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Association between physical activity and mortality among breast cancer survivors

Purpose:

It is known that a greater physical activity (PA) reduces the risk of breast cancer (BC). Nevertheless, there is still limited evidence about what role PA may play in the prognosis of the disease. The aim of this study was to assess the association of pre- and postdiagnosis PA with overall and BC-specific mortality among BC survivors.

Methods:

A total of 13,399 BC survivors from the European Prospective Investigation into Cancer and Nutrition (EPIC) study were included. During the follow-up period (average 8.6 years) 2,380 women died, of whom 1,480 from BC. The main exposure was an overall measure of PA derived from a PA index (PA at work and leisure-time activities). We further analysed recreational PA (walking, cycling and sport activities). A subset of 2,023 survivors completed a second questionnaire within a 6-month to 4-year postdiagnosis. Multivariable Cox and Fine-Gray models were employed to evaluate the association of PA with overall and BC-specific mortality respectively, adjusted for relevant confounders.

Results:

BC survivors who were physically active before diagnosis had a 14% lower risk of all-cause mortality (HR 0.86, 95% CI: 0.78-0.95), and 12% lower risk of BC-specific mortality (HR 0.88, 95% CI: 0.77-1.00). PA postdiagnosis was associated with a lower risk of overall and BC-specific mortality of 43% (HR 0.57, 95% CI: 0.44-0.75) and 52% (HR 0.48, 95% CI: 0.34-0.68), respectively. A significant lower risk of mortality was also observed among those who practiced recreational PA after diagnosis. Women who became active at postdiagnosis had lower risk of overall mortality (HR 0.48, 95% CI 0.27-0.83) and BC-specific mortality (HR 0.35, 95% CI 0.16-0.74).

Conclusion:

Being physically active (pre- and postdiagnosis) reduces the risk of mortality among BC survivors. Additionally, changes towards higher levels of PA seem to have also positive impact on survival.

Keywords

Breast Cancer, Physical Activity, Survival, Prospective study

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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