

Fatty Liver Risk Increases With Daily Intake of Sugary Drinks

Diana Phillips | June 11, 2015

Regular consumption of sugared beverages is associated with a greater prevalence of fatty liver disease, even after adjusting for body mass index, according to a large observational study.

Specifically, adults who drank more than one sugar-sweetened drink per day were 55% (95% confidence interval [CI], 1.03 - 2.35) more likely than nonconsumers to have nonalcoholic fatty liver disease in an analysis of data from the National Heart Lung and Blood Institute's Framingham Heart Study's Offspring and Third Generation cohorts. Jiantao Ma, PhD, from the USDA Human Nutrition Research Center on Aging at Tufts University in Boston, Massachusetts, and colleagues report the study findings in an article published online June 5 in the *Journal of Hepatology*.

The investigators analyzed data from questionnaires of 2634 predominantly white, middle-aged adults and categorized participants as either nonconsumers or consumers of sugared-sweetened beverages (SSBs) and diet sodas. Of the participants, 34% were nonconsumers and 12% were daily consumers of SSBs. Among SSB consumers, caffeinated cola consumption was the largest contributor to SSB intake (40%), followed by noncarbonated fruit drinks (29%), carbonated noncola beverages (21%), and caffeine-free cola (10%).

The overall prevalence of fatty liver disease in the study population, measured via computed tomography, was 17%.

The authors found a dose-response relationship between SSB consumption and fatty liver disease in a multivariate analysis, adjusted for age, sex, alcohol and diet soda intake, and body mass index. Compared with nonconsumers and individuals who consumed less than 1 serving of SSBs per month, those who consumed less than 1 serving of SSBs per week (but more than 1 serving per month) had a 16% increase in risk (95% CI, 0.88 - 1.54). Those who consumed from 1 serving per week to less than 1 serving per day had a 32% increased risk (95% CI, 0.93 - 1.86), and those who consumed more than 1 serving daily had a 61% increase in risk (95% CI, 1.04 - 2.50; *P* for trend, .04).

Similarly, there was a dose-response relationship between SSB consumption and elevated ALT, with a 30% increased risk among those consuming more than 1 serving per day compared with the lowest consumers (*P* for trend = .002).

Although adjusting for body mass index did not attenuate the elevated risk for fatty liver disease among SSB consumers, SSB consumption was linked to the volume of fat in the liver among overweight and obese individuals. The authors did not see a similar association among normal-weight individuals.

The researchers did not find an association among diet soda intake and liver fat or ALT after adjusting for potential confounding variables, including body mass index.

The overall association between SSB consumption and liver fat was independent of body mass index and subcutaneous adipose tissue in the current study. However, the authors report, "further adjustment for VAT [visceral adipose tissue] attenuated the observed associations, suggesting that VAT may, in part, mediate this association."

Although the specific effects of sugar intake on the development of fatty liver disease, particularly after long-term consumption, is not yet fully understood, "[t]he present study contributes to the existing literature by illustrating that regular consumption of SSB is associated with greater prevalence of fatty liver disease, particularly in overweight and obese individuals," the authors write. "[P]rospective observational studies and controlled intervention studies are required to determine the independent association of excess SSB intake on liver fat accumulation."

Funding for this study was provided by the National Heart Lung and Blood Institute's Framingham Heart Study and the Boston University School of Medicine, and support from the US Department of Agriculture. The authors have disclosed no relevant financial relationships.

J Hepatol. Published online June 5, 2015. Abstract

Medscape Medical News © 2015 WebMD, LLC

Send comments and news tips to news@medscape.net.

Cite this article: Fatty Liver Risk Increases With Daily Intake of Sugary Drinks. *Medscape*. Jun 11, 2015.

This website uses cookies to deliver its services as described in our Cookie Policy. By using this website, you agree to the use of cookies.

close