Occupational Therapy’s Role in Promoting Positive Health Outcomes of Women Diagnosed with Breast Cancer

Madeline D. Harcrow, OTD/S
with Dr. Elena Espiritu, OTD, OTR/L, BCPR and Andrea Cooper, OTR/L, CLT-LANA
Belmont University School of Occupational Therapy

Introduction

Prevalence
252,710 new invasive cases of breast cancer in the United States in 2017 (ACS, 2017)

Clinical Relevance
• Cancer diagnosis and treatment can profoundly impact aspects of wellness, including roles, routines, work, activities of daily living (ADLs), emotional health, social engagement, sleep, sex, and cognition. Specifically, chemotherapy, radiation, and/or surgery can impose physical and psychological strain of varying intensities on the individual, resulting in decreased ability to engage in meaningful experiences (occupations) (Delulio & Hughes, 2012).
• Occupational therapy can help to remove overlooked needs and barriers to participation before, during, and following breast cancer treatment. Occupational therapy is a skilled health, rehabilitation, and educational service that exists for the purpose of helping people across the lifespan participate in the things they want and need to do through the therapeutic use of activity or environmental modification, and remediation or maintenance of skills (AOTA, 2012).

Agency Partnership: Nashville Breast Center at St. Thomas Midtown Hospital
Offer interdisciplinary care for clients diagnosed with breast cancer. Services provided include biopsy of breast, excision of tumor, mastectomy, and lymphedema therapy.

Project Purpose
• To engage both women with breast cancer and invested healthcare professionals in developing patient-centered, evidenced-based programming that effectively meets the complex needs of this patient population.
• To create and disseminate basic resources used to inform all stakeholders of complex needs of this patient population.
• To offer interdisciplinary care for clients diagnosed with breast cancer.
• To engage both women with breast cancer and invested healthcare professionals in developing patient-centered, evidenced-based programming that effectively meets the complex needs of this patient population.

What is it?
Prehabilitation occurs between the time immediately after diagnosis and the start of treatment. “Prehab” services allow the opportunity to educate patients, obtain baseline assessments, and begin necessary interventions to improve particular outcomes (Corder & Duval, 2016). Its purpose is to improve one’s physical and psychological health in anticipation of an upcoming stressor to health (Silver, 2014).

Intervention
Prehabilitation interventions include multimodal components, including physical activity and psychosocial education aspects, and should be combined with rehabilitative efforts during and following treatment for improved outcomes longer than 30 days (Faithfull et al., 2019).

Possible Patient Outcomes
• Improved health outcomes
• Reduced patient rehabilitation visits after cancer treatment
• Decreased hospital length of stay
• Decreased costs
• Improved patient quality of life (QOL) (Corder & Duval, 2016)

Literature Review

Predictors of Poor Response to Treatment
• An association exists between elevated BMI and poorer pathological response to neoadjuvant chemotherapy and shorter overall survival time in obese breast cancer patients when compared to those with a normal or low BMI (Parsons et al., 2012).
• An association exists between sarcopenia (low muscle mass) and increased risk of overall mortality and breast-cancer-specific mortality when compared to women with breast cancer without sarcopenia (Villasenor et al., 2012).
• An association exists between low social well-being scores on a QOL assessment and increased risk of death and increased risk of cancer recurrence (Penston et al., 2010).
• Research indicates that smoking may increase risk of breast cancer, specifically long-term, heavy smoking among women before their first pregnancy (Gaudet et al., 2013).
• An association exists between higher fruit and vegetable intake in adolescence and early adulthood and reduced risk of breast cancer (Farvid et al., 2016).
• Patients with identified predictors of poor health outcomes (i.e., obesity, sarcopenia, poor QOL, smoking, and malnutrition) then have the opportunity to optimize fitness through patient-specific prehabilitative intervention.

Clinical Protocol

Needs Assessment

Findings
Most frequently recorded responses to “I wish I had received more information about:”
• Maintaining health body image/realistic expectations of body after surgery (39%);
• Management of medication side effects, e.g., insomnia, hot flashes, joint pain, vertigo (35%);
• Nutrition/wellness management (27%);
• Return to typical exercise routine (27%)
Most frequently recorded responses to “I am currently experiencing, or have experienced, trouble with:”
• Significant fatigue (27%);
• Cording/axillary web syndrome (27%);
• Weight management (25%)

Prehabilitation Interactions May Include:
• Exercise interventions (e.g., stretching, respiration exercises, yoga, and meditation).
• Aerobic/cardio physical activity (2.5 hrs/week).
• Low intensity training (e.g., free weights, elastic tubing/bands, or even household products).
• Total body awareness training.
• Mindfulness-based training.
• Cognitive-behavioral intervention.
• Self-management training.
• Behavioral activation/problem solving.
• Scoping strategies.

Evidence
• Consistent exercise before and during treatment may lead to improved health outcomes, including reduced risk of breast cancer recurrence, all-cause mortality, and breast cancer mortality (Plummer & Chalmers, 2017).
• Strong evidence shows that exercise, particularly aerobic activity, may significantly reduce cancer-related fatigue (Brawerman & Hunter, 2017).
• Physical activity is associated with increased sense of well-being and improved mood (Browall et al., 2018).
• Physical activity is not associated with lymphedema cause nor worsening (Cermie et al., 2013).

Recommended “doseage” and sample schedule:
• 150 min (2.5 h) per week of aerobic activity and 2+ days of muscle-strengthening activity (HIIS, 2018).
• Low intensity training includes relaxation techniques and body awareness training such as stretching, respiration exercises, yoga, and meditation.

Principles
• Program includes both aerobic and progressive resistance exercise
• Supervised vs. unsupervised when feasible
• Program client-centered, and feasible for public exercise and home-based activity
• Incorporate action planning to collaboratively identify and solve barriers to participation (Lyon et al., 2015).

Advocacy
• Created patient handout to provide NBC clients with basic information on occupational therapy’s unique role in supportive oncology care and to outline available services provided by the OTR.
• Created patient handouts presenting basic information on physical activity to promote health literacy and encourage patients to make appropriate decisions regarding exercise.
• Performed Needs Assessment to investigate what NBC clients are interested in learning more about regarding their diagnosis to determine health-related gaps in service and priorities for future organizational improvement.
• Met with oncological surgeon to discuss protocol and its potential use in the clinic.

Implications
• Occupational therapists are uniquely postured to assist patients in maintaining and resuming valued roles despite compounding and often unpredictable symptoms.
• Occupational therapy practitioners should consider pursuing additional education and formal clinical experience in cancer prehabilitation, rehabilitation, and cancer as a chronic condition.
• The future of effective anticipatory and holistic oncology care requires acquiring and understanding current literature, knowing how to incorporate evidence into best practice with patient values and preferences at front of mind, and extensive collaboration with other health care professionals.

References available upon request.