

## Two or more daily glasses of sweetened drinks linked to increased heart failure risk

November 2 2015

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Downing two or more glasses of sweetened drinks every day is linked to a heightened risk of heart failure—at least in men—reveals a large study published online in the journal *Heart*.

Heart failure is thought to affect more than 23 million people worldwide, nearly 6 million of whom live in the US, and more than half a million of whom live in the UK. Only around half of those diagnosed with heart failure are still alive five years later. Men and the elderly seem to be most at risk.

Sweetened drinks are popular around the globe, particularly among the young. And their regular consumption has been associated with changes in blood pressure, insulin levels, and inflammatory markers, as well as

weight gain—factors implicated in metabolic syndrome, diabetes, [coronary heart disease](#) and stroke.

In a bid to assess whether there might be a link between heightened heart failure risk and sweetened drink consumption, the researchers tracked the health of 42, 400 men residing in two counties of Sweden between 1998 and 2010, using national registry data.

All the men, who were aged between 45 and 79 when they entered the study, had been born between 1918 and 1952. They were asked to record their average consumption of 96 food and drink items over the preceding year in a food frequency questionnaire, to include daily and weekly standard servings (200 ml or one glass) of sweetened drinks.

No distinction was made between drinks sweetened with sugar, fructose/glucose, or artificial sweetener; neither tea/coffee nor fruit juice were included in the study.

During the monitoring period, which averaged 12 years, 3604 new cases of heart failure were diagnosed, and 509 people died of their condition.

After taking account of other potentially influential factors, the data analysis indicated that consumption of at least two daily servings of sweetened drinks was associated with a 23% heightened risk of developing heart failure compared with no consumption.

To try and exclude reverse causation—whereby those with undiagnosed heart failure drank more sweetened beverages, so inflating the findings—the researchers carried out a further analysis to exclude all those diagnosed with heart failure during the first five years of the monitoring period.

This showed similar results, increasing the associated heightened risk to

25%.

This is an observational study so no definitive conclusions can be drawn about cause and effect, and as the study only involved older white men, the findings may not be applicable to younger age groups, women, or certain ethnicities, the researchers suggest.

In an accompanying editorial, Professors Miguel Martínez-González and Miguel Ruiz-Canela of the Department of Preventive Medicine and Public Health, University of Navarra, and the Biomedical Research Center Network on Obesity and Nutrition, Madrid, Spain, explain that several questions remain to be answered.

Not least of these is that heart failure is a complex condition, sweetened drink consumption tends to diminish with age, and it's not clear if there is any difference between sugar sweetened drinks and those sweetened with artificial sweetener.

Furthermore, high consumption of [sweetened drinks](#) is usually an indicator of a poor general diet, which is probably a more reliable determinant of disease development than any one component, they suggest.

Nevertheless, they write: "The well known association of sweetened beverages with obesity and type 2 diabetes, which are risk factors for [heart failure](#), reinforces the biological plausibility of [the study authors'] findings."

And they conclude: "Based on their results, the best message for a preventive strategy would be to recommend an occasional consumption of sweetened beverages or to avoid them altogether."

**More information:** The relationship between sweetened beverage

consumption and risk of heart failure in men, [DOI: 10.1136/heartjnl-2015-307542](https://doi.org/10.1136/heartjnl-2015-307542)

Editorial: Preventing heart failure: sweetened beverages and healthy lifestyles, [DOI: 10.1136/heartjnl-2015-308426](https://doi.org/10.1136/heartjnl-2015-308426)

Provided by British Medical Journal

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