

# The Effect of Seated Exercise on Fatigue and Quality of Life in Women With Advanced Breast Cancer

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**Purpose/Objectives:** To examine the effects of a seated exercise program on fatigue and quality of life (QOL) in women with metastatic breast cancer.

**Design:** Randomized, controlled, longitudinal trial.

**Setting:** Outpatient clinic of a comprehensive cancer center.

**Sample:** Convenience sample of 38 women who were beginning outpatient chemotherapy.

**Methods:** Subjects were randomized to a control or intervention group; the intervention was performance of a seated exercise program using home videotape three times per week for four cycles of chemotherapy. All subjects completed the Functional Assessment of Chronic Illness Therapy–Fatigue Version IV (FACIT–F) at baseline and at the time of the next three cycles. Subjects were asked to document the frequency, duration, and intensity of all exercise participation on monthly calendars.

**Main Research Variables:** Exercise, fatigue, and QOL.

**Findings:** 32 subjects, 16 per group, completed the study follow-up. With a mixed modeling approach, total FACIT–F scores for the entire sample declined at a significant rate ( $p = 0.003$ ) beginning with cycle 3 but at a slower rate for the experimental group ( $p = 0.02$ ). Fatigue scores indicated less increase and physical well-being subscale scores showed less decline for the experimental group ( $p = 0.008$  and  $p = 0.02$ , respectively).

**Conclusions:** Women with advanced breast cancer randomized to the seated exercise intervention had a slower decline in total and physical well-being and less increase in fatigue scores starting with the third cycle of chemotherapy.

**Implications for Nursing:** Seated exercise may be a feasible exercise program for women with advanced cancer for controlling fatigue and improving physical well-being.

## Key Points . . .

- Fatigue is a debilitating and complex symptom in patients with advanced cancer and has been understudied in this population in the literature.
- This study suggests that participation in low- to moderate-intensity exercise such as seated exercise may mitigate the increase in fatigue over time that commonly occurs with chemotherapy treatment.
- Adherence is a factor that must be addressed when investigating exercise interventions for fatigue in patients with cancer and needs further study.

psychological parameters, such as coping ability (Dimeo, Tilmann, et al., 1997; Winningham, 1991).

Research studies have shown that walking exercise programs decrease fatigue and improve quality of life (QOL) in patients with breast cancer receiving treatment for local or regional disease (Mock et al., 1994, 1997; Sitzia & Huggins, 1998). Although the significance of fatigue in patients with metastatic disease has been well documented, little research has explored exercise interventions for fatigue in women with advanced breast cancer (Courneya & Friedenreich, 1999; Messias, Yeager, Dibble, & Dodd, 1997). The purposes of this pilot study were to (a) examine perceptions of fatigue and the effects of a seated exercise program over time on fatigue and QOL in patients with breast cancer receiving chemotherapy for distant metastases and (b) determine the feasibility of a larger study.

More than three-fourths of patients with cancer have debilitating fatigue, and almost one-third report fatigue on a daily basis. Literature has shown that fatigue is experienced by 75%–99% of patients with cancer receiving chemotherapy (Nail & Jones, 1995) and that it increases with each cycle of treatment (Headley, 1997; Woo, Dibble, Piper, Keating, & Weiss, 1998). The presence of fatigue has been associated with chemotherapy dose limitation or discontinuation of therapy (Skalla & Rieger, 1995; Whedon, Stearns, & Mills, 1995; Winningham et al., 1994).

About 50% of patients with cancer have reported a preference for nonpharmacologic interventions to manage fatigue (National Comprehensive Cancer Network [NCCN], 2001). Research studies have demonstrated that exercise is the nonpharmacologic intervention with the strongest evidence of therapeutic benefit for managing fatigue (Dimeo, 2001; NCCN). Findings of studies that tested the intensity levels of aerobic exercise indicated that exercise of low to moderate intensity has beneficial effects on physical fitness and selected

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