Effects of Exercise Intensity and Self-Efficacy on State Anxiety With Breast Cancer Survivors

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Anxiety, defined as an uneasy and unpleasant feeling of potential harm or distress that may occur in the absence of an obvious stimulus, often is reported in response to diagnosis and treatment of cancer (Newell, Sanson-Fisher, Girgis, & Ackland, 1999; Schwarz et al., 2008). In previous studies, breast cancer survivors have reported less control of their world and greater incidence of anxiety compared to age-matched women without a cancer diagnosis (Saleeba, Weitzner, & Meyers, 1996; Tomich & Helgeson, 2002). Anxiety develops in association with cognitive processes relating to the inability to cope (Bottomley, 1998; Martens, Vealey, & Burton, 1990; Saleeba et al., 1996; Spencer et al., 1999; Stefanek, Derogatis, & Shaw, 1987).

Common anxiety-coping interventions include educational, informational, psychotherapeutic, and nonprofessional social support. These interventions report small effect sizes (d = 0.19–0.28), highlighting the need for more treatment alternatives (Meyer & Mark, 1995).

An alternative nonmedical option that is gaining empirical support for coping with anxiety is exercise (Knapen et al., 2008; Tekin, 2002). With breast cancer survivors, the effect of habitual exercise also has been reported to decrease state anxiety (Segar et al., 1998). To date, only one study has examined the anxiolytic effects of acute exercise with breast cancer survivors (Blanchard, Courneya, & Laing, 2001). This study reported findings consistent with the previous literature regarding a one-time bout of exercise in the general population and reported a substantial effect size (d = 0.7) (Callaghan, 2004; Focht, 2002; Motl & Dishman, 2004; Petruzzello, Landers, Hatfield, Kubitz, & Salazar, 1991). The anxiolytic effect of exercise may be important for cancer survivors as well as the general population; however, initial pilot work is required to warrant larger future studies in this area, examining potential exercise intensity effects and possible psychological explanations for the anxiety-exercise relationship.

A comparison of acute exercise intensity effects on state anxiety with breast cancer survivors and those without a cancer diagnosis will confirm whether additional work regarding exercise prescription at a specified intensity is required for optimal anxiolytic effects.

Comparisons of special or diseased populations and the general population have been advocated so that differences or similarities in exercise-related psychology can be observed (Rhodes & Blanchard, 2007). Considering the population involved in the present study, comparing light and moderate intensities may provide preliminary practical information for exercise prescription.

Finally, understanding the mechanism underlying the exercise-anxiety relationship may be important for...