

Too many diet drinks may spell heart trouble for older women

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It appears healthy postmenopausal women who drink two or more diet drinks a day may be more likely to have a heart attack, stroke or other cardiovascular problems, according to research to be presented at the American College of Cardiology's 63rd Annual Scientific Session.

In fact, compared to [women](#) who never or only rarely consume diet drinks, those who consumed two or more a day were 30 percent more likely to suffer a cardiovascular event and 50 percent more likely to die from related disease. Researchers analyzed diet drink intake and cardiovascular risk factors from 59,614 participants in the Women's Health Initiative Observational Study, making this the largest study to look at the relationship between diet drink consumption, cardiac events and death.

"Our findings are in line with and extend data from previous studies showing an association between diet drinks and metabolic syndrome," said Ankur Vyas, M.D., fellow, Cardiovascular Diseases, University of Iowa Hospitals and Clinics, and the lead investigator of the study. "We were interested in this research because there was a relative lack of data about diet drinks and cardiovascular outcomes and mortality."

Information on women's consumption of diet drinks was obtained through a questionnaire that asked them to report their diet drink consumption habits over the previous three months. This information was assessed at follow-up year three of the Women's Health Initiative Observational Study. Each drink was defined as the equivalent of a

12-ounce beverage and included both diet sodas and diet fruit drinks. For the purposes of the analysis, researchers divided the women into four consumption groups: two or more diet drinks a day, five to seven diet drinks per week, one to four diet drinks per week, and zero to three diet drinks per month.

After an average follow-up of 8.7 years, the primary outcome – a composite of incident coronary heart disease, congestive heart failure, [heart attack](#), coronary revascularization procedure, ischemic stroke, peripheral arterial disease and cardiovascular death – occurred in 8.5 percent of the women consuming two or more diet drinks a day compared to 6.9 percent in the five-to-seven diet drinks per week group; 6.8 percent in the one-to-four drinks per week group; and 7.2 percent in the zero-to-three per month group.

The association persisted even after researchers adjusted the data to account for demographic characteristics and other [cardiovascular risk factors](#) and comorbidities, including [body mass index](#), smoking, hormone therapy use, physical activity, energy intake, salt intake, diabetes, hypertension, high cholesterol and sugar-sweetened beverage intake. Women who consumed two or more diet drinks a day were younger, more likely to be smokers, and had a higher prevalence of diabetes, hypertension and higher body mass index.

But Vyas says the association between diet drinks and [cardiovascular problems](#) raises more questions than it answers, and should stimulate further research.

"We only found an association, so we can't say that diet drinks cause these problems," Vyas said, adding that there may be other factors about people who drink more diet drinks that could explain the connection.

"It's too soon to tell people to change their behavior based on this study;

however, based on these and other findings we have a responsibility to do more research to see what is going on and further define the relationship, if one truly exists," he adds. "This could have major public health implications."

About one in five people in the U.S. consume diet drinks on a given day, according to data from the National Health and Nutrition Examination Survey (2009-2010). But Vyas cautions that this particular study only applies to postmenopausal women. The average age in the study was 62.8. To be included in this analysis, women had to have no history of cardiovascular disease and be alive 60 or more days from time of data collection.

Previous studies have found artificially sweetened drinks to be associated with weight gain in adults and teens, and seem to increase the risk of metabolic syndrome, which makes both diabetes and heart disease more likely.

Vyas says future research could include clinical studies, animal models and even molecular and pharmacologic analyses to begin to explain what, if any, direct role [diet drinks](#) play in heart health.

More information: Vyas will present the study, "Diet Drink Consumption and the Risk of Cardiovascular Events: A Report from the Women's Health Initiative," on Sunday, March 30 at 8 a.m. EDT in Room 146 C.

Provided by American College of Cardiology

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