

# Physical Activity and the Risk of Breast Cancer Recurrence: A Literature Review

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**W**ith 191,410 cases diagnosed in 2006, breast cancer is the most common form of cancer among women (U.S. Cancer Statistics Working Group, 2010). Physical activity may complement current therapies to increase the odds of curing breast cancer in patients. Observational studies suggest that regular engagement in physical activity may reduce the risk of breast cancer recurrence and breast cancer-related mortality (Ibrahim & Al-Homaidh, 2011). However, before effective physical activity interventions can be developed for women with breast cancer, a better understanding is needed of the factors that influence physical activity behavior in this population.

This article evaluates research literature pertaining to the effects that physical activity has on decreasing the recurrence of and mortality from breast cancer in women with curatively treated localized breast cancer. In addition, the article describes factors related to physical activity behavior to help develop and implement effective physical activity interventions for women with breast cancer, and reviews the evidence that attempts to identify barriers and facilitators for regular physical activity participation among women with a breast cancer diagnosis.

## Methods

An extensive review of the epidemiologic literature on the effect of physical activity on breast cancer recurrence and mortality was conducted using PubMed articles up to December 2010, using the following key words: *physical activity*, *exercise*, *breast cancer*, *breast cancer recurrence*, and *breast cancer mortality*. To examine the association between physical activity and breast cancer recurrence and mortality, the researchers only included studies if breast cancer recurrence or mortality served as the dependent variable; physical activity served as the independent variable; and a measure of association between physical activity, breast cancer recurrence, or breast cancer mortality was reported.

**Purpose/Objectives:** To examine the association between physical activity and breast cancer mortality and recurrence, and to provide an overview of factors related to physical activity behavior in women with breast cancer.

**Data Sources:** An extensive review of the epidemiologic literature on the effect of physical activity on breast cancer recurrence and mortality was conducted using PubMed up to December 2010, involving the following key words: physical activity, exercise, breast cancer, breast cancer recurrence, and breast cancer mortality.

**Data Synthesis:** For breast cancer recurrence and breast cancer-related mortality, studies were included if physical activity served as the independent variable and a measure of association was reported. To examine determinants of physical activity, studies were included if a hypothesized factor served as the independent variable and a measure of association was reported.

**Conclusions:** Of the six studies that examined the influence of physical activity on breast cancer mortality, four (67%) reported a protective effect (i.e., inverse association), two examined the influence of physical activity on breast cancer recurrence and reported a nonsignificant risk reduction. Few studies have examined factors that influence physical activity behavior in women with breast cancer, and findings suggest that psychosocial factors play an important role in influencing the activity patterns of breast cancer survivors. Future longitudinal studies are needed to confirm those findings.

**Implications for Nursing:** To prevent breast cancer recurrence and breast cancer-related mortality, nurses should encourage breast cancer survivors to engage in regular exercise.

To identify studies that examined factors influential to physical activity behavior in women diagnosed with breast cancer, the current study's researchers conducted a PubMed search using the following key words: *exercise*, *breast cancer*, *psychosocial*, and *environment*. A study was included if physical activity served as the dependent variable, a hypothesized factor served as the independent variable, and a measure of association between physical activity and the hypothesized factor was reported. Manual searches of the reference lists from the