

Breast Cancer: Reviewing the Past to Give Direction for the Future

Since the 1970s, significant advances have been made in the diagnosis and treatment of breast cancer. Incidence rates increased during the 1980s and 1990s but began to decrease about 2% each year for women aged 50 years and older beginning in the year 2000, with a 7% decrease in the year 2002 (Siegel, Naishadham, & Jemal, 2013). Mortality rates in the United States also have decreased since 1990, particularly in women younger than 50 years. The declining incidence of breast cancer and improved mortality rates have been attributed to early detection, improved treatment, and research investigating factors associated with an increased risk of breast cancer. However, challenges such as limited effective treatment for symptoms resulting from estrogen deprivation still exist.

Oncology Nursing Forum (ONF) published an editorial by Carroll-Johnson (2002) in which a reader asked why so many breast cancer articles exist. Carroll-Johnson (2002) stated, "The interest in breast cancer is legitimate, given its prevalence and the understandable interest by women (and, thus, nurses) in this disease" (p. 1247). In this article, discussion will focus on popular oncology nursing topics associated with breast cancer, landmark decisions in care, and continuing challenges for oncology nurses in the care of patients with breast cancer.

Breast Cancer Screening

In a 1976 article, Nesbitt reported that the National Cancer Institute and American Cancer Society (ACS) announced that the recommendation for the routine use of screening mammography in asymptomatic women younger than age 50 years would be terminated based on limited statistical benefits of mammography and early detection of breast cancer in this age group and the concern for radiation-induced breast cancer. Nesbitt (1976) advocated for nursing assessment, identifying factors that increase patient risk for developing breast cancer and physical findings necessitating additional evaluation by the physician. In addition, strategies to address patient fears of breast cancer and the importance of breast self-examination (BSE) were emphasized as part of the oncology nurse role.

In the 1980s, ONF published many articles on BSE and the role of the nurse. Oncology nurse researchers investigated BSE practices and proficiencies of RNs (Cole & Gorman, 1984; Haughey et al., 1984; Sawyer, 1986) as well as BSE compliance and factors influencing practice among women (Haughey et al., 1988; Rutledge & Davis, 1988; Trotta, 1980; Welch-McCaffrey & Dodge, 1988; Williams, 1988; Willis, Davis, Cairns, & Janiszewski, 1989) in an effort to identify nursing strategies and patient education strategies to promote the practice of BSE. Monthly BSE has been recommended since 1933. However, since that time, BSE for primary breast cancer screening has been a topic of controversy, with more than 30 nonrandomized trials producing conflicting results regarding the efficacy, sensitivity, and specificity of the practice (Austoker, 2003; Green & Taplin, 2003; Harvey, Miller, Baines, & Corey, 1997). In 2003, the ACS reported new guidelines on breast cancer screening that stated women should be informed about the benefits and limitations of BSE and recommended that women may choose to perform or not to perform BSE. With the dramatic change in practice recommendations, the Oncology Nursing Society (2006) developed and published a position statement on breast cancer screening in ONF to guide oncology nurses in promoting early detection of breast cancer by performing BSE. The position statement on BSE supported oncology nurses educating women about the strengths and limitations of BSE as well as proper techniques so that women could make informed decisions about their personal BSE practice. The U.S. Preventive Services Task Force and the ACS do not recommend BSE, stating that the potential harm (e.g., false-positive test results) outweighs the benefit (Smith, Brooks, Cokkinides, Saslow, & Brawley, 2013; U.S. Preventive Services Task Force, 2009).

Breast Cancer Treatment

Numerous ONF articles describing the role of oncology nursing and nursing practice interventions in the late 1970s reflected major advances in breast cancer treatment.

Surgery and radiation therapy: From the early 1900s to the late 1970s, the Halsted Radical Mastectomy was the primary surgical treatment for breast cancer. The procedure involved removing the breast, underlying pectoral muscle, and all of the axillary nodes (Cotlar, Dubose, & Rose, 2003). In the 1980s, surgical approaches changed when it became evident that less radical procedures did not increase morbidity and mortality, and the modified radical mastectomy that preserved the pectoral muscle became the recommended surgical procedure.

Conservative surgery or local excision with radiation therapy for early-stage breast cancer soon became another option as research in the early 1980s found similar survival rates without local recurrence when compared to the

musculocutaneous (TRAM) flap, created by Carl Hartrampf, was first performed in 1980 (Clayton & Waller, 1996). Hill and White (2008) conducted a qualitative study exploring women's experiences with TRAM flap breast reconstruc-

et al. (2002) stressed that oncology nurses should educate patients about postsurgical sensations and provide strategies that may assist with reducing or alleviating those sensations.

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modified radical mastectomy procedure (Goldenberg, Prosnitz, & Peters, 1980; Levene, 1981).

For decades, oncology nurses recognized the psychological distress and impact on a woman's body image and sexuality from the radical mastectomy procedure. The nurses were prompt to respond to those changes by identifying education needs and symptom management for women undergoing new surgical approaches and related radiation therapy. Wilson and Strohl (1982) published a paramount article providing a review of the literature regarding breast cancer surgery and radiation therapy. The article described side effects of radiation therapy for treatment of breast cancer, with implications for nursing practice and care of the patient undergoing radiation therapy.

Advances in breast reconstruction: The silicone gel breast implant was introduced in 1963 for patients undergoing breast reconstruction, and the technique involved a delayed insertion following a mastectomy. The technique changed in 1971 when silicone breast implants were inserted immediately following a mastectomy. In 1982, the tissue expander was introduced as an option for women with more extensive skin deficit (Uroskie & Colen, 2004). D'Angelo and Gorrell (1989) provided a detailed description of the tissue expansion surgery with pictures and emphasized the oncology nurse role in preoperative and postoperative care. Psychosocial factors, education information, and assisting patients through decision making and adjustment to personal feelings following the surgery were emphasized. In the late 1980s, and more women were undergoing surgical procedures to promote self-image and improve psychological distress.

Alternative breast reconstruction procedures also were developed. Specifically, the transverse rectus abdominis

tion. Themes that emerged from the study identified women struggling with altered body image and the decision to proceed with breast reconstruction, needing support throughout the adjustment phase, and redefining the concept of self. Hill and White (2008) highlight the role of nurses in providing physical care as well as providing psychosocial support through the procedure and the adjustment to a new normal.

The status of lymph node involvement has been an important factor in determining prognosis and treatment strategies for breast cancer. Axillary lymph node dissection (ALND) has been the standard of care for decades; however, this procedure had many postoperative short- and long-term side effects, (e.g., changes in axilla, breast, and chest wall sensations; pain; limited mobility; lymphedema). In 1991, sentinel lymph node biopsy (SLNB), performed previously with melanoma procedures, was used to treat patients with breast cancer (Giuliano, Kirgan, Guenther, & Morton, 1994; Tanis, Nieweg, Valdés Olmos, Th Rutgers, & Kroon, 2001). SLNB was intended to be less extensive and less invasive by decreasing the axillary nerve and lymphatic disruptions in comparison to ALND. SLNB later became the standard of care for patients with breast cancer (Giuliano, Jones, Brennan, & Statman, 1997), but questions remained regarding women's experiences and sensation alterations. Baron et al. (2002) compared immediate and delayed sensations occurring between SLNB and ALND, and they evaluated reliability and validity of the Breast Sensation Assessment Scale as part of tool development. Findings suggested that prevalence, severity, and level of distress were lower following SLNB. At the time of long-term study assessment, tenderness, soreness, tightness, and numbness were identified as the most severe and distressing symptoms in both groups (Baron et al., 2002). Baron

Hormone therapy: Estrogen plays a major role in normal breast physiology, but it also stimulates tumor growth. Therefore, blocking estrogen effects has been found to help control some breast cancers. Specific hormone receptors were identified in the 1960s and prompted the development of tamoxifen, a medication that could block or inhibit estrogen (Ingle, 2003). Tamoxifen was first approved as a treatment for advanced breast cancer in postmenopausal women in 1977 and later was used as adjuvant therapy with chemotherapy in postmenopausal, node-positive women in 1985 (Grana, 2003). Tamoxifen currently is used in premenopausal women with estrogen receptor (ER)-positive disease (National Comprehensive Cancer Network, 2013). Aromatase inhibitor therapy was introduced in the early 2000s to prevent the conversion of androgen to estrogen in postmenopausal women. Several aromatase inhibitor agents are used in postmenopausal women with ER-positive disease (Viale, 2005).

In the past 40 years, a substantial number of breast cancer articles in *ONF* focused on the topic of hormone therapy. Following U.S. Food and Drug Administration approval of tamoxifen, Flynn and Durivage (1982) presented information about the drug's mechanism of action, indications, side effects, cost considerations, and nursing implications when caring for patients. In the 1990s, controversies arose about the increased risk of endometrial cancer with tamoxifen use. In an effort to keep oncology nurses up to date regarding the uses of and controversies surrounding tamoxifen, Crabbe (1996) and Pasacreta and McCorkle (1998) conducted literature reviews and presented risks and benefits of therapy. They noted the role of the oncology nurse in educating and supporting women in decision making, alleviating side effects, and teaching women to recognize and report uterine abnormalities. Similarly, with the approval of aromatase inhibitor therapy, Viale (2005) and Wasaff (1997) presented current reviews of the role of these agents for women with breast cancer. Drug actions and side effects were discussed in an effort to provide information to oncology nurses for patient education and nursing management of side effects.

Hormone therapy side effects: Since 2000, articles published on breast cancer in *ONF* have focused on long-term side effects of therapy that can be devastating and diminish quality of life for survivors. Hot flashes and sexual dysfunction have been among the most discussed side effects.

Hot flashes are a distressing symptom that alters quality of life. Breast cancer survivors are predisposed to hot flashes because of ovarian dysfunction and early, artificial menopause caused by chemotherapy; side effects of antiestrogen tamoxifen and aromatase inhibitor therapy; and the inability to take estrogen products. To explore the hot flash symptom experience in breast cancer survivors, Carpenter, Johnson, Wagner, and Andrykowski (2002) compared hot flashes, mood, affect, interference with daily activities, and overall quality of life between breast cancer survivors and age-matched healthy women. Findings suggested that breast cancer survivors had hot flashes that were significantly more frequent, severe, distressing, and of greater duration than healthy women of the same age. Breast cancer survivors with severe hot flashes reported significantly greater mood disturbance, higher negative affect, poorer quality of life, and more interference with daily activities such as sleep, concentration, and sexuality. Findings provide an awareness of the need for comprehensive assessment and for intervention research to assist breast cancer survivors with this distressing symptom.

Interventions that have been suggested to reduce or relieve hot flashes have included both pharmacologic and nonpharmacologic interventions. Barton et al. (2002) conducted a longitudinal continuation study investigating venlafaxine for the control of hot flashes. Study findings suggested that a reduction in hot flashes with minimal side effects was observed with the use of venlafaxine (75 mg per day). In addition, difficulty sleeping and fatigue improved during the study period.

A nonpharmacologic approach to decreasing hot flash severity was studied with a cognitive-behavioral intervention using an instructional DVD (Carpenter, Neal, Payne, Kimmick, & Storniolo, 2007). The intervention included a cognitive activity consisting of distraction and two behavioral activities consisting of remaining still and breathing or panting. Findings from this pilot study suggest

that the cognitive-behavioral intervention showed significant but minor decreases in worst hot flash severity, bother, mood, and disruption of daily activities.

Another distressing symptom experienced by breast cancer survivors is sexual dysfunction and related issues with intimacy. Alterations in self-image; early, artificial menopause; and the inability to take estrogen can lead to physical and psychological distress and loss of sexual intimacy. Huber, Ramnarace, and McCaffrey (2006) conducted a literature review exploring the sexuality and intimacy experiences of women with breast cancer and the management of those issues by healthcare providers. Previous literature suggested a lack of patient perception and knowledge regarding mastectomy and chemotherapy-induced menopause and the impact on life-long sexual experiences. Practice recommendations included assessment of individual patient issues to gain a better understanding of psychosocial and physical needs related to sexual function and intimacy issues in breast cancer survivors.

To define the extent of urogenital atrophy in breast cancer survivors, Lester and Bernhard (2009) conducted a literature review of qualitative and quantitative research data that described pain, function, satisfaction, and quality of life related to urologic, genital, and sexual function. Previous research suggested that urogenital atrophy in breast cancer survivors is a multidimensional symptom experience and can be influenced by related and interacting physiologic, psychological, and situational factors. Symptoms may include changes in urinary patterns, vaginal irritation and discharge, and pain with sexual activity. Oncology nurses should explore those issues, assess symptoms, and recommend interventions to increase the quality of life for breast cancer survivors.

Continuing Challenges

Retrospective review of the literature in *ONF* during the past 40 years, highlighting the most significant topics impacting women with breast cancer, has emphasized the unique role and the substantial influence that oncology nursing has made on improving screening, side-effect management, and quality of life. However, additional research and more effective nursing strategies are needed as the number of

breast cancer survivors increases in the future. Oncology nurses play a key role and must listen, assess, and develop specific strategies for bothersome symptoms. In addition, patient and partner education of early, artificial menopause; related symptoms; and the potential for intimacy issues is critical in assisting women to understand physical and psychosocial changes. With ongoing research, nurses will continue to make a difference for breast cancer survivors.

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