

Study shows cane sugar, corn sweeteners have similar effects on appetite

July 10 2007

A new study of sweetened beverages shows that cane sugar and high fructose corn syrup have similar effects on hunger, fullness, and food consumption at lunch.

According to the study, which appears in the July issue of the *American Journal of Clinical Nutrition*, this may be because sucrose (table sugar) in beverages splits into glucose and fructose molecules, such as are present in high-fructose corn syrup. The results suggest that while appetite and food intake are influenced by the number of calories consumed earlier, the types of sugars consumed in those calories seem to make little or no difference.

"Some companies have made a sincere effort to put sucrose back in soda," said Dr. Adam Drewnowski, director of the Nutritional Sciences Program at the University of Washington and the senior author of the study. "But there is no direct link between the type of sweetener and obesity. As far as appetite is concerned, cane and corn sugars in beverages are much the same."

The study is authored by Dr. Pablo Monsivais, research fellow in the UW Nutritional Sciences Program, and co-authored by Drewnowski and UW graduate student Martine Perrigue.

The Seattle investigators provided subjects with a beverage mid-morning, then tracked hunger, appetite and thirst for two hours, and then gave the study participants lunch. Cola beverages sweetened with sucrose

or with two different types of high-fructose corn syrup were compared to an aspartame-sweetened diet cola, milk (1 percent fat), and to a no-beverage control group. Lunch consisted of a wide variety of savory and sweet foods, accompanied only by plain water. Each participant went through separate tests for each type of beverage over the span of several weeks.

Study participants who drank a non-caloric diet cola ate about the same amount at lunch as when they had no beverage at all. Participants ate somewhat less at lunch after drinking any of the caloric beverages, but only partially compensated for the calories they consumed in the beverage. People who drank any of the caloric beverages -- whether cane-sweetened cola, one of the high-fructose sweetened colas, or 1 percent milk -- consumed more total calories that day when both the beverage and lunch were taken into account. Researchers found no differences in how the four caloric beverages affected appetite and food intake.

"In terms of suppressing your appetite, a calorie from high-fructose corn syrup seems to be no different than a calorie from table sugar or a calorie from milk," explained Monsivais.

Much of the evidence that linked corn sweeteners with obesity came from animal-based metabolic studies using pure fructose. This study, on the other hand, used beverages sweetened with two types of high-fructose corn syrup: HFCS 55, which contains about 55 percent fructose and 45 percent glucose; and HFCS 42, which is about 42 percent fructose and 58 percent glucose. Sucrose also contains both glucose and fructose, bound together in a 1-to-1 ratio. However, the researchers found that for the sucrose in the beverages tested in this study, the bond between fructose and glucose is broken. Because of this, the authors suggest that the body does not readily discriminate between beverages sweetened with sucrose and those sweetened with HFCS 42 or 55.

Source: University of Washington

Citation: Study shows cane sugar, corn sweeteners have similar effects on appetite (2007, July 10) retrieved 19 September 2024 from <https://medicalxpress.com/news/2007-07-cane-sugar-corn-sweeteners-similar.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.