

Adherence to Cancer Prevention Lifestyle Recommendations Before, During, and After Treatment for High-Risk Breast Cancer: Association With Recurrence and Mortality

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In a study reported in [JAMA Network Open](#), Cannioto et al found that greater adherence to cancer prevention lifestyle recommendations before, during, and after treatment for high-risk breast cancer was associated with a reduced risk of disease recurrence and all-cause mortality.

Study Details

The Diet, Exercise, Lifestyles, and Cancer Prognosis Study (DELCaP) was a prospective observational cohort study conducted within the population of the Southwest Oncology Group S0221 trial. The trial compared chemotherapy regimens in chemotherapy-naïve patients with pathologic stage I to III high-risk breast cancer, defined as node-positive disease with hormone receptor–negative tumors > 1 cm or any tumor > 2 cm. Patients received an aggregated lifestyle index score based on data from four timepoints—ie, before, during, 1 year after treatment, and 2 years after treatment—on seven lifestyle elements, consisting of physical activity, body mass index, fruit and vegetable consumption, red and processed meat intake, sugar-sweetened beverage consumption, alcohol consumption, and smoking; higher scores indicate healthier lifestyle.

Key Findings

A total of 1,340 women were enrolled in DELCaP and completed the baseline questionnaire. Mean follow-up was 7.7 years (standard deviation = 2.1 years). During follow-up, disease progression occurred in 310 patients (23.1%) and any-cause death occurred in 222 (16.6%).

In time-dependent multivariate analysis, patients in the highest tertile of lifestyle index score had a significantly reduced risk of recurrence vs those in the lowest tertile (hazard ratio [HR] = 0.63, 95% confidence interval [CI] = 0.48–0.82). The reduction in risk in the middle vs lowest tertile was not significant (HR = 0.83, 95% CI = 0.63–1.10); however, an overall

significant dose-dependent association in risk reduction across the three groups was observed ($P < .001$ for trend).

Compared with patients in the lowest lifestyle index tertile, those in the middle tertile (HR = 0.70, 95% CI = 0.51–0.97) and those in the highest tertile (HR = 0.42, 95% CI = 0.30–0.59) had significantly reduced risk for all-cause mortality. A significant dose-dependent association in risk reduction was observed across groups ($P < .001$ for trend).

The investigators concluded, “In this observational study of patients with high-risk breast cancer, strongest collective adherence to cancer prevention lifestyle recommendations was associated with significant reductions in disease recurrence and mortality. Education and implementation strategies to help patients adhere to cancer prevention recommendations throughout the cancer care continuum may be warranted in breast cancer.”

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