

Drinking alcohol brings no health benefits, study finds

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Dozens of studies have purportedly shown that a daily glass of wine or

mug of beer could reduce your risk of heart disease and death.

But these studies are flawed, a new evidence review asserts, and the potential health benefits of moderate [alcohol](#) use vanish when those flaws and biases are taken into account.

At best, a drink or two each day has no effect good or ill on a person's health, while three or more drinks daily significantly increase the risk of an early death, researchers report.

"Low-level or moderate drinking is roughly defined between one drink per week and two drinks per day. That's the amount of alcohol that many studies, if you look at them uncritically, suggest reduces your risk of dying prematurely," said co-researcher [Tim Stockwell](#). He is former director of the Canadian Institute for Substance Use Research at the University of Victoria in British Columbia.

But after adjusting for study flaws and biases, "the appearance of the benefit from moderate drinking greatly diminishes and, in some cases, vanishes altogether," Stockwell said.

A standard drink in the United States contains roughly 14 grams of pure alcohol, according to the U.S. National Institutes of Health. That equates to about 12 ounces of beer, 5 ounces of wine or 1.5 ounces of distilled spirits.

For this analysis, Stockwell and his colleagues evaluated 107 studies that assessed the relationship between alcohol use and death. These studies included nearly 5 million participants from multiple countries.

"This is an overview of a lot of really bad studies," Stockwell said.
"There's a lot of confounding and bias in these studies, and our analysis illustrates that."

Former drinkers aren't lifetime abstainers

For example, many studies tend to place former drinkers in the same group as lifetime abstainers, referring to them all as "non-drinkers," Stockwell said.

But former drinkers typically have given up or cut down on alcohol because of health problems, Stockwell said. The new analysis found that former drinkers actually have a 22% higher risk of death compared to abstainers.

Their presence in the "non-drinker" group biases the results, creating the illusion that light daily drinking is healthy, Stockwell said.

For the new study, the researchers pooled the data and then made adjustments that took into account problems like the "former-drinker bias."

"We've put Band-Aids on all of these bad studies to try and explore how these different characteristics result in the appearance of health benefits," Stockwell said.

The combined adjusted data from the studies showed that neither occasional drinkers (less than 1.3 grams of alcohol, or one drink every two weeks) nor low-volume drinkers (up to 24 grams a day, or nearly two drinks) had a significantly reduced risk of death.

The researchers found a slight, but not significant, increased risk of death among those who imbibed 25 grams to 44 grams daily, around three drinks.

And there was a significantly increased risk of death for people who drank 45 or more grams of alcohol a day, the results showed.

The highest risk was among people who drink 65 grams of alcohol or more a day, or more than four drinks. Their risk of death was about 35% higher than occasional drinkers.

"There's this question about whether low-level drinking is beneficial, and I think I'd take this to mean that it's really not particularly beneficial," said [Catherine Lesko](#), an assistant professor of epidemiology at the Johns Hopkins Bloomberg School of Public Health, in Baltimore. "I don't know that it's harmful, very low-level drinking. But a lot of the results are reinforcing the [harmful effects](#) of even moderate to high level drinking."

The analysis also found that alcohol has a more dramatic effect at lower amounts on women's risk of death.

Women's increased risk of death from drinking consistently ran higher than the risk of men. For example, the increased risk of death for women who drink 65 grams or more daily was 61%, nearly double that of men drinking that much.

"Women experience alcohol differently than men because of biological factors. Even when drinking the same amount of alcohol, women will have higher blood alcohol levels, feel intoxicated more quickly and take longer to metabolize it," noted [Pat Aussem](#). She is associate vice president of consumer clinical content development for the Partnership to End Addiction.

These results make sense given that alcohol use has been linked to at least 22 specific causes of death, Stockwell said.

Alcohol use increases the risk of liver disease, some cancers, stroke and heart disease, Stockwell said. It also contributes to injury deaths from accidents, car crashes, homicides and suicides.

Other studies that take into account genetics "confirm our conclusion that people who drink moderately aren't protected against heart disease or premature [death](#). So our results are consistent with other studies using stronger design," Stockwell said.

Continuum of risk

Aussem said research has established a "continuum of risk" associated with weekly [alcohol use](#), where the risk of harm is:

- 2 standard drinks or less a week—You are likely to avoid alcohol-related consequences for yourself or others at this level.
- 3 to 6 standard drinks a week—Your risk of developing several types of cancer, including breast and [colon cancer](#), increases at this level.
- 7 standard drinks or more a week—Your risk of heart disease or stroke increases significantly at this level.

"Each additional [standard drink](#) radically increases the risk of alcohol-related consequences. These risks increase in lockstep with consumption as it is more difficult to repair the damage done to cell tissue in the body and brain," Aussem said.

"Simply put, less is better," she added. "Any steps to cut back can be helpful in terms of reducing the risks of alcohol-related cancers and cardiovascular disease."

The researchers pointed out some limitations to their work. Measurement of alcohol consumption was imperfect in most of the studies, they said, and self-reported alcohol consumption was probably underreported in many cases.

To more accurately assess alcohol's risks, future studies should look at

specific drinking-related diseases and link them to specific groups, Stockwell said. For example, studies could examine the cancer risk posed by alcohol for men versus women.

The studies also would do better to use occasional drinkers as the reference group, because they tend to have more "normal" health characteristics than teetotalers, the researchers concluded.

The new evidence review was published online March 31 in *JAMA Network Open*.

More information: The U.S. National Institutes of Health has more on [alcohol's effects on health](#).

Jinhui Zhao et al, Association Between Daily Alcohol Intake and Risk of All-Cause Mortality, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.6185](#)

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