Efficacy of a Home-Based, Unsupervised Physical Activity Program on Fatigue, Sleep Quality, and Quality of Life in Survivors of Breast Cancer

Kübra Erturhan Türk, PhD, and Meryem Yılmaz, PhD

BACKGROUND: Women with breast cancer (BC) experience symptoms related to fatigue, sleep quality, and quality of life (QOL) in the post-treatment period. Oncology nurses need to plan interventions such as physical activity (PA) aimed at reducing the symptoms experienced by patients.

OBJECTIVES: The aim of this article is to determine the efficacy of a home-based, unsupervised PA program on fatigue, sleep quality, and QOL in survivors of BC.

METHODS: This study was an experimental study with a prospective control group. Female survivors of BC were randomly assigned to either the home-based, unsupervised PA intervention group or the control group for 12 weeks. Fatigue, sleep quality, and QOL were assessed with questionnaires at baseline and the 12th week.

FINDINGS: The home-based, unsupervised PA program yielded positive effects on fatigue and QOL among participants. The program did not affect sleep quality.

KEYWORDS
breast cancer; physical activity; fatigue; sleep quality; quality of life

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BECAUSE CANCER HAS TURNED FROM A LIFE-THREATENING CONDITION to a chronic condition, a cancer diagnosis requires coping with the numerous side effects and managing the long-term sequelae of therapeutic modalities (Miller et al., 2022). Cancer-related fatigue (CRF) comes to the forefront of problems experienced by patients with cancer (Momayyezi et al., 2021). CRF is one of the most common symptoms of cancer and affects one in four cancer survivors (Maass et al., 2021). The National Comprehensive Cancer Network (2023a) defines CRF as "distressing, persistent, or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to activity, and interferes with usual functioning" (p. FT-1). Another major problem for survivors of cancer is the deterioration of sleep quality (Cho & Hwang, 2021). Sleep quality of patients with cancer who have completed treatment is poor, and poor sleep quality increases fatigue levels (Wu et al., 2023).

Although fatigue and poor sleep quality are the most frequently reported distressing complaints that have a significant negative impact on the quality of life (QOL) of female survivors of breast cancer (BC), these issues persist after cancer treatment and at all stages of the cancer trajectory (He et al., 2022; Heins et al., 2022; Tran et al., 2023). Previous studies have found that all dimensions of QOL in female survivors of BC were adversely affected (Jang et al., 2022; Park et al., 2021).

Physical activity (PA) is a known behavior that can reduce cancer risk, alleviate adverse effects that occur in female survivors of BC, and improve survivorship (Coletta et al., 2019). In addition, research has indicated that PA is associated with a decrease in CRF, enhancements in sleep quality (Zhang et al., 2018), and improvements in QOL (Forner et al., 2021). However, Gal et al. (2019) reported that female survivors of BC reduced their PA levels. In one study, PA was reported as the least common healthy lifestyle behavior in women with BC (Kelly et al., 2020). The National Comprehensive Cancer Network (2023b) states that with appropriate support, patients with cancer can increase their PA levels by setting specific, measurable, achievable, realistic, and time-bound goals, along with

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