

Introduction

Knowledge and concepts involving the prevention, early detection, and treatment of breast cancer, as well as the long-term needs of individuals diagnosed with the disease, are continually evolving. Oncology nurses are constantly challenged to incorporate this knowledge into their care and to respond to questions about breast cancer. The importance of this role should not be underestimated. Oncology nurses guide patients at risk for and diagnosed with breast cancer through the cancer trajectory.

Epidemiology

Breast cancer is a feared disease for men and women, and with good reason. For 2017, the American Cancer Society (ACS, 2017a) estimated 252,710 new cases of invasive breast cancer and 63,410 new cases of in situ breast cancer diagnosed in women and 2,470 new cases in men. This translates to one in eight women being diagnosed with breast cancer over her lifetime. Although rates continue to decrease slowly, approximately 41,070 deaths (40,610 in women and 460 in men) were expected in 2017 (ACS, 2017a).

The 5-, 10-, and 15-year relative survival rates for all female breast cancers are 89%, 83%, and 78%, respectively (ACS, 2017a). Currently, an estimated 3.5 million women are living with a diagnosis of breast cancer (ACS, 2017a). That number is expected to rise to approximately 4.6 million women in 2026 (ACS, 2016). Female breast cancer survival rates have increased over time because of widespread mammography use leading to earlier detection and improvements in treatment (ACS, 2017b).

Trends in Diagnosis and Treatment

Approximately 61% of breast cancers are diagnosed at a localized stage, for which the five-year relative survival is 99% (ACS, 2017a). This is largely due to increased use of mammography. The Patient Protection and Affordable Care Act requires that Medicare and all new health insurance plans fully cover screening mammograms without any out-of-pocket expense for patients (ACS, 2017a). According to the most recent data available, among women aged 40 years and older, only 56% had a mammogram in the past year and 73% had one in the past two years (ACS, 2017a). Rates are lowest in women who are uninsured or underinsured. The Centers for Disease

Control and Prevention's National Breast and Cervical Cancer Early Detection Program, which was established in 1990 to improve access to breast cancer screening and diagnostic services in uninsured women, has estimated that the program only reaches about 11% of eligible women because of difficulty in recruiting women and funding shortages (Howard et al., 2015). Clearly there is room for improvement to engage more women aged 40 years and older in regular mammography.

Treatment for breast cancer can involve breast-conserving surgery such as lumpectomy or partial mastectomy and radiation therapy or mastectomy. In some women, mastectomy is the preferred option because of locally advanced stage, large or multiple tumors, or previous radiation. Recently, more patients who are eligible for breast conservation are choosing mastectomy for a variety of reasons, including reluctance to undergo radiation therapy or fear of recurrence (ACS, 2016). The most recent data available show that the number of women with early-stage disease in one breast who undergo contralateral prophylactic mastectomy has increased from 5% of total mastectomies in 1998 to 30% in 2011 (ACS, 2016). Although a bilateral mastectomy nearly eliminates the risk of developing a new breast cancer, it does not improve long-term breast cancer survival for the majority of women and is associated with potential harms. The American Society of Breast Surgeons recommends that contralateral prophylactic mastectomy be discouraged for patients with an average risk of contralateral breast cancer (Tuttle et al., 2017). Potential complications of a contralateral prophylactic mastectomy include an increased risk of bleeding, wound infection, necrosis, and embolism (Momoh et al., 2017). Women choosing a surgical approach to treat their breast cancer need honest and comprehensive information and psychosocial support so that they can make the appropriate decision for their individual situation.

Treatment for breast cancer now includes multiple chemotherapy agents, targeted therapy, radiation therapy, and hormonal manipulation. Each of these modalities continues to expand, and many research trials are currently underway. Decisions about appropriate systemic therapy, including chemotherapy, hormone therapy, and targeted therapy, are dependent on multiple factors, including the size of the tumor, the number of lymph nodes involved, the presence of estrogen or progesterone hormone receptors on cancer cells, and the amount of HER2 protein made by the cancer cells. Approximately 84% of women diagnosed with breast cancer will test positive for hormone receptors, and 14% will test positive for *HER2* gene amplification (ACS, 2016). For premenopausal women, the standard hormonal treatment is tamoxifen for at least five years. For postmenopausal women, hormonal treatment may include tamoxifen or an aromatase inhibitor for 5–10 years (ACS, 2017a). Oncology nurses are challenged to help and encourage patients to continue to take these agents for 5–10 years. Genomic tests of the tumor can help predict recurrence and are routinely used. Oncology nurses need to ensure that patients understand the meaning of these results and support them as they make decisions about systemic therapy (National Comprehensive Cancer Network®, 2017a).

Psychosocial Challenges

The body image changes that result from breast cancer surgery and related treatments serve as a constant reminder of the diagnosis. Role changes during treatment disrupt many family routines. After treatment, women need to adjust to and find a new normalcy. The psychosocial significance of the female breast in modern society com-

pounds the ramifications of the diagnosis and associated treatment (Campbell-Enns & Woodgate, 2015). The female breast plays a significant role in nurturing and motherhood, as well as femininity and sexuality. Breast cancer threatens women's self-image and roles in her family and society. Following a diagnosis of breast cancer, women are challenged to restructure their self-image (Campbell-Enns & Woodgate, 2015).

The psychosocial ramifications for men diagnosed with breast cancer are also substantial. Only 1% of all breast cancers occur in men (ACS, 2017a). Most literature and emotional supports are geared toward women, so the unique needs of male patients are underappreciated and often ignored (Freedman & Partridge, 2017). The color pink is universally associated with breast cancer and has raised awareness about the malignancy and helped to raise money for breast cancer research (ACS, 2017a). Unfortunately, the color pink also serves as a constant and visual reminder that breast cancer is a female disease (Farrell et al., 2014). Limited research suggests that hot flashes and sexual dysfunction are very common and distressful in men (Freedman & Partridge, 2017). Optimal symptom management strategies are uncertain, and it can be difficult for men to find other male patients who can advise them on what to expect during and after breast cancer treatment.

Genetic testing has enabled the identification of individuals who have an elevated risk for developing cancer but has created a new set of psychosocial challenges (National Comprehensive Cancer Network, 2017b). Families worry about hereditary susceptibility and whether a child has inherited an increased risk for developing malignancy. Although genetic testing enables women to better understand their risks and choices available to manage the risk, it also brings about intense psychosocial reactions and ramifications. Individuals with hereditary risk live with uncertainty, including if, when, or where they will develop a malignancy, as well as the need to undergo extensive surveillance and cancer screening, making decisions about risk-reducing surgery, and dealing with the impact of the diagnosis on family relationships (Mahon, 2014).

The diagnosis of breast cancer is accompanied by many unknowns, including prognostic factors, treatment issues, and the reactions of family and friends to the diagnosis. These unknowns contribute to stress with the diagnosis. The psychological care of these patients and their families requires ongoing intervention by healthcare providers. For patients whose breast cancer cannot be cured and who will ultimately die of the disease, there is an ongoing need to recognize and implement palliative care interventions in a timely fashion.

Survivorship

The acute toxicities associated with surgery and adjuvant therapy can be significant and include hair loss, nail and skin changes, mouth sores, loss of appetite, nausea and vomiting, diarrhea, neutropenia, thrombocytopenia, and fatigue (ACS, 2016). Many research efforts are ongoing to determine how to more accurately prevent, assess, and manage these side effects. In addition to short-term side effects, many breast cancer survivors must cope with long-term consequences, including early menopause, osteoporosis, lymphedema, weight gain, cardiovascular damage, neuropathy, and cognitive changes (ACS, 2017a). Addressing the needs of this patient population through tertiary prevention practices is an ever-expanding role for nurses. Current evidence-based strategies for managing both short- and long-term toxicities and complications

associated with breast cancer treatment are available on the Oncology Nursing Society's website (www.ons.org).

Research in breast cancer biology, detection, prevention, and treatment continues. Researchers are actively looking for ways to detect breast cancer as early as possible. Much effort is being made to find effective and tolerable prevention strategies. Genetic markers continue to be identified to better stratify risk. Management of the long-term complications of surgery and treatment continues to pose challenges to healthcare providers. Women need to continue to be offered clinical trials to build an evidence-based practice for the management of breast cancer.

Implications for Nurses

Many issues in breast cancer care are controversial. Patients and healthcare providers need to consider all facets and options, and patients need to make choices that are congruent and appropriate with their value systems and place in life. In some cases, no single correct answer exists.

Many resources are available to healthcare providers who care for individuals with breast cancer. Evidence-based guidelines and information are readily available from the American Cancer Society, American Society for Radiation Oncology, American Society of Clinical Oncology, National Cancer Institute, National Comprehensive Cancer Network, and Oncology Nursing Society. Oncology nurses need to be aware of these guidelines and resources and use the information to provide safe and effective clinical care.

In the age of technology, many individuals turn to the Internet for healthcare information. Some of this information is not reliable. Oncology nurses need to assess the educational needs of patients and families and provide them with accurate information in a variety of formats, including reputable, monitored websites with appropriate and current information.

For many individuals diagnosed with breast cancer, oncology nurses truly make an enormous difference in how they cope with the treatment and its associated complications. Different needs and concerns accompany each phase of the breast cancer trajectory. Nurses are challenged to provide information and care in a way that promotes health, hope, and well-being for the patients and families affected by the diagnosis of breast cancer.

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