

More evidence low-moderate alcohol consumption does not impair vitamin D status in women

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For as long as our ancestors have been drawing pictograms or writing prose about food and culture, humans have been imbibing various forms of alcohol. Once simply a process by which nutritious beverages could be preserved and stored for later use, there is no doubt that the production and consumption of wines, beers, and spirits now provides integral texture to the fabric of many cultures. However, whether alcoholic drinks provide health benefits is an area of active and on-going debate and research among health and nutrition experts. For instance, moderate alcohol consumption is linked to increased risks of some forms of cancer. Conversely, drinking in reasonable amounts is associated with protection from cardiovascular disease and premature death.

Because many of the studies that have been conducted on this topic have utilized epidemiologic (observational) study designs, they unfortunately cannot provide definitive information on whether alcohol actually influences health or is just related to other [lifestyle factors](#) that are actually more physiologically relevant. Indeed, one of the basic tenets of scientific method is the phrase "correlation does not infer causation." In other words, just because people who drink alcohol tend to have fewer heart attacks does not mean that [drinking alcohol](#) actually prevents heart disease. In addition, there is a relative dearth of information on low to moderate alcohol consumption and bone health, especially in women. This may be particularly important because alcoholics tend to have weak bones - possibly due to low levels of vitamin D which would hinder

absorption of [dietary calcium](#) in the [small intestine](#).

To help fill in a knowledge gap in this area, researchers at the National Cancer Institute (NCI) and the US Department of Agriculture ARS Beltsville Human Nutrition Research Center teamed up to rigorously test whether they could demonstrate any negative effects of low to moderate alcohol consumption on bone health in postmenopausal women. As part of the scientific program of the American Society for Nutrition, home to the world's leading nutrition researchers, results from this study will be presented on April 27, 2010 at the Experimental Biology 2010 meeting in Anaheim by Dr. Somdat Mahabir.

This study was part of the Women's Alcohol Study which involved 51 postmenopausal women who did not smoke or use hormone replacement therapy. The research team measured the effects of controlled alcohol consumption during three periods of time. In one of these experimental periods, subjects consumed an alcohol-free beverage once each day. During the other two, they consumed either 15 or 30 g of nearly pure alcohol (Everclear) served up in orange juice. These amounts of alcohol are equivalent to 1 or 2 glasses, respectively, of wine or a bottle of beer. Each study period lasted for 8 weeks, during which time all meals were also provided to the women- either in the USDA's Beltsville Human Nutrition Research Center or provided as "take-out" for the weekends.

The good news for those of us who enjoy a glass or two of wine or beer with dinner or at the football game, is that the scientists did not find any negative effects of either dose of alcohol on circulating levels of vitamin D. Low to moderate intake also did not affect a variety of markers (single-nucleotide polymorphisms or SNPs) which influence alcohol metabolism. These results suggest that the relationship previously documented between alcohol consumption and bone disease in alcoholics may only be seen in very heavy drinkers, or may be due to something other than the alcohol itself.

Dr. Mahabir concluded that "It looks like low to moderate [alcohol consumption](#), at least over the short term, does not harm [bone health](#). Collectively, when all the available published epidemiologic data are considered, it looks like low to moderate alcohol may actually have a beneficial effect." In the end, nutritional scientists once again remind us that all foods and beverages can be part of a healthful diet and urge us to carefully balance the risks against the benefits of our daily dietary choices.

Provided by Federation of American Societies for Experimental Biology

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