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New study finds neither HFCS nor table sugar increases liver fat under 'real world' conditions

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A study published in the *Journal of Applied Physiology, Nutrition, and Metabolism* presented compelling data showing the consumption of both high fructose corn syrup (HFCS) and sucrose (table sugar) at levels consistent with average daily consumption do not increase liver fat in humans, a leading cause of non-alcoholic fatty liver disease (NAFLD). The findings also add to an already well-established body of science that high fructose corn syrup and table sugar are metabolically equivalent.

Increased fat levels in the liver and muscle tissue have also shown to contribute to insulin resistance, a key factor in the development of type 2 diabetes.

The study, conducted by James Rippe, MD, Founder and Director of the Rippe Lifestyle Institute and Professor of Biomedical Sciences at the University of Central Florida, examined sixty-four individuals who consumed low-fat milk sweetened with either HFCS or sucrose with the added sugar matching the 25th, 50th and 90th percentile population consumption levels of fructose for ten weeks.

The results showed fat content of the liver remained unchanged when the six HFCS and sucrose groups were averaged. Fat content in muscle tissue was also unchanged over the 10 weeks when the six HFCS and sucrose groups were averaged.

"The study's results are compelling because this is the first study of its kind to test the effects of HFCS and sucrose on liver fat levels in humans using real world conditions," said Dr. Rippe, who received a grant from the Corn Refiners Association (CRA) to conduct the study. "Previous studies that sought to find a link between caloric sweeteners and diseases such as type 2 diabetes and liver disease often subjected individuals to unrealistically high levels of fructose or had subjects consume fructose independent of glucose, which is just not how fructose is consumed in our daily diet. Using real world conditions, we find that HFCS and other caloric sweeteners do not appear to increase liver fat or contribute to insulin resistance."

The two largest sources of fructose in the human diet are sucrose (containing 50% fructose and 50% glucose) and HFCS which is present in the human diet in two forms: HFCS-55 (which consists of 55% fructose, 42% glucose and 3% other carbohydrates) and HFCS-42 (which consists of 42% fructose and 58% glucose).

"This study seems to confirm what physicians, registered dietitians and healthcare associations such as the American Medical Association have been saying for decades," said Dr. Mark Haub, Associate Professor in the Department of Nutrition at Kansas State University. "Not only is it safe to consume caloric sweeteners at recommended levels, it is important for consumers to understand that high fructose corn syrup and table sugar have the same amount of calories and studies like this indicate your body metabolizes them about the same."

More information: www.nrcresearchpress.com/doi/a … .1139/apnm-2012-0322

Provided by Rippe Lifestyle Institute