

Nursing Education

Review of assessment, clinical care, and implications for practice regarding older adult patients with cancer

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BACKGROUND: As the population of older adults continues to increase, the healthcare system must adapt to respond to their unique and complicated health needs. More than half of all patients diagnosed with cancer in America are aged 65 years or older. The appropriate care for older adult patients with cancer requires a holistic approach with careful coordination of interprofessional providers.

OBJECTIVES: This article aims to describe the components of the comprehensive geriatric assessment, summarize the importance of exercise in older adults, discuss the harms of polypharmacy, and evaluate the initiatives to improve geriatric nursing education.

METHODS: The literature was reviewed and summarized to provide information on comprehensive geriatric assessment, exercise, polypharmacy, and geriatric nursing education.

FINDINGS: Numerous assessment tools can help guide the care of older adult patients with cancer. Because many nurses have little formal geriatric-specific training, there is a growing need for targeted education to ensure best practices.

KEYWORDS

assessment tools; nursing education; geriatrics; geriatric oncology; resources

DIGITAL OBJECT IDENTIFIER

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THE NEEDS OF OLDER ADULT PATIENTS WITH CANCER are a concern throughout the healthcare system, with about 60% of all cancers diagnosed in people aged 65 years or older (American Society of Clinical Oncology, 2018) and more than 900,000 older adults diagnosed with cancer in 2017 (American Cancer Society, 2017). Given the prevalence of cancer in older adults, it is important for all healthcare providers to be prepared to assess, intervene, and manage issues related to care of older adult patients with cancer (Williams, 2018). Most oncology professionals are caring for older adults in their daily practice without specific training regarding gerontology (Bardach & Rowles, 2012). As oncology nurses, it is important to be aware of these demographic changes and to understand best practices for care of older adult patients with cancer.

Caring for older adults receiving cancer treatment is challenging because physiologic changes with aging and comorbidities may affect the ability to tolerate treatment and recover following treatment. Although not all older adults have comorbidities (Salive, 2013), they are highly prevalent in this population, particularly among ethnic and racial minorities (Lin & Kelley-Moore, 2017). Comorbidities may be present before a patient is diagnosed with cancer, may be exacerbated during treatment, or may be a consequence of treatment (Economou, Hurria, & Grant, 2012). Body systems that are often affected include vision, hearing, endocrine, cardiac, pulmonary, gastrointestinal, and urologic systems. In addition, neurologic changes, such as neuropathy, may be present because of cancer treatment or from preexisting comorbidities.

After a cancer diagnosis, patients and providers shift the focus of care to treatment of cancer and away from preexisting comorbidities. The immediate concerns are managing treatment and living with cancer. Appropriate care for older adult patients with cancer requires culturally competent care of the whole patient with coordination among healthcare providers (e.g., specialists, general practitioners) because this is a vulnerable population with a unique set of needs (Meneses, Landier, & Dionne-Odom, 2016). Special areas of concern when managing comorbidities are medications and polypharmacy; psychosocial support; maintaining functional status; and cardiac, pulmonary, and diabetes management. Caring for older adult patients with cancer requires a layered process with healthcare providers who have expertise, patience, resources, and excellent communication skills (Overcash, 2015).

Assessment

Important reasons exist to include an interprofessional approach to geriatric assessment for older adult patients with cancer. A focused assessment can

identify potential areas for concern that may not be discovered in a history and physical, such as deficits in activities of daily living, diminished physical functioning, poor nutritional status, history of falls, psychosocial concerns, or diminished cognitive capacity (Kenis et al., 2013; Loh et al., 2018). Identifying these areas of concern enables the clinical team to enact early interventions that have the potential to improve patient outcomes. Evidence exists that geriatric assessment can predict survival and risk for adverse events, which can benefit clinical decision making (Giantin et al., 2013; Soubeyran et al., 2012). Although the benefits of a comprehensive geriatric assessment (CGA) are clear, the time and resources to conduct such an assessment remain barriers for CGA being incorporated into routine clinical practice. However, the widespread use of a geriatric screening tool in standard practice may be a way to identify which older adult patients would most likely benefit from a full CGA. A CGA is a multidimensional

process that is used to identify the physical, emotional, and social limitations of older adults and allows for the development of a comprehensive treatment plan to ensure maximal health.

Several tools have been tested for geriatric screening in patients with cancer (see Table 1). The Geriatric 8 (G8) screening tool is recommended by the International Society of Geriatric Oncology (SIOG), but the choice of a specific screening tool depends on local resources and goals of screening, with no one tool recommended over others (Loh et al., 2018). The G8 includes eight items and can be performed in less than five minutes. A study identified that a modified six-item G8 exhibited diagnostic performance in patients aged 70 years or older across cancer sites and may facilitate patient selection for a full CGA (Martinez-Tapia et al., 2016). The Vulnerable Elders Survey (VES-13) is a short, function-based screening tool for older adults to identify those at risk for diminished health. It considers age, self-rated

TABLE 1.
KEY AREAS OF ASSESSMENT IN OLDER ADULTS AND RELATED INTERVENTIONS

KEY AREA	SUGGESTED ASSESSMENT	INTERVENTIONS
Screening tools	<ul style="list-style-type: none"> ■ Geriatric 8 ■ Triage Risk Screening Tool ■ Vulnerable Elders Survey 	<ul style="list-style-type: none"> ■ Brief screening tools can be used as a first step. ■ Abnormal results on a screening test should be followed by a comprehensive geriatric assessment.
Comorbidities	<ul style="list-style-type: none"> ■ List all comorbidities, and review with patient how this condition affects his or her daily life. 	<ul style="list-style-type: none"> ■ Maintain contact with providers who manage other comorbidities.
Functional status	<ul style="list-style-type: none"> ■ Ability to perform activities of daily living ■ Number of falls during the past 6 months ■ Timed Up and Go test or gait speed test 	<ul style="list-style-type: none"> ■ Make referrals to physical therapist and occupational therapist. ■ Conduct home assessment and safety evaluation. ■ Provide education on exercise, home safety, and fall prevention.
Polypharmacy	<ul style="list-style-type: none"> ■ Medication reconciliation (Ask patient to bring in all original containers.) ■ Review all medications, including over-the-counter and supplements. ■ Review for drug interactions. ■ STOPP, START, and Beers criteria 	<ul style="list-style-type: none"> ■ Make referrals to pharmacist, geriatrician, or primary care provider. ■ Provide education on medication safety and adherence. ■ Consider de-prescribing or discontinuation of duplications.
Nutritional status	<ul style="list-style-type: none"> ■ Unintentional weight loss of greater than 5% in the past 6 months ■ Body mass index ■ Mini Nutritional Assessment ■ Changes in appetite 	<ul style="list-style-type: none"> ■ Make referral to a nutritionist/dietitian. ■ Provide education on nutrition. ■ Create a diet diary.
Social support	<ul style="list-style-type: none"> ■ Medical Outcomes Study Social Activity Limitations Measure ■ Medical Outcomes Study Social Support Survey ■ Ask about the presence of a caregiver. 	<ul style="list-style-type: none"> ■ Make referral to a social worker or local resources, such as a senior center or Area Agency on Aging.
Cognitive screening	<ul style="list-style-type: none"> ■ Mini-Cog® ■ Blessed Orientation Memory Concentration ■ Mini-Mental State Examination 	<ul style="list-style-type: none"> ■ Make referral to geriatrician, neurologist, or occupational therapist. ■ Discuss healthcare proxy.
Chemotherapy toxicity	<ul style="list-style-type: none"> ■ Cancer and Aging Research Group Chemo-Toxicity Calculator ■ Chemotherapy Risk Assessment Scale for High-Age Patients 	<ul style="list-style-type: none"> ■ If patient scores high on toxicity predictor, provide education on chemotherapy toxicity and when to call, and monitor patient closely.

START—Screening Tool to Alert Doctors to Right Treatment; STOPP—Screening Tool of Older Person's Prescriptions
Note. Based on information from Ellis et al., 2017; Loh et al., 2018; Overcash & Momeyer, 2017.

health, limitations in physical function, and functional disabilities (Saliba et al., 2001). The evidence on screening tools for older adults with cancer is emerging. These tools could be used within a general oncology clinic to identify patients who would benefit from a CGA and to identify vulnerabilities in patients who may need further assessment and intervention.

Nursing Care of the Older Adult

An Institute of Medicine (2013) report recognized that older adult patients with cancer are a unique population with complex needs. Optimal culturally competent cancer care for these patients should include an interprofessional team approach with involvement of medicine, nursing, palliative care, social work, physical and occupational therapy, chaplaincy, pharmacy, and nutrition. There is evidence that, when a high-quality interprofessional team is involved in the care of geriatric patients with cancer, there will be better health outcomes, higher-quality care, and lower costs (Montagnini et al., 2014). The results of the CGA can guide the care of the interprofessional team and provide the basis of a personalized care plan. The care plan will involve guidance for the patient and caregiver and include education and interventions that address the physical, psychosocial, and spiritual domains of care (Overcash & Momeyer, 2017). A case study of an older adult patient with cancer can be found in Figure 1.

Exercise

Functional status in older adults is a primary concern. All patients with cancer, regardless of their age or cancer stage, should be encouraged to participate in some form of exercise. A growing body of evidence shows that exercise for patients with cancer is associated with improved physical and emotional well-being (Burhenn, Bryant, & Mustian, 2016). Although the benefits of exercise in older adults are not as well understood, early data suggest that exercise for older adult patients is likely safe and effective in improving health outcomes (Klepin, Mohile, & Mihalko, 2013). In one study, a yoga intervention was associated with decreased fatigue and reduced side effect burden in older adult patients with cancer (Sprod et al., 2015). For patients who are not able to participate in an exercise program, emerging evidence suggests that even interrupted sedentary time or periods of standing may contribute to better health outcomes (van Roekel et al., 2016). It is important to assess functional status at baseline and periodically during and after treatment.

Medications

Polypharmacy, or taking multiple medications, is a key concern for older adults because of the presence of comorbidities (Mizokami, Koide, Noro, & Furuta, 2012). Medication reconciliation and management in older adult patients with cancer should be a priority at each visit and requires the input of all members of the interprofessional healthcare team, as well as the primary care provider.

Patients should be encouraged to bring in all medications, including prescriptions, over-the-counter drugs, and supplements. There has been an increase in the use of herbal and dietary supplements, particularly in the older adult population (Qato, Wilder, Schumm,

FIGURE 1.
CASE STUDY

Ms. A is a 70-year-old Caucasian woman who has recently been diagnosed with ER-/PR-positive, HER2-negative, metastatic breast cancer with bone-only metastasis (stage T2N0M1). Her past medical history is significant for hypertension and diabetes with mild neuropathy. Her current medications are metformin, lisinopril, gabapentin, calcium with vitamin D, multivitamin, and acetaminophen (as needed). She is currently living alone in a ground-floor apartment and has no living relatives. She does not drive and relies on public transportation. She is asymptomatic from her bone metastasis and presents for discussion of treatment options. Based on a comprehensive geriatric assessment, Ms. A's medical team identifies several potential problems in the following areas: functional status, comorbidities, and psychosocial domains.

During a consultation, Ms. A's oncology team reviews the pathology; computed tomography (CT) scan of her chest, abdomen, and pelvis; and bone scan. The CT scan reveals no visceral metastases. The bone scan reveals one small lesion in the left middle portion of the humerus but no fracture. Ms. A and her medical oncologist agree to initiate treatment with hormonal therapy alone. Getting to the clinic is difficult for her because she does not drive, so she prefers a drug that can be self-administered orally at home. Several agents in the aromatase inhibitor (AI) class have different side effect profiles that can be adjusted as needed for tolerability. In addition, AIs offer daily dosing without known drug–drug interactions. Ms. A will maintain her metformin, lisinopril, calcium plus vitamin D, and gabapentin during hormonal therapy. She will need to control her preexisting diabetes and hypertension while treating the diabetic neuropathy and continuing to monitor for osteoporosis, which can worsen with administration of AIs.

After six months, Ms. A reports to her oncologist and oncology nurse that she has difficulty carrying her laundry basket because of increased pain. She has also noticed some pain in the left hip, which she is attributing to the change in the weather. She has not had any change in her medications and is not being treated for any new medical conditions. Imaging is arranged to assess for disease progression. Based on the imaging results, she has bony disease progression to the humerus and hip. Treatment options and her overall goals of care are discussed, and Ms. A and her medical team decide that she will begin radiation and systemic therapy when authorization is obtained from her insurance company. Ms. A starts radiation therapy for palliation of pain and to prevent fracture. She also starts fulvestrant and a bisphosphonate to help strengthen bones and prevent skeletal events. She is referred to a social worker for assessment of local support services to assist her with transportation and maintaining independence. A physical therapy referral will guide her in a safe exercise regimen. A summary report is sent to her primary care provider.

Gillet, & Alexander, 2016). All medications should be assessed for potentially inappropriate use, interactions, or duplications. Then, healthcare providers should make recommendations for minimizing and optimizing drug use in older adults (Brandt, 2016). With any discussion of medication use in older adults with cancer, consider the patient's personal values, life expectancy, financial situation, current evidence, and overall goals of care.

An estimated 33% or more of older adult patients take at least five medications (Charlesworth, Smit, Lee, Alramadhan, & Odden, 2015). In this population, polypharmacy and inappropriate prescribing is common (Qato et al., 2016). These prescribing practices are associated with adverse drug reactions and increased falls, delirium, morbidity, and mortality (Gómez et al., 2015; Hein et al., 2014; Wildes et al., 2018). A systematic review found that 1 in 10 older adults will experience an adverse drug reaction and that the risk increases with older age, female sex, increased disease burden, and increased number of total medications (Alhawassi, Krass, Bajorek, & Pont, 2014).

Medication use in older adults is complicated by age-related changes that affect all organ systems (Shi & Klotz, 2011). The

“There are multiple classes of medications that create more harm than benefit for older adults.”

biggest contributor to altered pharmacokinetics in older adults is caused by age-related changes in the liver and kidney. The liver is the primary location of drug metabolism. With age, there is a decrease in the mass of the liver, as well as decreased hepatic blood flow (Lavan & Gallagher, 2016). The kidneys play a significant role in drug excretion. In older adults, a decrease in renal function, mass, and blood flow occurs (Lavan & Gallagher, 2016). Because

FIGURE 2. GERIATRIC EDUCATIONAL RESOURCES

CANCER AND AGING RESOURCE GROUP

Resources for older adults and geriatric assessment tools

- www.mycarg.org

CONSULTGERI

Nurse-specific tools, education, training, and content on culturally competent care

- <https://consultgeri.org>

END-OF-LIFE NURSING EDUCATION CONSORTIUM—GERIATRIC CURRICULUM

Nurse-specific tools, courses, and resources with content on culturally competent care; requires payment for full access to resources

- www.aacnnursing.org/ELNEC

GERIATRIC PAIN

Resources and tools for quality pain care

- <https://geriatricpain.org>

GERIATRIC NURSING EDUCATION CONSORTIUM WEBINAR SERIES

Nurse-specific slide shows and recorded webinars on geriatric nursing; requires payment for full access to resources

- <https://consultgeri.org/education-training/e-learning-resources/geriatric-nursing-education-consortium-gnec-webinar-series>

GERIPAL

Provider-focused forum for discourse, news and research, and commentary with content on culturally competent care

- www.geripal.org

NATIONAL COMPREHENSIVE CANCER NETWORK

Resources for patient care, including content on culturally competent care; requires payment for full access to resources

- www.nccn.org

NATIONAL HARTFORD CENTER OF GERONTOLOGICAL NURSING EXCELLENCE

Nurse-specific resources related to geriatric nursing; leadership development opportunities; requires membership for full access to resources

- www.nhcgne.org

NICHE

Nursing education and consultation program related to geriatric care within healthcare organizations; requires payment for full access to resources

- <https://nicheprogram.org>

OLDER ADULTS FOCUS

Competency development and evaluation for caring for older adults; contains learning activities

- www.olderadultfocus.org

PORTAL OF GERIATRICS ONLINE EDUCATION

Educational materials, teaching tools, evidence-based literature, and resources with content on culturally competent care

- www.pogoe.org

SIQG

Publications, resources, and assessment tools from the International Society of Geriatric Oncology

- www.siqg.org

of these age-related changes, many older adult patients may experience increased toxicity and decreased clearance of medications. For example, morphine should be used with caution in older adult patients with cancer. Morphine is metabolized in the liver and excreted via the kidney. In older adult patients with hepatic and renal insufficiency, the use of morphine can result in an accumulation of active metabolites, causing sedation, confusion, or even respiratory depression (Tracy & Sean Morrison, 2013).

The potential inappropriate use of medications is also a critical issue in this population. There are multiple classes of medications that create more harm than benefit for older adults. For example, some medications, such as amitriptyline, are no longer appropriate for long-term use in older adults because of an increased risk of falls (Ham et al., 2014). Similarly, some medications become inappropriate when they are not in keeping with a patient's overall goals. For example, statin use in a patient with limited life expectancy is not recommended (Kutner et al., 2015). In addition to medication reconciliation, several validated tools can help guide the medication choice and deprescribing practices of providers, including the Screening Tool of Older Person's Prescriptions (STOPP), the Screening Tool to Alert Doctors to Right Treatment (START) (O'Mahony et al., 2015), and the Beers criteria (Fick et al., 2015). These guidelines provide recommendations regarding medications that may be inappropriately prescribed for patients aged 65 years or older to decrease the risk of adverse events and harm. Other areas of assessment for oncology nurses include nutritional status, social support, cognitive screening, and predicting toxicity to chemotherapy.

Geriatric and Geriatric Oncology Nursing Education

As the number of older adult patients with cancer increases, a greater need exists for geriatric-specific education (Cockbain, Thompson, Salisbury, Mitter, & Martos, 2015). Many nurses currently practicing have had little formal geriatric education as part of their nursing curriculum. However, all nurses have an obligation to understand how to best care for and educate this unique population of patients. Several national nursing organizations have prioritized the advancement of geriatric education and developed training programs for nurses (Harden & Watman, 2015; Wilson, 2010). The Geriatric Nursing Education Consortium (GNEC) is an initiative sponsored by the American Association of Colleges of Nursing and funded by the John A. Hartford Foundation. The goal of GNEC is to improve geriatric nursing education, primarily in baccalaureate nursing programs (Gray-Miceli et al., 2014). For nurses who have completed their undergraduate education, other programs can provide specialized geriatric training. The End-of-Life Nursing Education Consortium (ELNEC), first developed by the American Association of Colleges of Nursing and City of Hope Comprehensive Cancer Center, has been adapted to include geriatric content. ELNEC's geriatric curriculum provides

IMPLICATIONS FOR PRACTICE

- Acknowledge that older adult patients with cancer are more at risk for adverse effects from tumor-directed therapy because of age-related physiologic changes and comorbidities.
- Assess older adult patients using geriatric-specific tools to guide healthcare decisions.
- Seek out education and resources to continue to provide care to older adult patients that is culturally sensitive, safe, and goal-concordant.

education for nurses to improve end-of-life care for older adult patients and their caregivers (Kelly, Ersek, Virani, Malloy, & Ferrell, 2008). Nurses Improving Care for Healthsystem Elders (NICHE) is run by the Hartford Institute for Geriatric Nursing at the New York University College of Nursing. NICHE is a nursing education program designed to improve the health care of hospitalized geriatric patients on an institutional level (Capezuti et al., 2012). Preliminary data were presented at the Oncology Nursing Society Congress in 2018 that showed a gerontology-focused program for oncology nurses improved self-rated preparedness, skill, and comfort in caring for older adult patients with cancer (Burhenn et al., 2018). For nurses who do not have the resources for a formalized continuing education program, several geriatric-specific educational resources are available on the Internet (see Figure 2).

Conclusion

Oncology nurses are in a key position to assess older adults undergoing cancer treatment and recovery for age-related concerns. CGA is the gold standard in caring for older adults but may not always be feasible. A suggested approach involves performing a brief assessment using a validated tool and addressing areas of concern. Ongoing opportunities for oncology nurses to continue to learn more about care for older adult patients with cancer are available and important to include in educational offerings as this population grows.

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