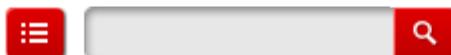


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# SCIENCE WORLD REPORT



## Scientists Measure Sugars in Diet with New Tool

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A new finding states that excess of sugar set people down a pathway to heart failure. (Photo : Reuters)

Nowadays, sugar's found in just about everything we consume, and though sweet, too much of this polyhydric alcohol can put you at a greater risk for obesity, chronic disease or even death. However, thanks to researchers at the University of Alaska Fairbanks, there's good news. They seem to have stumbled onto a new tool that could dramatically improve notoriously inaccurate surveys on what and how an individual eats and drinks.

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"We were looking for an objective biomarker that could accurately measure long-term sugar intake from a single blood or hair sample" said Diane O'Brien, project leader and biologist with the UAF Center for Alaska Native Health Research at the Institute of Arctic Biology, according to a [press release](#).

The research team pilot-tested the ration of two different carbon atoms (heavy carbon 13 and light carbon 12) which were incorporated into plants during the photosynthesis. This ration, also known as an isotopic signature, is distinct in corn and sugar cane, which are the sources of nearly all the sugars found in sugar-sweetened beverages.

"We used the isotopic signature of alanine an amino acid and building block of protein that essentially traps the carbon from dietary sugar so that it can be measured in the protein component of hair or blood," O'Brien said.

The press release notes that "alanine was uncorrelated with other foods that can contribute to elevated carbon rations."

"Even for validated and well-accepted biomarkers of diet, associations with self-reported intake are generally very weak. Our biomarker was able to explain almost half of the variation in self-reported sugar-sweetened beverage intake, which in this field is a very high level of explanatory power," said O'Brien.

Researchers write that these findings may be used diet-related research, as well.

However, there are still other kinks that need to be worked out, too.

"The gas chromatography-combustion-isotope ratio mass spectrometry process we used isn't inexpensive and or widely available," O'Brien said. "We expect that our findings will be most useful as a calibration tool, either for self-reported dietary data or more high-throughput biomarkers of sweetener intake."

The findings can be found in the June issue of the [Journal of Nutrition](#).

## **Bad Food for Diabetes**