

Editor, *Journal of Clinical Investigation*

Re: Consuming fructose-sweetened, not glucose-sweetened, beverages increases visceral adiposity and lipids and decreases insulin sensitivity in overweight/obese humans

Editor,

In their commentary accompanying the recent mechanistic paper from Peter Havel's group (1), Hoffman & Tschöp (2) do not show the same restraint Havel does in applying his admittedly unphysiologic results to typical human diets.

Their focus on consumption of added sugars and HFCS disregards the importance of looking at all caloric sources. Calories from added sugars, fats and flour/cereal increased 23%, 29% and 27%, respectively, over the past 35 years at the same time total dietary calories from all sources increased 24% (3). We are not just taking in more fructose sweetener; we are now eating more of *everything*.

To say "fructose is preferred by food and soft drink manufacturers" confuses two commercial products. Pure (crystalline) fructose is a specialty ingredient comprising <1% of the nutritive sweetener market, and is used for specific functional reasons (4). High fructose corn syrup (HFCS) is used in soft drinks and foods, and is now generally agreed to be metabolically equivalent to sucrose (5-8).

Hoffman & Tschöp fail to put Havel's work in proper perspective. While chronic overconsumption of added sugars does produce metabolic upsets, there is no reliable data to show that fructose poses a specific health risk at typical intake levels. Population mean intakes for fructose were recently estimated at 9.1% of energy (9); intakes for extreme 95th percentile users were estimated at <18% of energy. The fructose vs. glucose diet at 25% of energy used by Havel is a poor model for the typical human diet on two counts: it tests pure sugars in isolation, whereas fructose and glucose are nearly always taken together in fruits/vegetable/nuts or added sugars (sucrose, HFCS, fruit juice concentrates, honey); and it uses levels 2.5-fold higher than mean consumption levels and 50% greater than even the highest consumers of fructose.

It is precisely because of the lack of perspective offered by Hoffman & Tschöp and others that the public is now convinced fructose poses a health risk, when in reality none has been demonstrated at typical intake levels.

References

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