

# Abstract

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## Specialty supplements and breast cancer risk in the VITamins And Lifestyle (VITAL) Cohort.

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**BACKGROUND:** Use of nonvitamin, nonmineral "specialty" supplements has increased substantially over recent decades. Several supplements may have anti-inflammatory or anticancer properties. Additionally, supplements taken for symptoms of menopause have been associated with reduced risk of breast cancer in two case-control studies. However, there have been no prospective studies of the association between the long-term use of these supplements and breast cancer risk.

**METHODS:** Participants were female members of the VITamins And Lifestyle (VITAL) Cohort. Postmenopausal women, ages 50 to 76 years, who were residents of western Washington State, completed a 24-page baseline questionnaire in 2000 to 2002 (n = 35,016). Participants were queried on their recency (current versus past), frequency (days/week), and duration (years) of specialty supplement use. Incident invasive breast cancers (n = 880) from 2000 to 2007 were obtained from the Surveillance, Epidemiology, and End Results registry. Multivariable-adjusted hazards ratios (HR) and 95% confidence intervals (95% CI) were estimated by Cox proportional hazards models.

**RESULTS:** Current use of fish oil was associated with reduced risk of breast cancer (HR, 0.68; 95% CI, 0.50-0.92). Ten-year average use was suggestive of reduced risk (P trend = 0.09). These results held for ductal but not lobular cancers. The remaining specialty supplements were not associated with breast cancer risk: Specifically, use of supplements sometimes taken for menopausal symptoms (black cohosh, dong quai, soy, or St. John's wort) was not associated with risk.

**CONCLUSIONS:** Fish oil may be inversely associated with breast cancer risk. Fish oil is a potential candidate for chemoprevention studies. Until that time, it is not recommended for individual use for breast cancer prevention.

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