

Fruit and vegetable intake is associated with lower risk of ER- breast cancer

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There is no association between total fruit and vegetable intake and risk of overall breast cancer, but vegetable consumption is associated with a lower risk of estrogen receptor-negative (ER-) breast cancer, according to a study published January 24 in the *Journal of the National Cancer Institute*.

The intake of fruits and vegetables has been hypothesized to lower [breast cancer risk](#), however the existing evidence is inconclusive. There are many subtypes of breast cancer including ER- and ER positive (ER+) tumors and each may have distinct etiologies. Since ER- tumors, which have lower survival rates and are less dependent on [estrogen levels](#) than ER+ tumors, account for only 15-20% of breast cancers, large pooled analyses are needed to determine the suspected link to lower ER- breast cancer risk and the consumption of fruits and vegetables.

In order to determine if there is a link between the lowered risk of ER- breast cancers and the intake of fruits and vegetables, Seungyoun Jung, Sc.D., formerly from the Department of Nutrition, Harvard School of Public Health, and currently at the Channing Division of Network Medicine, Brigham and Women's Hospital, and colleagues analyzed data from 20 cohort studies of women who were followed for a maximum of 11-20 years. They investigated the association of high compared to low intake of fruit and vegetables and risk of developing breast cancer in each study and then combined the study-specific estimates to generate summary estimates for all studies combined.

The researchers found that total fruit and vegetable intake was statistically significantly linked to a lower risk of ER- breast cancer, but not with risk of overall breast cancer or risk of ER+ [breast tumors](#). The results showed that the lower risk was mostly associated with higher [vegetable consumption](#). "These findings support the value of examining etiologic factors in relation to breast cancer characterized by hormone receptor status in large pooled analyses because modest associations with less common breast cancer subtypes may have been missed in smaller studies," the authors write.

In an accompanying editorial, Cynthia A. Thomson, Ph.D., and Patricia A. Thompson, Ph.D., both of the University of Arizona Cancer Center, write that the findings of the study support the emphasis on greater intake for vegetables (and to a lesser extent fruit) to lower the risk of ER- [breast cancer](#). However, they also write that, "interpretation of these findings may also be challenged by the known effects of other potential confounders, including the aggregation of health behaviors."

Provided by Journal of the National Cancer Institute

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