Timing and Sustainability of an Exercise Intervention in Women With Breast Cancer During and After Cancer Treatment

Fang-yu Chou, PhD, RN, Marylin J. Dodd, RN, PhD, FAAN, and Steven M. Paul, PhD

Exercise intervention programs in women with breast cancer have been associated with several positive health outcomes (McNeely et al., 2006), such as functional capacity (Griffith et al., 2009), cardiorespiratory fitness (Griffith et al., 2009; Hsieh et al., 2008; Schneider, Hsieh, Sprod, Carter, & Hayward, 2007), insulin level (Ligibel et al., 2008), body composition and weight (Irwin et al., 2009; Morey et al., 2009; Rogers et al., 2009), bone mass (Irwin et al., 2009; Winters-Stone, Schwartz, & Nail, 2010), muscle strength and balance (Twiss et al., 2009), fatigue (Hsieh et al., 2008; Mock, 1994; Schneider et al., 2007), nausea (Lee, Dodd, Dibble, & Abrams, 2008), sleep (Payne, Held, Thorpe, & Shaw, 2008), and social well-being (Rogers et al., 2009). Exercise interventions employed in studies of women with breast cancer include a home-based walking program, aerobic and resistance programs, yoga, or a supervised individual program for either women with breast cancer receiving active treatment or breast cancer survivors. In addition, Sprod, Hsieh, Hayward, and Carter (2007) reported that breast cancer survivors in a longer duration (six-month) exercise intervention had greater improvements in pulmonary function and muscle endurance than those in a shorter duration (three-month) intervention.

For patients with cancer receiving active treatment such as chemotherapy, the goal of exercise is to maintain endurance, strength, and level of function (Schwartz, 2003). However, what effect the timing of initiating an exercise-training program may have in relation to how participants sustain the exercise regimen during chemotherapy and beyond is not known. The purpose of this study was to compare changes in frequency, duration, and intensity of exercise behaviors over time between women with breast cancer who were prescribed an exercise intervention (a) at the beginning of cancer treatment or (b) at the completion of cancer treatment.

Methods

The data used in this analysis were part of a single-blind, randomized clinical trial (Dodd et al., 2010) to test the effectiveness of an exercise intervention, the...