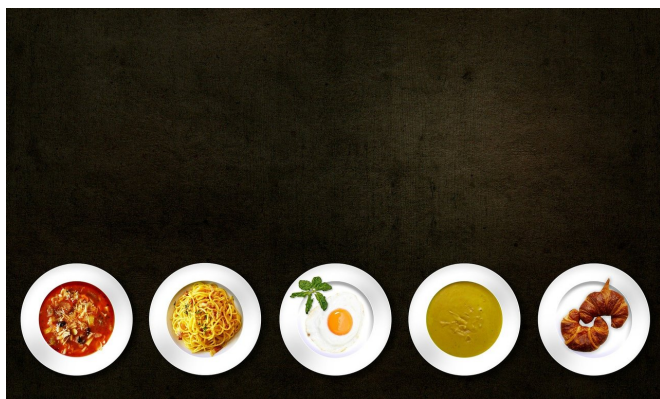


Americans are consuming less sugar but more nonnutritive sweeteners

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A new study in the *Journal of the Academy of Nutrition and Dietetics* found that between 2002 and 2018 purchases by US households of foods and beverages containing caloric sweetener (CS, i.e., sugar) declined while purchases of products containing both caloric sugars and nonnutritive sweeteners (NNS, i.e., sugar substitutes) increased. Beverages accounted for most of the products purchased containing NNS only or combined with CS.

"With excessive sugar consumption linked to chronic cardiometabolic diseases, sugar reduction has become an important public health strategy. This has resulted in greater innovation by the [food industry](#) and increased use of NNS in our food supply," said lead investigator Barry Popkin, Ph.D., W.R. Kenan Jr. Distinguished Professor, Department of Nutrition, Gillings Global School of Public Health, and Carolina Population Center, The University of North Carolina at Chapel Hill, NC, USA.

NNS include aspartame, saccharin, rebaudioside A (reb-A), and sucralose, which provide sweetness to products without the calories of sugar or [high](#)

[fructose corn syrup](#).

The study looked at how the prevalence and volume of foods that contain commonly consumed NNS types in the US packaged [food](#) supply had changed between 2002 and 2018. Co-investigator and Gillings Global School of Public Health Associate Professor Shu Wen Ng, Ph.D., said the study found a decline in prevalence of products containing aspartame and saccharin, but an increase in those with sucralose (increased from 38.7 percent to 71.0 percent) and reb-A (increased from 0.1 percent to 25.9 percent). Beverages accounted for most of products purchased containing NNS only or combined with CS. Compared to households without children, households with children are buying more packaged beverages and foods products that contain NNS. While this aligns with the public health objectives, it also raised other concerns about exposure to NNS.

The study also showed that non-Hispanic whites purchased almost double the volume of products containing NNS compared to Hispanics and non-Hispanic blacks throughout the study period. However, non-Hispanic black households showed a 42 percent increase in the proportion of households purchasing beverage products containing both CS and NNS between 2002 and 2018, indicating that purchasing behavior may be changing for this race-ethnic group.

The analysis used a nationally representative dataset on household purchases at the barcode level (Nielsen Homescan) in 2002 and 2018 linked with Nutrition Facts Panel (NFP) data and ingredient information using commercial nutrition databases that are updated regularly to capture reformulations. Keyword searches were performed on ingredient lists to classify products containing various types of NNS. The investigators then derived each household's total volume purchased per capita per day in 2002 and 2018 that contained

NNS and/or caloric sugars and the percent of households purchasing foods and beverages by sweetener type.

Dr. Elizabeth Dunford, also affiliated with UNC's Gillings Global School of Public Health, and Carolina Population Center, noted, "There is a need to be able to track our exposure to specific types of sweeteners in order to properly understand their health implications. The change to the [food supply](#) our study documents reinforces the need to develop and maintain the data systems to monitor what companies are putting in their foods. This work can help complement new and emerging clinical evidence about the different cardiometabolic and health effects of each NNS type."

"Considering further improvements to the Nutrition Facts label to include the amounts of NNS when present in products can allow monitoring of our exposure to these additives so that we can better assess their potential harms or benefits on health," said Dr. Ng.

Previous observational studies have linked NNS consumption to increased body weight, type 2 diabetes, and other adverse cardiometabolic outcomes, while others have found the opposite effect. Results from randomized controlled trials and meta-analyses have not demonstrated any relationship between NNS and increased consumption of sweet foods. It is unclear whether the inconsistency of the findings is due to studies typically categorizing all NNS together, rather than examining differences in the effect of specific types of NNS on outcomes.

More information: [DOI: 10.1016/j.jand.2020.04.022](https://doi.org/10.1016/j.jand.2020.04.022)

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