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### **An Exercise Intervention for Breast Cancer Survivors: Physical and Psychological Symptoms and Functional Ability Outcomes**

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**PURPOSE:** A pilot study of an aerobic resistance exercise intervention was conducted to evaluate feasibility and effects on physical and psychological symptom distress and functional ability.

**METHODS:** A one group pre and post test design was used to test a supervised exercise protocol delivered three times per week for 16-24 weeks at 3 community fitness centers. Women progressed (wks 1-4) to a goal of 45 min/session on a treadmill in their target heart rate. Symptom data were collected from the Breast Cancer Prevention Trial Checklist (BCPT) (Ganz, et al 1998), the Symptom Distress Scale (SDS) (McCorkle and Young, 1978) and the CES-D (Radloff, 1977). Functional ability was measured by the Rand Health Survey (McHorney, Ware and Sherborne, 1994).

**RESULTS:** The mean age of the sample (N=26) was 51.3 yrs (SD=6.2). The majority of women were employed, well educated and married; 65% had received adjuvant chemotherapy; 62% were on endocrine therapy. Average adherence was 88.2% (SD=6.8%). Symptoms reported by >50% included hot flashes, headache, vaginal dryness, aches/pains, joint pains, distress about appearance, forgetfulness, night sweats and early awakening and >30% reported dyspareunia, breast sensitivity, hand swelling, weight gain, difficulty concentrating and being easily distracted. Total symptom distress decreased over time (BCPT  $p=.008$ , SDS  $p=.004$ ). Functional ability improved over time, significantly better for emotional functioning ( $p=.04$ ) and a trend for improved physical functioning ( $p=.07$ ). Average depression scores improved significantly from baseline (M=10.9 SD=8.6) to 24 weeks (M=7.0 SD=7.8) ( $p=.02$ ).

**CONCLUSION:** The findings indicate that exercising three times per week at a fitness center is feasible and resulted in subjectively improved physical and emotional functioning and reduced the severity of symptom distress for many, but not all symptoms.

**RESEARCH IMPLICATIONS:** The established feasibility and the promising findings of this pilot support a larger randomized controlled trial with adequate power to determine outcomes.

**CLINICAL IMPLICATIONS:** The findings of this study confirm previous research on the psychological benefits of exercise. Breast cancer survivors report a variety of physical and psychological symptoms. It is important to evaluate reported psychological symptoms in the context of physical complaints as they can be closely related.

**ACKNOWLEDGEMENT OF FUNDING:** ACS; Institutional, NINR