

Exercise Lowers Breast Cancer Risk

Dec. 11, 2006 -- Regular exercise helps protect older women against breast cancer -- in particular, a less common but hard-to-treat form of the disease, a new study shows.

In a study that looked at the link between exercise and breast cancer risk in more than 36,000 women, researchers found a 34% reduction in the likelihood of getting one specific type of breast cancer in women with high levels of physical activity.

The researchers from the Mayo Clinic in Rochester, Minn., conclude that postmenopausal women can lower their risk of developing breast cancer by engaging in moderate exercise.

The strongest evidence of a benefit was in preventing an aggressive, hormone-driven cancer known by doctors as estrogen-receptor positive and progesterone-receptor negative (ER+/PR-).

Women with a high level of physical activity were a third less likely to develop that type of cancer than women in a low activity group.

That high level of exercise also resulted in a 14% reduction in breast cancer risk overall, compared with women with low physical activity. However, after adjusting for body mass index (BMI) in the women, the risk reduction dropped to 9% -- a number not considered significant in this study.

BMI is used to help determine obesity status. Obesity has been identified as a strong independent risk factor for breast cancer.

The findings are reported in the latest issue of *Archives of Internal Medicine*.

"This study provides additional evidence that physical activity helps protect against breast cancer," researcher James R. Cerhan, MD, PhD, tells WebMD. "And it appears that it is never too late to begin an exercise program, even if you haven't been physically active in the past."

The Importance of Tumor Type

The new study is not the first to find exercise beneficial for lowering breast cancer risk. But it is the first large investigation to quantify this benefit by tumor type.

Cerhan and colleagues used data from a large, ongoing health trial of postmenopausal women, known as the Iowa Women's Health Study, in their effort to understand the impact of exercise on different types of breast cancer.

All participants were between the ages of 55 and 69 in 1986, when they filled out a 16-page health questionnaire. The women were asked how often and with what intensity they engaged in physical activity.

High physical activity (9,111 women) was defined as vigorous activity -- such as jogging, swimming, or racket sports -- two or more times each week, or moderate activity -- such as bowling, golf, or walking -- more than four times a week.

Medium physical activity (10,030 women) was defined as engaging in a vigorous activity once a week or in moderate activity one to four times a week.

About 17,222 women got less exercise than this and were recorded in the low physical activity group.

Of the women in the study with breast cancer of a known type, roughly 14% had the progesterone negative, or ER+/PR-, tumors.

This type of tumor is more aggressive than a progesterone-receptor positive type (ER+/PR+).

High physical activity was associated with a 34% reduction in the risk of the progesterone-negative tumors, and this risk reduction did not appear to be influenced by body weight, Cerhan says.

The Impact of Estrogen

Obesity is a source of estrogen in postmenopausal women, and estrogen also drives the development of estrogen-receptor-sensitive tumors.

Since the impact of exercise was strongly linked to body weight for ER+/PR+ tumors, but not for ER+/PR- tumors, the researchers suggest that some other mechanism may be involved in the development of tumors.

"This finding argues against estrogen being the major player for this tumor subtype," Cerhan says.

But from a public health standpoint, the message is the same. Postmenopausal women can lower their overall breast cancer risk by engaging in regular exercise, says breast cancer researcher Anne McTiernan, MD, PhD, of Seattle's Fred Hutchinson Cancer Research Center.

McTiernan wrote the book *Breast Fitness: An Optimal Exercise and Health Plan for Reducing Your Risk of Breast Cancer*.

"Lack of exercise and obesity are thought to account for about a quarter of breast cancer cases," she tells WebMD.

"It is clear that women are not as physically active as they should be. We have an epidemic of obesity," she points out.

"Exercising and avoiding weight gain are two important things that women can do to lower their risk," says McTiernan.

SOURCES: Bardia, A. *The Journal of the American Medical Association*, Dec. 11/25, 2006; vol 166: pp 2478-2483. James R. Cerhan, MD, PhD, professor of epidemiology, Mayo Clinic College of Medicine, Rochester, Minn. Anne McTiernan, MD, PhD, director, Prevention Center, Fred Hutchinson Cancer Center, Seattle; author, *Breast Fitness: An Optimal Exercise and Health Plan for Reducing Your Risk of Breast Cancer*.

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