Could Dietary Supplements Boost Breast Cancer Risk?

Some antioxidant supplements may offset the anticancer effects of chemotherapy.

October 28, 2020 By Caroline Tien

Certain dietary supplements may increase breast cancer recurrence risk and hasten death, according to a study published in the Journal of Clinical Oncology. Multivitamins, however, appear to be safe.

While the link between supplement intake and breast cancer risk remains tenuous, some previous research has found that certain supplements may reduce the effectiveness of chemotherapy treatments. Antioxidants in particular break down the cancer-killing free radicals that chemotherapy produces, according to the American Institute for Cancer Research (AICR).

The study's researchers recruited 1,134 people receiving chemotherapy for breast cancer who had a high risk of recurrence and followed them for 15 years or until they died of the disease. The participants completed a questionnaire about their supplement intake twice: once upon enrollment in the study and again six months after the conclusion of treatment. In total, 18% reported taking an antioxidant during treatment and 44% reported taking at least one multivitamin during treatment.

Once the study drew to a close, the researchers analyzed the 15 years' worth of data. While taking multivitamins did not have any impact on cancer recurrence or survival duration, taking certain supplements appeared to. These supplements included vitamin B-12, iron and omega 3 fatty acids. Participants who took vitamin B-12, for example, were 83% more likely to experience a recurrence than participants who did not. (Vitamin B-12 and omega-3 fatty acids can act as antioxidants, whereas iron promotes oxidation.) There was also a weaker association with any antioxidant vitamins, including vitamin A, vitamin C, vitamin E, carotenoids and coenzyme Q10.

Lead study author Christine B. Ambrosone, PhD, the chair of the Department of Cancer Prevention and Control at Roswell Park Comprehensive Cancer Center, offered a possible explanation for these results. "When you just pluck out specific vitamins and minerals from foods, you are losing all the effects that are probably there when using these nutrients from food," she said.

The study was observational, so it could not establish cause and effect. Still, experts argue it's better to be safe than sorry.

“We do not recommend supplements for cancer prevention or in the treatment setting, so this study supports that approach,” Nigel Brockton, PhD, the vice president of the AICR, said. “Not only is there no benefit, but they may be harmful. Our best recommendations remain to obtain nutritional requirements from a plant-based, whole-foods diet.” (See: “A Low-Fat, Plant-Based Diet Cuts the Risk of Dying of Breast Cancer.”)

Breast cancer is the most commonly diagnosed cancer after skin cancer and the leading cause of cancer death after lung cancer in women in the United States.

To learn more about breast cancer, click here. To learn more about dietary supplements and their impact on your health, click here. And to read more about how supplements interact with chemotherapy drugs in your body, click here.

© 2026 Smart + Strong All Rights Reserved.

http://beta.docker.cancerhealth.com/article/dietary-supplements-boost-breast-cancer-risk