Nursing Student Attitudes Toward Oncology Nursing: An Evidence-Based Literature Review

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Oncology education can impact nursing students’ attitudes toward oncology and their interest in oncology nursing. To explore that relationship, a literature search was conducted using the CINAHL®, Cochrane Library, ERIC®, PubMed, and Scopus® databases. Nineteen pertinent studies were incorporated into the review, and recommendations were graded by strength of evidence schemas. The reviewed literature indicated undergraduate oncology education may be effective in encouraging nursing students to consider oncology as a practice area. Negative attitudes toward oncology such as fear and pessimism often are seen in students and practicing nurses. Educational interventions for students and nurses are effective in increasing knowledge and skills that are instrumental in fostering confidence and positive attitudes toward oncology nursing.

All nursing students should have organized, mandatory clinical and didactic oncology nursing education experiences. Additional research is needed to support the effectiveness of educational strategies in influencing students’ intent to practice oncology nursing. Innovative strategies including nontraditional clinical experiences, internships, fellowships, high-fidelity simulation, and postgraduate residencies are needed to provide adequate educational opportunities for nursing students to foster a strong and proficient oncology nursing workforce.

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Cancer remains the second leading cause of mortality in the United States (Centers for Disease Control and Prevention, 2012) and the leading cause of death worldwide (World Health Organization, 2012). Cancer predominantly affects older adults, who are increasing in numbers; the percentage of Americans aged 65 years and older will double by 2060, representing more than 20% of the population (U.S. Census Bureau, 2012). Those trends have led to an increase in the need for nurses, including oncology nurses. Buerhaus, Auerbach, and Staiger (2009) warned that despite a temporary lessening of the nursing shortage, an aging nursing workforce complicated by nurse education program constraints will contribute to a prolonged shortage in the future. According to the Oncology Nursing Society (ONS), 2010, “The shrinking nurse workforce ultimately will result in fewer nurses who choose oncology nursing as a career. . . . The quality of cancer care may be negatively impacted as a result” (para. 4).

Nurses encounter patients who are at risk for, undergoing treatment for, or survivors of cancer in almost every healthcare setting. In a survey of 73 medical-surgical nurses, 97% reported caring for patients with cancer on their units (McCaughan & Parahoo, 2000a). High-quality nursing care within interdisciplinary and interagency contexts is necessary to promote good outcomes for all patients, particularly patients with cancer.

Oncology nursing education has developed since the 1950s, yet varies widely from elective courses to cancer site-specific content scattered through multiple nononcology courses. In Standards of Oncology Nursing Education: Generalist and Advanced Practice Levels, O’Regan Coleman, Scarpa, and Smith (2003) recommended standardized oncology pedagogy should be included in nursing curricula. However, oncology content is not explicitly required by nursing program accrediting agencies (American Association of Colleges of Nursing, 2008; Commission on Collegiate Nursing Education, 2009;
National League for Nursing Accreditation Council, 2013). Opportunities to experience and learn about oncology nursing frequently are limited because of the focus on general rather than specialized content in undergraduate nursing programs. Oncology education is needed for students to experience the real rather than perceived complexities of oncology nursing (Mooney, 2000). Additional challenges in oncology education include the wide scope of oncology content, few oncology-prepared faculty, and limited clinical sites (Nibert, 2000).

The purpose of this article is to describe how oncology education impacts nursing students’ attitudes toward oncology and their interest in oncology nursing, and to determine best practices to encourage nursing students to consider oncology nursing as a potential practice or specialty area. Assessment of attitudes toward oncology is vital, as students may bring preconceived beliefs about or personal encounters with cancer to their nursing education experiences. Understanding those beliefs is instrumental in addressing biases and comprehending nurses’ behaviors toward cancer and patients with cancer (Ifanti, Iconomou, Viha, & Kalofonos, 2009; Miller, Kearney, & Smith, 2000). The term cancer attitudes is broad; based on its use in the literature, the term indicates negative perceptions of cancer such as fear, pessimism about effectiveness of treatment, and misconceptions regarding cancer morbidity and mortality rates (Box & Anderson, 1997; Miller et al., 2000).

Literature Review

A literature search was conducted using CINAHL®, Cochrane Library, ERIC®, PubMed, and Scopus® databases. Medical subject heading terms used in various combinations were cancer and oncology; oncologic nursing; education, nursing, and baccalaureate; student attitudes; and intention. Search terms were similarly defined across databases. Inclusion criteria were oncology education or practice, baccalaureate nursing students, publication dates from 1990–2012 because of the paucity of recent articles, and nursing research. Exclusion criteria were medical education and publication prior to 1990. The decision to base the literature review on baccalaureate nursing students was founded on the American Association of Colleges of Nursing’s (2008) statement on the need for baccalaureate preparation as the minimum standard for entry into practice. Articles on specific course design were excluded unless they were pertinent to the discussion on oncology education, student attitudes, and intention. Additional articles were found through a manual search by reviewing the reference lists of relevant articles. Searching ceased when repetition of articles was reached in the literature. Nineteen pertinent studies were identified and reviewed, and each article was graded according to evidence levels of the American Association of Critical-Care Nurses (AACN) (Armola et al., 2009) (see Table 1). Those evidence levels allow grading of qualitative research, professional standards, and expert opinion, which may not be included in other evidence grading systems.

Data Synthesis

Three common themes related to oncology nursing education emerged in the relevant literature. First, oncology education is positively associated with student interest in oncology but may not change negative attitudes toward cancer. Second, practicing oncology and nononcology nurses often have negative attitudes toward cancer and lack confidence in their oncology nursing skills. Third, oncology nursing education promotes mastery of clinical skills and knowledge. Those abilities increase nurses’ confidence in caring for patients with cancer, as well as increase the likelihood of practicing oncology nursing.

Impact of Education on Student Attitudes

Five studies (Copp, Caldwell, Atwal, Brett-Richards, & Coleman, 2007; Corner, 1993; Corner & Wilson-Barnett, 1992; Cunningham, Copp, Collins, & Bater, 2006; Ifanti et al., 2009) investigated students’ or new graduates’ attitudes toward cancer in response to education. Data from those studies indicate oncology education is not always associated with development of positive attitudes in students or novice nurses, but does promote mastery of clinical skills, which contributes to confidence.

In Ifanti et al.’s (2009) survey of 105 Greek nursing students, in response to an elective oncology nursing course, almost 50% of the students said they would consider working in oncology, and 76% believed the elective course should be mandatory. However, more than 50% of the students still expressed feelings of fear or insecurity in caring for patients with cancer, and 77% continued to associate a diagnosis of cancer with suffering and death. Cunningham et al. (2006) found that, of 152 surveyed English nursing students, more than 66% had personal experiences with cancer. Those experiences, which some students perceived positively and others negatively, tended to reinforce students’ attitudes toward patients with cancer in clinical settings. Students indicated having supportive nurse mentors during clinical experiences was helpful in promoting learning and comfort during oncology experiences, whereas lack of cancer knowledge and communication skills contributed to their discomfort and fear.

In surveying 84 newly licensed nurses and interdisciplinary team members working with patients with cancer, Copp et al. (2007) found 50% of the respondents agreed that oncology education decreased their anxiety in providing cancer care. All nurse respondents stated oncology education decreased their anxiety in caring for patients with cancer, but only 20% of the nurses felt they had received sufficient classroom instruction in oncology. Using a mixed-method design, Corner (1993) surveyed and interviewed 127 novice English nurses who recalled positive and negative experiences with patients with cancer in educational (35%) or employment (65%) settings. A greater proportion of negative experiences than positive
**TABLE 1. Reviewed Evidence on Oncology Education, Student Attitudes, and Intention to Practice in Oncology**

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Findings</th>
<th>Evidence Grade&lt;sup&gt;a&lt;/sup&gt;</th>
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<tr>
<td>Box &amp; Anderson, 1997</td>
<td>Qualitative focus group interviews regarding cancer attitudes of 86 English community health nurses</td>
<td>Participants poorly understood carcinogenesis, overestimated cancer morbidity and mortality rates, and expressed fearful and pessimistic attitudes toward cancer diagnoses.</td>
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<td>Copp et al., 2007</td>
<td>Descriptive; structured mailed survey on cancer education and attitudes of newly registered English healthcare staff (39 occupational and physical therapists, 26 social workers, and 19 nurses)</td>
<td>Thirty-three percent of the participants had received oncology education, but 93% felt classroom oncology education received was inadequate. All nurses perceived oncology education lessened their anxiety in providing oncology care.</td>
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<td>Corner, 1993</td>
<td>Mixed method; Cancer Attitude Scale was completed by 127 novice English medical-surgical nurses, and qualitative interviews were conducted with 68 participants.</td>
<td>Most participants held negative attitudes toward cancer, and negative professional experiences with cancer decreased their confidence. The most common theme was feeling insufficiently prepared to provide oncology care.</td>
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<td>Corner, 2002</td>
<td>Critical review of 12 studies regarding nurses’ attitudes toward cancer and response to patient concerns</td>
<td>Professional experiences with cancer influenced attitudes. Additional, current research is needed regarding nurses’ attitudes toward oncology and psychosocial care skills.</td>
<td>C</td>
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<td>Corner &amp; Wilson-Barnett, 1992</td>
<td>Experimental study of 107 newly registered English nurses who attended an educational workshop, seminar, or neither (control); qualitative interviews were conducted with 79 participants.</td>
<td>Overall baseline cancer knowledge was poor and participants stated negative attitudes. Participants attending the workshop scored significantly higher on cancer knowledge tests than control; almost 75% reported increased confidence in oncology nursing abilities.</td>
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<td>Cunningham et al., 2006</td>
<td>Mixed-method; questionnaire was completed by 152 English nursing students, followed by qualitative interviews with 15 participants.</td>
<td>More than 50% of participants had cared for patients with cancer in clinical settings. Of those, 38% felt they had been adequately prepared to care for patients with cancer. Mentorship enhanced learning and confidence.</td>
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<tr>
<td>Ifanti et al., 2009</td>
<td>Descriptive; in-class questionnaire was completed by 105 fourth-year Greek nursing students enrolled in an elective oncology nursing course.</td>
<td>Seventy-six percent of participants believed oncology education should be mandatory and 67% stated oncology should be taught in an independent course. A majority believed cancer was incurable and stated fear or insecurity in providing care to patients with cancer.</td>
<td>C</td>
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<td>Kearney et al., 2003</td>
<td>Descriptive; Cancer Belief Scale was completed by 115 English oncology healthcare professionals (21 physicians, 78 nurses, and 16 radiographers).</td>
<td>The majority of participants held negative attitudes, including fear and hopelessness, toward cancer. No significant attitude scale differences were seen between professional groups or experience and education level.</td>
<td>C</td>
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<td>McCaughan &amp; Parahoo, 2000a</td>
<td>Descriptive; questionnaire and adapted Cancer Attitude Scale were completed by 73 medical-surgical nurses in Northern Ireland.</td>
<td>Almost all participants had cared for patients with cancer on their units. More than 33% of participants stated negative attitudes toward cancer and benefits of active treatment.</td>
<td>C</td>
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<td>McCaughan &amp; Parahoo, 2000b</td>
<td>Descriptive; questionnaire and educational checklist were completed by 73 medical-surgical nurses in Northern Ireland.</td>
<td>Participants reported the least confidence in oncology areas of psychosocial care and symptom management; priority educational needs were psychosocial care, communication, and pain management.</td>
<td>C</td>
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<tr>
<td>Miller et al., 2000</td>
<td>Critical review of cancer attitudes research and measurement tools</td>
<td>Professional cancer attitudes tend to mirror inaccurate public cancer attitudes. Attitude measurement is difficult; qualitative methods and triangulation of data may be useful.</td>
<td>C</td>
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<tr>
<td>Mohan et al., 2005</td>
<td>Qualitative, descriptive; open-ended written survey of 21 Australian nurses, followed by interviews with five participants.</td>
<td>Themes were emotional nature of oncology care, lack of time, lack of knowledge and information, and discomfort with psychosocial aspects of oncology nursing.</td>
<td>C</td>
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<td>Mooney, 2000</td>
<td>Historical review of oncology nursing education and implications for the future</td>
<td>Use of new technologies and teaching methods in oncology education can enhance recruitment of students and nurses to oncology nursing.</td>
<td>E</td>
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<td>O’Connor &amp; Fitzsimmons, 2005</td>
<td>Discussion of factors influencing oncology nursing education content in the United Kingdom</td>
<td>Oncology education is necessary and should be explicit within nursing curricula. Although difficult, oncology content can be integrated in curricula successfully.</td>
<td>E</td>
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<sup>a</sup> Levels of the American Association of Critical-Care Nurses grading system hierarchy are as follows. A—meta-analysis with consistent results; B—well-designed experimental study with consistent results; C—qualitative evidence, descriptive study, or study with inconsistent results; D—professional body recommendations with research support; E—expert opinion (Armola et al., 2009).
experiences was reported. Negatively perceived encounters were linked with a decrease in cancer nursing confidence, even to the point of the nurses avoiding caring for patients with cancer. More than 50% of the nurses reported feeling inadequately prepared to provide care and communicate effectively with patients with cancer. Interview data indicated nurses associated cancer with death, leading them to see little benefit in active treatment. Negative attitudes were linked with negative experiences such as treatment failure, death of a patient with cancer, or a sense of powerlessness. Similarly, Corner and Wilson-Barnett (1992) found in a mixed-method, experimental study (N = 107) that novice English nurses scored poorly on tests of cancer knowledge and held generally negative attitudes toward cancer and perceived effectiveness of active treatment.

Practicing Nurses’ Attitudes

Eight studies (Box & Anderson, 1997; Corner, 1993, 2002; Kearney, Miller, Paul, Smith, & Rice, 2003; McCaughan & Parahoo, 2000a, 2000b; Miller et al., 2000; Mohan, Wilkes, Ogunsiji, & Walker, 2005) were reviewed regarding attitudes held toward cancer by RNs. Although attitudes are not the only variables that impact behavior, Miller et al. (2000) and Corner (2002) pointed to several studies finding that pessimistic attitudes toward cancer persist in nurses. Acute care nurses frequently care for patients experiencing negative outcomes, including serious adverse effects and disease progression. Negatively perceived experiences are associated with negative attitudes, particularly toward the effectiveness of treatment, which Corner (1993) called a battle-scarring effect. Those attitudes likely influence the actions of nurses in role modeling, guiding the plan of care, and communicating with patients with cancer and their families.

Box and Anderson (1997) found most community health nurses overestimated the prevalence of familial cancers and mortality rates for common cancers and cited a sense of fatalism about cancer diagnoses. Kearney et al. (2003) found the majority of experienced English oncology staff (N = 115) held negative attitudes, including fear and hopelessness toward cancer. McCaughan and Parahoo (2000a, 2000b) surveyed 73 Irish medical-surgical nurses who cared for patients with cancer on general units. Pessimism regarding the benefits of active treatment was stated by more than 33% of the nurses. In addition, the nurses reported limited knowledge and skills regarding cancer treatment options and pain management. They desired greater ability to care for the psychosocial needs of patients with cancer. Finally, in a qualitative study, Mohan et al. (2005) reported similar findings with Australian medical-surgical nurses caring for patients with cancer on general units.

Impact of Education on Intent to Practice in Oncology

Educational interventions may improve students’ and nurses’ oncology knowledge and associated nursing skills, which can lead to positive attitudes and improve cancer care. Oncology education standards state that knowledge, skills, and attitudes for competent oncology nursing care should be included in all nursing curricula (O’Regan Coleman et al., 2003). No studies that described whether and how oncology education standards are integrated into nursing curricula were found. Mooney (2000) suggested recruitment and retention of nursing graduates in oncology nursing is dependent on student access to oncology content and clinical experiences. Defined, coordinated oncology content in nursing curricula reflects the reality that nurses in all areas care for patients with cancer (O’Connor &

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**TABLE 1. Reviewed Evidence on Oncology Education, Student Attitudes, and Intention to Practice in Oncology (Continued)**

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Findings</th>
<th>Evidence Grade*</th>
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<tr>
<td>O’Regan Coleman et al., 2003</td>
<td>Oncology Nursing Society’s standards for generalist and advanced practice oncology nursing education</td>
<td>Quality oncology nursing care is enhanced by oncology education. Standards include faculty, resources, curriculum, teaching-learning process, and student outcome measures.</td>
<td>D</td>
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<td>Steginga et al., 2005</td>
<td>Quasiexperimental pre- and post-test study of 24 Australian nurses completing a post-registration oncology course compared to 19 nurses in a control group</td>
<td>Nurses completing the course demonstrated significant improvements in oncology nursing knowledge, confidence in oncology nursing, and positive attitudes toward psychosocial needs and skills compared to control.</td>
<td>B</td>
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<tr>
<td>Wood &amp; Ward, 2000</td>
<td>Qualitative; focus group interviews regarding education needs of 39 oncology staff, 105 nononcology staff, and an unstated number of patients with cancer</td>
<td>Participants identified priority education needs including general oncology knowledge, cancer treatments and side effects, communication, coordination of care, symptom management and physical care, and death and dying.</td>
<td>C</td>
</tr>
<tr>
<td>Wyatt, 2007a</td>
<td>Descriptive survey of oncology attitudes and intention of 106 English nurses completing a postregistration course</td>
<td>The majority of participants stated the course improved nursing practice; areas of greatest improvement were communication, assessment, and psychosocial care.</td>
<td>C</td>
</tr>
<tr>
<td>Wyatt, 2007b</td>
<td>Literature review on effectiveness of oncology education for nursing practice and outcomes</td>
<td>Oncology education is believed to have a positive impact, but additional, high-quality evidence is needed to guide stakeholder decision making.</td>
<td>C</td>
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</table>

* Levels of the American Association of Critical-Care Nurses grading system hierarchy are as follows. A—meta-analysis with consistent results; B—well-designed experimental study with consistent results; C—qualitative evidence, descriptive study, or study with inconsistent results; D—professional body recommendations with research support; E—expert opinion (Armola et al., 2009).
Fitzsimmons, 2005). The value of such education was demonstrated by Corner and Wilson-Barnett (1992) and Wyatt (2007a).

Although changes in attitudes in surveyed nurses in Wyatt’s (2007a) study were limited to being self-reported, the study indicated the value of education in increasing quality of care and intent to practice oncology nursing. Education was stated as most helpful in the areas of communication and psychosocial skills, which are desired content areas by students, nurses, and nononcology healthcare staff (Corner & Wilson-Barnett, 1992; Cunningham et al., 2006; Ifanti et al., 2009; McCaughan & Parahoo, 2000b; Mohan et al., 2005; Wood & Ward, 2000). Patients with cancer themselves believe healthcare workers need additional education regarding the nature of cancer, practical issues such as personal care, and therapeutic communication skills (Wood & Ward, 2000).

Corner and Wilson-Barnett (1992) described an educational program in which novice oncology nurses attended an oncology workshop. The program increased oncology knowledge and confidence and led to development of positive attitudes, except in perceived benefits of treatment, in the experimental group (n = 48) compared to control (n = 59) (Corner & Wilson-Barnett, 1992). In addition, Steginga et al. (2005) found nurses who attended an educational oncology seminar (n = 24) showed increased scores in knowledge, psychosocial skills, perceived ability in cancer nursing, and readiness for cancer nursing compared to control (n = 19). Unfortunately, few studies are available regarding outcomes of improved practice in response to oncology education, and most studies have discussed education for RNs rather than nursing students (Wyatt, 2007b).

Discussion

Two recommendations for practice are made based on the reviewed evidence. The strength of recommendation for each is likely to be effective based on ONS’s Putting Evidence Into Practice classification schema (Mitchell & Friese, n.d.) (see Figure 1).

Recommendation 1: Didactic and Clinical Experiences in Oncology Nursing

All nursing students should participate in didactic and clinical experiences in oncology nursing (Copp et al., 2007; Cunningham et al., 2006; Ifanti et al., 2009). Oncology content should be required rather than elective (Ifanti et al., 2009). Courses should include specific content regarding the continuum of cancer care, oncology nursing skills, therapeutic communication skills, and psychosocial support skills (Corner & Wilson-Barnett, 1992; Cunningham et al., 2006; Ifanti et al., 2009; McCaughan & Parahoo, 2000b; Mohan et al., 2005; Wood & Ward, 2000). Students caring for patients with cancer should be paired with mentors who model good practice and support students to promote positive learning experiences (Cunningham et al., 2006).

Implementing this recommendation may be difficult, but not impossible, for nursing schools. Although oncology nursing typically is viewed as a specialty area, the prevalence of cancer and the presence of patients with cancer in almost every clinical area support the importance of integrating oncology content in nursing education. Curriculum crowding is a valid concern; if room is not available for a dedicated oncology course, faculty should make an earnest attempt to include oncology content in sequential courses. Embedding cancer content in a curriculum requires programmatic commitment to the necessity of the content, clearly delineated objectives, and coordination among faculty (O’Connor & Fitzsimmons, 2005). Embedding content is not an ideal situation as students have a preference for dedicated oncology courses, the full context is lacking in which to grasp sequential oncology content, and faculty unfamiliar with oncology content may be responsible for teaching it (Ifanti et al., 2009; O’Connor & Fitzsimmons, 2005). Those challenges are not unique to oncology nursing education; however, adequate faculty academic and experiential knowledge are necessary regardless of whether the content area taught in the curriculum is oncology, gerontology, or another nursing area (Commission on Collegiate Nursing Education, 2009).

FIGURE 1. Oncology Nursing Society Putting Evidence Into Practice Weight of Evidence Classification Schema

Additional research is needed to determine the effects of didactic and experiential learning on student attitudes, intent to practice oncology nursing, and ability to provide effective oncology nursing care (Corner, 2002; Miller et al., 2000; Wyatt, 2007b). General opinions in the literature support oncology education for nursing students; however, little research has provided evidence for this opinion and its impact on practice, attitudes, and outcomes (Wyatt, 2007b). A case for the relevance and importance of this topic must be made as oncology attitudes research has largely ceased as an area of interest (Corner, 2002). Several valid, reliable tools are available for oncology attitudes research; however, comparative, correlational, and even conceptual studies that could expand what is known in this area are lacking (Burns, 2004).

Several of the reviewed studies were limited in having small sample sizes or methodologic weaknesses (Gill & Duffy, 2010). Almost all of the reviewed studies were conducted with European students or nurses. Generalizing the results to all students and nurses is difficult given international and cultural differences in educational programs and healthcare environments. Research regarding oncology education for novice and experienced RNs exists but cannot be adequately generalized to student nurse populations. Studying the influence of student attitudes on intent to practice oncology nursing is needed, given that only one study (Ifanti et al., 2009) asked students about their consideration of oncology as a practice area.

Sufficient quality and quantity of evidence must be in place to inform decision-making by academic and healthcare administrators regarding oncology education for students. Given that education can impact attitudes, further research is needed to determine the value of oncology educational interventions and their influence on the nursing workforce and patients with cancer (Corner, 2002; Corner & Wilson-Barnett, 1992; Cunningham et al., 2006; Miller et al., 2000; Wyatt, 2007b). Additional research is likely to contribute support for oncology educational interventions, facilitating the implementation of oncology education.

**Implications for Nursing**

The recommendations, although supported by evidence, may not be fully possible given the constraints of curricula crowding, few oncology-prepared faculty, and limited clinical placement opportunities (Nibert, 2000). Almost all of the reviewed studies examined student and nurse attitudes toward oncology in acute care settings where patients with cancer tend to be significantly ill or experiencing poor outcomes. Congruent with O’Regan Coleman et al. (2003), if misperceptions about morbidity and mortality are to be corrected, oncology education should include the spectrum of care from prevention and screening to follow-up and survivorship. Innovative measures are needed to ensure nursing students are prepared to provide basic cancer nursing care, as well as give serious consideration to oncology nursing as a potential practice area.

Individuals and institutions have taken steps to address these challenges. Coakley and Ghiloni (2009) described an oncology nursing fellowship program at a major cancer center for junior student nurses. Students in that precepted summer program stated they were empowered to make informed choices about oncology nursing and experienced a decrease in fear and an increase in empathy toward patients with cancer. The fellowship program also has been used to develop oncology nursing faculty for area universities (Coakley & Ghiloni, 2009). Other large cancer centers provide similar fellowship programs in which nursing students participate in oncology patient care and attend seminars on oncology topics (University of Texas MD Anderson Cancer Center, 2013). Graduate nurse residency programs of varying length and intensity have been suggested to strengthen the oncology nursing workforce and help new graduates develop competencies (Kelly, Austria, Welch, & Childress, 2009). Many nursing programs require a structured practicum experience for senior nursing students. Having an assigned mentor in a specialty practice area can increase student interest and skills, as well as lead to employment opportunities (Vioral, 2011). Initial data affirmed the effectiveness of residency and practicum programs in recruitment and retention of nurses and development of oncology nursing skills, establishing a foundation for additional research (Kelly et al., 2009; Vioral, 2011).

Although options are available to those already seeking to practice oncology nursing, the limited content within curricula constrains nursing students’ exposure to and knowledge gained in the area prior to graduation. All agencies serving patients with cancer and schools of nursing must make a concerted, collaborative effort to provide appropriate, supportive clinical experiences coupled with didactic content. Medical and nursing interdisciplinary oncology education was suggested by Galaychuk (2000) to promote better teamwork and maximize the availability of oncology-specialized faculty and clinical sites. Cooperative education, in which nursing students care for patients in staff-supervised roles while earning academic credit and sometimes a wage, could be developed to include both inpatient and outpatient oncology centers. These strategies are particularly important in small or rural communities, which often do not have access to large agencies with the resources to offer fellowships and residencies. Distance and online education could be better used to provide oncology education for students. Nursing programs without dedicated oncology courses should allow transfer of credit for oncology courses taken through other programs or resources.

High-fidelity simulation (HFS) has the capability of supplementing didactic content through active, supervised learning, although HFS should not entirely replace contextual clinical experiences (Benner, Sutphen, Leonard, & Day, 2010). HFS can increase student confidence in caring for specific patient populations (Kuhrik, Kuhrik, Rimkus, Tecu, & Woodhouse, 2008). Agencies and schools with access to HFS laboratories should use them to teach oncology nursing concepts (Kuhrik, et al., 2008); oncology HFS scenarios should be studied to assess their impact on knowledge, skills, and attitudes.

**Conclusions**

Although oncology-prepared healthcare staff are largely responsible for the care of patients with cancer, nononcology nurses will encounter these patients in a variety of settings. Quality care
Implications for Practice

- Oncology nurses can participate in educating nursing students through mentorship and role modeling to build students’ confidence and skills.
- Oncology nursing education can be enhanced by measures including distance education, high-fidelity simulation, and extracurricular practice opportunities.
- Additional high-quality evidence on oncology education for nursing students can benefit stakeholders, including students, staff, and patients with cancer.

is essential to promote good outcomes in this population. Patient outcomes may be impacted by inadequate knowledge and skills and the presence of negative attitudes such as feelings of inadequacy to meet the needs of patients with cancer and pessimistic views on the benefits of active treatment.

Oncology education for nursing students is necessary because of its ability to impact the choice of oncology as a practice area and improve the knowledge and skills of future nurses. Innovative educational strategies including nontraditional clinical experiences, HFS, fellowships, and residencies can be used to address challenges in oncology nursing education. Additional research is needed to explore the impact of oncology education on student nurses’ abilities and intent to practice oncology nursing. This information will benefit patients with cancer, as well as the current and future oncology nursing workforce.

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References

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