

Low levels of alcohol consumption associated with small increased risk of breast cancer

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Consumption of 3 to 6 alcoholic drinks per week is associated with a small increase in the risk of breast cancer, and consumption in both earlier and later adult life is also associated with an increased risk, according to a study in the November 2 issue of *JAMA*.

"In many studies, higher consumption of alcohol has been associated with an increased risk of breast cancer. However, the effect of low levels of drinking as is common in the United States has not been well quantified," according to background information in the article. "In addition, the role of drinking patterns (i.e., frequency of drinking and 'binge' drinking) and consumption at different times of adult life are not well understood."

Wendy Y. Chen, M.D., M.P.H., of Brigham and Women's Hospital and Harvard Medical School, Boston, and colleagues examined the association of breast cancer with [alcohol consumption](#) during adult life, including quantity, frequency, and age at consumption. The study included 105,986 women enrolled in the Nurses' [Health Study](#) who were followed up from 1980 until 2008 with an early adult alcohol assessment and 8 updated alcohol assessments. The primary outcome the researchers measured was the risk of developing [invasive breast cancer](#).

During the follow-up period, there were 7,690 cases of invasive breast cancer diagnosed among the [study participants](#). Analyses of data indicated that a low level of alcohol consumption (5.0 to 9.9 grams per day, equivalent to 3-6 glasses of wine per week) was modestly but

statistically significantly associated with a 15 percent increased risk of breast cancer. In addition, women who consumed at least 30 grams of alcohol daily on average (at least 2 drinks per day) had a 51 percent increased risk of breast cancer compared with women who never consumed alcohol.

The researchers also found that when examined separately, alcohol [consumption levels](#) at ages 18 to 40 years and after age 40 years were both strongly associated with breast [cancer risk](#). The association with drinking in early adult life still persisted even after controlling for alcohol intake after age 40 years.

[Binge drinking](#), but not frequency of drinking, was also associated with breast cancer risk after controlling for cumulative alcohol intake.

The authors add that although the exact mechanism for the association between alcohol consumption and breast cancer is not known, one probable explanation may involve alcohol's effects on circulating estrogen levels.

"In summary, our study provides a comprehensive assessment of the relationship between alcohol intake and breast cancer risk in terms of timing, frequency, quantity, and types of alcohol in a large prospective cohort with detailed information on breast cancer risk factors," the researchers write. "Our results highlight the importance of considering lifetime exposure when evaluating the effect of alcohol, and probably other dietary factors, on the carcinogenesis process. However, an individual will need to weigh the modest risks of light to moderate alcohol use on breast cancer development against the beneficial effects on cardiovascular disease to make the best personal choice regarding alcohol consumption."

Steven A. Narod, M.D., of the Women's College Research Institute,

Toronto, writes in an accompanying editorial that the findings of this study "raise an important clinical question: should postmenopausal women stop drinking to reduce their risk of breast cancer?"

"For some women the increase in risk of breast cancer may be considered substantial enough that cessation would seem prudent. However, there are no data to provide assurance that giving up alcohol will reduce [breast cancer](#) risk. Moreover, it would likely be easier for a woman who consumes 1 drink a week to stop drinking than for a woman who consumes 2 drinks a day. Furthermore, women who abstain from all alcohol may find that a potential benefit of lower [breast cancer risk](#) is more than offset by the relinquished benefit of reduced cardiovascular mortality associated with an occasional glass of red wine. Exploration of the risk-benefit relationships between low levels of [alcohol](#) consumption and all-cause and cause-specific morbidities and mortalities might be the topic of future analyses of the Nurses' Health Study and other prospective cohort studies."

More information: *JAMA*. 2011;306[17]:1884-1890.
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