The Safest Level of Alcohol Use Is None, Study Says

Alcohol is linked to several types of cancer, especially among people over 50, but the absolute risk of light drinking is low.

August 27, 2018 By Liz Highleyman

Drinking even a small amount of alcohol raises the risk of health problems, including cancer, according to a new report from the Global Burden of Disease Study. The report, recently published in The Lancet, states that 2.8 million deaths worldwide were attributable to alcohol consumption in 2016.

“The health risks associated with alcohol are massive,” said senior author Emmanuela Gakidou, MSC, PhD, of the Institute for Health Metrics and Evaluation at the University of Washington. “Our findings are consistent with other recent research, which found clear and convincing correlations between drinking and premature death, cancer and cardiovascular problems. Zero alcohol consumption minimizes the overall risk of health loss.”

Gakidou and hundreds of collaborators worldwide looked at alcohol use and the burden of death and disease in nearly 200 countries between 1990 and 2016. Alcohol use is known to be a leading risk factor for death and disability, the researchers noted, but some studies suggest that moderate drinking can be associated with health benefits such as protection against heart disease and diabetes.

The researchers used 694 data sources on individual and population-level alcohol consumption and 592 studies of alcohol risks to estimate levels of drinking and abstention (after controlling for drinking by tourists), the amount of daily consumption among drinkers, and deaths and loss of disability-adjusted life-years attributable to alcohol use. They assessed 23 health outcomes including cardiovascular disease, several types of cancer (breast, colorectal, liver, esophageal, larynx, lip, oral cavity and nasal), cirrhosis of the liver, diabetes, communicable diseases, interpersonal violence, self-harm and accidents.

Globally, about one third of people drink alcohol (25 percent of women and 39 percent of men), but not surprisingly this varies widely across countries. A majority of the 10 countries with the highest prevalence of alcohol use—exceeding 90 percent among men and 80 percent among women—were in Western Europe, while the countries with the lowest rates were mostly Middle Eastern, North African and Asian countries with large Muslim populations.

The lowest rates of alcohol-related death and disability correlated with the lowest prevalence of alcohol consumption, but the opposite did not hold. The countries with the highest alcohol-attributable death rates were Lesotho, Russia, the Central African Republic, Ukraine and Burundi, with Eastern European and Central Asian countries rounding out the top 10.

Worldwide, alcohol use was the seventh biggest risk factor for death and disability in 2016, accounting for 6.8 percent of deaths among men and 2.2 percent of deaths among women, according to the study authors.

Among people ages 15 to 49, alcohol was the leading risk factor, accounting for 12.2 percent of deaths among men and 3.8 percent of deaths among women. The three leading causes of alcohol-related death in this age group were tuberculosis (1.4 percent), road injuries (1.2 percent) and self-harm (1.1 percent).

Among people over 50, however, cancer became a major cause of alcohol-related death, accounting for 18.9 percent of alcohol-attributable deaths among men and 27.1 percent of such deaths among women.

The researchers developed a new method to quantify the level of alcohol consumption that minimizes the overall risk to individual health and determined that this amount was zero drinks per week. The protective effect of alcohol against ischemic heart disease was offset by the increased risk of cancer.

“We found that the risk of all-cause mortality, and of cancers specifically, rises with increasing levels of consumption, and the level of consumption that minimizes health loss is zero,” the study authors concluded. “These results suggest that alcohol control policies might need to be revised worldwide, refocusing on efforts to lower overall population-level consumption.”

The Centers for Disease Control and Prevention currently recommends that women should consume no more than one alcoholic drink—a glass of wine, a bottle of beer or a shot of spirits—and men should consume no more than two drinks a day.

Last fall, the American Society of Clinical Oncology (ASCO) issued a statement confirming that alcohol use—including light or moderate drinking—raises the risk of several types of cancer. Experts estimate that alcohol contributes to about 4 percent of all cancer-related deaths in the United States and nearly 6 percent worldwide, according to the statement published in the Journal of Clinical Oncology.

Alcohol consumption has been most strongly associated with cancers of the mouth and throat (oral cavity, larynx and esophagus). Heavy drinkers are about five times more likely than nondrinkers to develop mouth and throat cancer, but even people who have just one drink per day have an increased risk, according to the statement.

The link between heavy alcohol use and liver cancer is well established. Alcohol is also associated with cancers of the colon and rectum and breast cancer. A 2017 report said that drinking one glass

of wine or beer a day raises the risk of breast cancer by 5 percent for premenopausal women and by 9 percent for postmenopausal women. Lesser evidence suggests that drinking may also increase the risk of stomach cancer and pancreatic cancer. Some studies have seen an association between alcohol and lung cancer, but the well known link between drinking and smoking makes this harder to interpret.

Commenting on the Global Burden of Disease Study, Robyn Burton, PhD, of King's College London, and Nick Sheron, MD, of the University of Southampton, wrote, "The conclusions of the study are clear and unambiguous: alcohol is a colossal global health issue and small reductions in health-related harms at low levels of alcohol intake are outweighed by the increased risk of other health-related harms, including cancer."

But some experts point out that the increase in the actual number of individuals developing cancer or other health problems due to light or moderate drinking—known as absolute risk—is small, even though the percentage change in risk—known as relative risk—may seem substantial.

In the current study, consuming one drink a day for a year would be expected to raise the risk of developing one of the 23 alcohol-related health problems by 0.5 percent compared with not drinking at all—or an additional four cases per 100,000 people (from 914 to 918 per 100,000 people per year), according to a Lancet press release. The relative risk increased by 7 percent (to 977 per 100,000 people per year, or 63 additional cases) among those who drank two drinks a day, and by 37 percent (up to 1,252 per 100,000 people per year, or 338 additional cases) for those who drank five daily drinks.

According to David Spiegelhalter, Winton Professor for the Public Understanding of Risk at the University of Cambridge, this means that 1,600 people collectively consuming 50,000 bottles of gin in a year would result in one additional health problem.

"Claiming there is no 'safe' level does not seem an argument for abstention," Spiegelhalter wrote. "There is no safe level of driving, but government do not recommend that people avoid driving. Come to think of it, there is no safe level of living, but nobody would recommend abstention."

Click here to read the study in The Lancet.

Click here to read a University of Washington press release about the study

Click here to learn more about light drinking and cancer risk.

© 2026 Smart + Strong All Rights Reserved.