

# Alcohol's impact on heart and stroke risk may differ for men, women

July 10 2008

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The volume of alcohol consumption may have a significantly different effect on heart and stroke risk in men and women, according to a study of Japanese people published in *Stroke: Journal of the American Heart Association*.

"An amount of alcohol that may be beneficial for men is not good for women at all," said Hiroyasu Iso, M.D., co-author of the study and professor of public health at Osaka University in Japan.

Researchers analyzed data from a survey of 34,776 men and 48,906 women (ages 40 to 79) selected from the larger Japan Collaborative Cohort Study (JACC) to determine the association of alcohol use with the risks of stroke and heart disease. Participants who had not experienced cancer, stroke or heart disease before the study completed questionnaires about their lifestyles and medical histories and provided information about their drinking of sake (rice wine), shochu (a type of brandy), beer, whiskey and/or wine.

Researchers calculated the risks and benefits of alcohol consumption after adjusting for age and several other risk factors, including smoking, weight, body mass index, the presence of high blood pressure or diabetes, exercise habits, stress, education and diet.

During a 14.2-year follow-up, 1,628 participants died from stroke and 736 died from heart disease.

Men who reported drinking heavily (at least 46 grams of alcohol per day, equivalent to four or more standard alcoholic beverages) at the time of the survey had a 19 percent lower risk of dying from coronary heart disease than nondrinking men.

In stark contrast, women who drank that much quadrupled their risk of heart disease death over that of nondrinking women. Light drinking (less than 23 grams of alcohol per day, about two drinks a day) reported on the survey was associated with a lower risk of heart disease death in women by 17 percent; while intake between 23 and 46 grams per day was associated with an increased risk of 45 percent.

"In women, we found a slightly reduced risk with light consumption but a much greater risk with heavy alcohol use," Iso said.

In men, heavy alcohol use was associated with an increased risk of death from all types of stroke by 48 percent. The risk of hemorrhagic stroke (caused by a blood vessel bursting in the brain) was increased 67 percent. The risk of ischemic stroke (caused by a blocked blood vessel in the brain or leading to it) was higher by 35 percent.

In women, heavy alcohol use was associated with a higher risk of stroke death by 92 percent. Hemorrhagic stroke death risk was increased by 61 percent. The risk of ischemic stroke death was increased 2.43 times.

"We expected to find an increased risk of hemorrhagic stroke," Iso said. "But since alcohol reduces the ability of the blood to clot, we didn't expect to find the increases in ischemic stroke and coronary heart disease."

Only 15 percent of women in JACC drank any alcohol, far less than the 45.9 percent of U.S. women who reported using alcohol in 2005, Iso said.

Before this study, evidence suggested that light-to-moderate alcohol consumption might be associated with a lower risk of cardiovascular disease in women. But data on heavy drinking was limited and the question had not been addressed in an Asian country, where both drinking and heart disease are less common.

"One limitation of the study is that, in Japanese culture, there are social restrictions against women drinking as they get older," Iso said. "In that culture, the women who do drink may have different types of jobs or other aspects of their lifestyle that may help explain the excess risk as well as the alcohol exposure itself."

Iso said more research could help determine how alcohol affects cardiovascular risk.

Source: American Heart Association

Citation: Alcohol's impact on heart and stroke risk may differ for men, women (2008, July 10) retrieved 24 April 2024 from <https://medicalxpress.com/news/2008-07-alcohol-impact-heart-differ-men.html>

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