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HFCS Sweetened Beverages Don't Cause Inflammation

By Ruth Kava — August 3, 2016

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High-fructose corn syrup (HFCS), has been blamed for a myriad of ills, from obesity to metabolic syndrome to cardiovascular disease. But as we've pointed out several times (see here [2]), HFCS is basically the same as table sugar in liquid form. Some research has also suggested that fructose itself might trigger inflammation and from this is derived the suggestion that HFCS-sweetened soft drinks are also suspect in the development of conditions related to inflammation.

For that reason, a new study in the *American Journal of Clinical Nutrition* attempts to tease apart the supposed effects of fructose and other sugars on inflammation, which has been suggested to link consumption of sugar-sweetened beverages with cardiometabolic disease. To compare the effects of over-consumption of beverages sweetened with HFCS, fructose alone, or glucose, on systemic inflammation, inflammation was assessed by measuring blood levels of two biomarkers — C-reactive protein (CRP) and Interleukin-6 (IL-6).

The researchers conducted a randomized, controlled, double-blind dietary intervention in 24 adults whose weights ranged from normal to obese. The intervention consisted of having the participants drink one of three sweetened beverages for 8 days — either sweetened with just fructose, with glucose, or with HFCS. After the 8-day period, the participants returned to their normal diets for 20 days, then drank a second sweetened beverage for 8 days. This cycle was repeated a third time, so that each person was given each type of beverage for one cycle. In each 8-day portion of the cycles, each person drank 4 servings per day of the particular beverage such that it accounted for 25 percent of their estimated calorie needs — they also consumed a standardized diet *ad lib* for the 8 days.

During the beverage consumption periods, the participants did not differ in their body weights or energy intakes. Further, the plasma concentrations of the markers of inflammation — CRP and IL-6 — didn't differ at the end of the beverage periods. Thus, the authors concluded that even excessive amounts of fructose, HFCS and glucose from sweetened beverages didn't have

differential effects on low-grade chronic systemic inflammation in these normal weight to obese adults. These data don't support the hypothesis that excess consumption of these sweeteners in beverages contribute to systemic inflammation.

Of course, this is a small study, run over short periods of time (which may not have been long enough to increase inflammatory reactions), but the fact that it was a double-blinded, random intervention study lends strength to its conclusions. As the authors concluded, there were "no differential effects of excessive amounts of fructose, HFCS, or glucose from [sugar-sweetened beverages] over 8 days on low grade chronic systemic inflammation in normal weight to obese adults."
