention group	78.83 (7.92)	83.13 (3.23)	81.88 (4.32)
Control group	78.31 (8.10)	–	77.74 (8.31)
Perceived psychosocial skills			
Intervention group	55.08 (8.26)	76.80 (7.08)	66.46 (7.67)
Control group	57.63 (7.44)	–	58.39 (7.44)
Preparedness for cancer nursing			
Intervention group	5.87 (1.78)	7.66 (0.97)	8.06 (0.89)
Control group	5.61 (2.12)	–	5.79 (1.96)

Note. Higher scores indicate improved scores. Means presented are for nurses who completed all assessments: for control group (n = 19) and for intervention group (n = 24).

that their actual communication with physicians had improved since attending the course, and others already had provided in-service education to other staff members to share their new knowledge. Improved professional networks with nurses from other, larger treatment centers also were described as a benefit of program attendance. Finally, some nurses described incorporating evidence-based practice into their nursing care as a result of attending the course. The nurses described two barriers to implementing their new knowledge into their nursing care: not having sufficient time in the workplace and experiencing resistance from some physicians, particularly in relation to the management of patients' pain relief.

Table 5. Mean Scores (SDs) for Nurses' Self-Report of Course Effectiveness After Attending the Nursing Course

Item	\bar{X} (SD)
Did you feel that your knowledge about cancer treatments was increased?	4.23 (0.74)
Did you feel that your knowledge about community and cancer care services increased?	4.17 (0.95)
Did you feel more confident in caring for people with cancer?	4.43 (0.77)
How helpful was the program in improving your ability to care effectively for patients with cancer?	4.30 (0.79)
Do you feel the program will help you to network with nurses working in cancer care?	4.63 (0.56)
How helpful was the program for you as a nurse working with people with cancer?	4.83 (0.34)
How well did this program meet your educational and learning needs?	4.73 (0.52)

N = 30

Note. Scales for all items range from 1 (low effectiveness) to 5 (high effectiveness).

Discussion

Compared to nurses in the control group, nurses who attended the QCF nursing education courses improved significantly in their cancer nursing-related knowledge, preparedness for cancer nursing, and attitudes toward and perceived skills in the psychosocial care of patients with cancer and their families. Furthermore, the improvements were evident at course completion and were maintained at the six-week follow-up assessment. In summary, the nursing education courses were effective in positively influencing all outcome variables. By extending assessment beyond the more frequently assessed variable of cancer-related knowledge, the study has extended understanding of the potential impact of educational interventions on nurses' practices regarding patients' psychosocial care.

Thus, the educational format used in the course can be recommended. Key attributes of the QCF program include small group learning, a mixture of learning techniques from interactive to didactic, and selected clinical placements. In this regard, Williams (1995) reported that nurses appreciate small group learning that allows for the discussion of concerns relevant to their own work situations, and the current study's findings support this. Similarly, Dalton et al. (1996) suggested that single classes are not effective in increasing knowledge. Consistent with this view, a further aspect of the QCF course is using intensive mode timetabling, with the course delivered over five sequential days. Intensive mode timetabling has several advantages. For example, it is responsive to the time constraints that shift work presents for attendance at educational programs (Pelletier et al., 1998). In this approach, nurses are immersed in a learning environment where outside distractions are minimized and attendance at all course components is ensured. In addition, at commencement of the course, nurses identify personal learning goals, which are followed up by the nurse educator, both individually and for the learning group, on subsequent days. This flexibility enhances learning opportunities during the course and increases its relevance to the nurses' different learning needs. Finally, the use of a central location in the state capital to deliver the course allows nurses to develop professional networks with specialist nurses in tertiary treatment centers, as well as peer-learning relationships with other nurses from regional or rural settings.

An interesting finding was that only one-third of the nurses indicated that it was important that the course be linked to possibilities for further tertiary nursing education, such as master's-level courses, a pattern that is consistent with previous research (Dewar et al., 2003). In this regard, a current issue in nursing education in Australia is the relatively recent growth and diversity of cancer nursing education programs offered in a range of settings, including universities, colleges of nursing, nongovernment organizations, and the healthcare sector (Yates, 2001). Inter-relation among these programs is important to prevent duplication and to allow nurses to obtain the maximum professional benefit from their studies. Although the QCF courses can be used as credit toward university studies, the extent to which nurses seek this linkage appears to be limited. Future development of these courses will look at ways to maximize interface with other tertiary education programs.

Nurses' personal reports of how their nursing practice had changed since attending the education course included taking

a more holistic approach to patient care and communicating more openly with other staff with regard to patient care management. Nurses also reported finding that some physicians were resistant to changing current practices, and this finding has been reported previously (Dalton et al., 1995, 1996). In this sense, nurses can become agents of change and find themselves better equipped to act as patient advocates. Finally, some nurses believed that time constraints impeded their ability to change and improve their current work practices. Again, this finding is consistent with earlier studies, in which nurses reported inadequate time as a major barrier to implementing new knowledge and skills (Dalton et al., 1995; MacDougall, Mathew, Broadhurst, & Chamberlain, 2001). In this regard, nurses do not work in a vacuum, but rather operate in a complex system where multiple factors influence their practice. Nursing education is only part of assisting nurses to fulfill their work roles effectively, as organizational constraints also are highly influential.

A limitation of the present study is that actual behavioral skills were not assessed. Thus, the researchers cannot assess whether the increases in self-efficacy for psychosocial skills reported by nurses in the intervention group were accompanied by actual increases in skill level. Future studies could extend this research by assessing skills in simulated patient scenarios using observational techniques such as recording interactions on videotape and audiotape (Argent, Faulkner, Jones, & O'Keeffe, 1994; Wilkinson, Bailey, Aldridge, & Roberts, 1999).

A further benefit of the use of this type of assessment would be to enhance the learning of nurses through the provision of direct observational feedback (Razavi et al., 2000).

Ascertaining whether the improvements in nurses' cancer nursing-related knowledge and their attitudes toward and perceived skills in the psychosocial care of patients with cancer and their families were evident at longer-term follow-up is important. Dalton et al. (1996) found that after a pain management educational program, nurses' practice activities changed most markedly 6 and 12 months after the educational intervention. The extension of research to identify which educational methods produce improvement and maintenance of knowledge and skills in the longer term is a priority for nursing education.

Nurses are ideally placed to facilitate holistic care that encompasses physical and psychosocial needs of patients with cancer. This role may be particularly important in regional and rural areas where healthcare resources are more scarce. However, to fulfill this role, nurses require well-targeted and effective educational interventions. The present study describes an approach to fulfilling this need that has been found to be effective and may provide a model for application in other settings.

Author Contact: Suzanne K. Steginga, RN, PhD, can be reached at ssteginga@qldcancer.com.au, with copy to editor at rose_mary@earthlink.net.

References

- Andersen, B.L. (1993). Predicting sexual and psychological morbidity and improving the quality of life for women with gynaecological cancer. *Cancer, 71*, 1678–1690.
- Argent, J., Faulkner, A., Jones, A., & O'Keeffe, C. (1994). Communication skills in palliative care: Development and modification of a rating scale. *Medical Education, 28*, 559–565.
- Australian Institute of Health and Welfare. (2003). *Nursing labour force 2001* [National Health Labour Force Series No. 26]. Canberra, Australia: Author.
- Curtiss, C.P. (1993). Trends and issues for cancer care in rural communities. *Nursing Clinics of North America, 28*, 241–251.
- Dalton, J.A., Bernard, S., Blau, W., Johnston, C., Mann, J.D., Germino, B., et al. (1995). Managing cancer pain: Content and scope of an educational program for nurses who work in predominantly rural areas. *Journal of Pain and Symptom Management, 10*, 214–223.
- Dalton, J.A., Blau, W., Carlson, J., Mann, J.D., Bernard, S., Toomey, T., et al. (1996). Changing the relationship among nurses' knowledge, self-reported behavior, and documented behavior in pain management: Does education make a difference? *Journal of Pain and Symptom Management, 12*, 308–319.
- Dewar, A., Steginga, S.K., Dunn, J., McCarthy, A., Yates, P., & Beadle, G. (2003). Delivering cancer nursing education to regional, rural and remote area nurses in Queensland. *Cancer Forum, 27*, 111–114.
- Dunn, J., & Steginga, S.K. (2000). Young women's experience of breast cancer: Defining young and identifying concerns. *Psycho-Oncology, 9*, 137–146.
- Frost, M.H., Brueggen, C., & Mangan, M. (1997). Intervening with the psychosocial needs of patients and families: Perceived importance and skill level. *Cancer Nursing, 20*, 350–358.
- Girgis, A., Boyes, A., Sanson-Fisher, R.W., & Burrows, S. (2000). Perceived needs of women diagnosed with breast cancer: Rural versus urban location. *Australian and New Zealand Journal of Public Health, 24*, 166–173.
- Hegney, D., Rogers-Clark, C., Gorman, D., Baker, S., & McCarthy, A. (2001). *Factors influencing the recruitment and retention of rural and remote area nurses in Queensland, 2001*. Toowoomba, Australia: Department of Nursing, University of Southern Queensland.
- Howell, S.L., Nelson-Marten, P., Krebs, L.U., Kaszyk, L., & Wold, R. (1998). Promoting nurses' positive attitudes toward cancer prevention/screening. *Journal of Cancer Education, 13*, 76–84.
- James, J., Jones, J.M., Rodin, G., & Catton, P. (2001). Can assessment of psychosocial orientation assist continuing education program development in psychosocial oncology? *Journal of Cancer Education, 16*, 24–28.
- Lasch, K.E., Wilkes, G., Lee, J., & Blanchard, R. (2000). Is hands-on experience more effective than didactic workshops in postgraduate cancer pain education? *Journal of Cancer Education, 15*, 218–222.
- Loftus, L.A., & Thompson, E. (2002). An evaluation of a palliative care course for generic nurses. *International Journal of Palliative Nursing, 8*, 354–360.
- MacDougall, G., Mathew, A., Broadhurst, V., & Chamberlain, S. (2001). An evaluation of an interprofessional palliative care education program. *International Journal of Palliative Nursing, 7*, 24–29.
- Maurer, F. (1997). A peer education model for teaching breast self-examination to undergraduate college women. *Cancer Nursing, 20*, 49–61.
- McCarthy, A., Hegney, D., Brown, L., Gilbar, P., Brodribb, R., & Swales, J. (2003). *The chemotherapy education needs of nurses working in rural and remote areas of Queensland*. Toowoomba, Queensland, Australia: Department of Nursing, University of Southern Queensland.
- Nelson-Marten, P., Skiba, D., Howell, S., & Krebs, L.U. (1997). An innovative curriculum plan for advanced practice in oncology nursing. *Journal of Cancer Education, 12*, 89–94.
- Newell, S., Sanson-Fisher, R.W., Girgis, A., & Ackland, S. (1999). The physical and psycho-social experiences of patients attending an outpatient medical oncology department: A cross-sectional study. *European Journal of Cancer Care, 8*, 73–82.
- Pelletier, D., Donoghue, J., Duffield, C., & Adams, A. (1998). The impact of graduate education on the career paths of nurses. *Australian Journal of Advanced Nursing, 15*(3), 23–30.
- Proctor, M., Grealish, L., Coates, M., & Sears, P. (2000). Nurses' knowledge

- of palliative care in the Australian Capital Territory. *International Journal of Palliative Nursing*, 6, 421–428.
- Razavi, D., Delvaux, N., Marchal, S., De Cock, M., Farvacques, C., & Slachmuylder, J.L. (2000). Testing health care professionals' communication skills: The usefulness of highly emotional standardized role-playing sessions with simulators. *Psycho-Oncology*, 9, 293–302.
- Ross, M.M., McDonald, B., & McGuiness, J. (1996). The palliative care quiz for nursing (PCQN): The development of an instrument to measure nurses' knowledge of palliative care. *Journal of Advanced Nursing*, 23, 126–137.
- Sanson-Fisher, R., Girgis, A., Boyes, A., Bonevski, B., Burton, L., & Cook, P. (2000). The unmet supportive care needs of patients with cancer. *Cancer*, 88, 226–237.
- Steginga, S., Occhipinti, S., Wilson, K., & Dunn, J. (1998). Domains of distress: The experience of breast cancer in Australia. *Oncology Nursing Forum*, 25, 1063–1070.
- Steginga, S.K., Occhipinti, S., Dunn, J., Gardiner, R.A., Heathcote, P., & Yaxley, J. (2001). The supportive care needs of men with prostate cancer (2000). *Psycho-Oncology*, 10, 66–75.
- Thewes, B., Butow, P., Girgis, A., & Pendlebury, P. (2004). The assessment of unmet needs amongst breast cancer survivors. *Journal of Psychosocial Oncology*, 22(1), 51–73.
- Watson, M., Denton, S., Baum, M., & Greer, S. (1988). Counselling breast cancer patients: A specialist nurse service. *Counselling Psychology Quarterly*, 1(1), 25–34.
- White, N.J., Given, B.A., & Devoss, D.N. (1996). The advanced practice nurse: Meeting the information needs of the rural cancer patient. *Journal of Cancer Education*, 11, 203–209.
- Wilkinson, S., Bailey, K., Aldridge, J., & Roberts, A. (1999). A longitudinal evaluation of a communication skills programme. *Palliative Medicine*, 13, 341–348.
- Williams, S.A. (1995). Using Oncology Nursing Society Cancer Chemotherapy Guidelines as a basis for continuing education in rural hospitals. *Oncology Nursing Forum*, 22, 689–694.
- Yates, P. (2001, October). Developing a cancer nursing workforce for the future: Locating the role for nursing education. *Australian Journal of Cancer Nursing*, 2, 4–8. 