UAF study may hold key to measuring sugar intake

Posted: Sunday, June 23, 2013 1:21 am | *Updated: 6:58 am, Sun Jun 23, 2013.*

Jeff Richardson/jrichardson@newminer.com | 0 comments

FAIRBANKS — In recent years, one of the simplest questions asked by health researchers also has been among the most puzzling: Just how much sugar do we actually eat?

A team of University of Alaska Fairbanks researchers might have found a new way to provide an answer. By taking a blood or hair sample and measuring the ratio of two specific types of carbon atoms, the researchers believe they can collect a meaningful history of some sugar consumption.

The biomarkers are distinct to corn sugar and cane sugar, according to the study, which was published in this month's issue of the Journal of Nutrition. By looking at the amount of two specific isotopes in the samples — heavy carbon 13 and light carbon 12 — a dietary history stretching back months or even years can be assembled.

That knowledge is important because without a reliable history of sugar consumption, it's more difficult to connect diet to common health problems like obesity or diabetes.

"When you try to correlate the intake of sugar now with a health outcome, you really get gibberish," said Diane O'Brien, the project leader for the Center for Alaska Native Health Research group.

To come up with a better history of sugar consumption, O'Brien's team collected hair and blood samples from 68 people in two Southwest communities. Because the vast majority of added sugar consumption in that population comes from sweetened beverages, she said the corn- and cane-sugar drinks made the biomarker particularly relevant.

2013 Yukon Flood
For complete coverage of the 2013 Yukon River floods visit
www.newsminer.com/news/yukon_flood

The five-year study might seem like a lot of trouble to measure something as simple as sugar consumption, but that's been a surprisingly thorny question for scientists to confirm.

Researchers can rely on interviews or journals to come up with numbers, but they're typically inaccurate. Knowing the stigma attached to sugar consumption can cause people to lowball their intake — either intentionally or subconsciously — when talking to a researcher.

"Some people forget, some lie, but we all misjudge what we eat," said Dale Schoeller, a nutritional sciences researcher at the University of Wisconsin.

Schoeller said he and other researchers have been trying to find a biomarker that is linked to sugar consumption for about a decade. Some faint connections had been found previously, but the isotopes O'Brien's team found appear to make the strongest link scientists have found so far, he said.

He said that makes O'Brien's research particularly important. In an accompanying critique in the Journal of Nutrition, he wrote that the work is "an exciting breakthrough in the development of a biomarker for caloric sweetener intake."

Bert Boyer, the director of the Center of Alaska Native Health Research, called the findings "impressive work" that will help researchers to better detect the connections between sugar intake and health.

"I believe these markers will be valuable to many of our investigators, and hopefully for investigators worldwide," he wrote in an email.

O'Brien is hoping to land research grants to confirm the results in other populations. Even if it's duplicated in other studies, O'Brien said the mass spectrometry process she uses likely won't ever become a commonplace test for sugar intake.

"This is a real pain in the neck to do, and it's expensive," O'Brien said.

Instead, she hopes the results of the process can be used to adjust other results, such as self-reported data or cheaper biological tests.

Contact staff writer Jeff Richardson at 459-7518.

More about ***Fairbanks***

- **ARTICLE**: Hot summer weather poses own problems for Alaska gardeners
- **ARTICLE**: Midnight Sun Run gives Alaska residents a chance to show their creative side
- **ARTICLE**: Growing season in Interior Alaska gets under way — finally
- **ARTICLE**: Federal government gets credit for keeping Fairbanks thriving
- **ARTICLE**: Chickenstock's 7th anniversary sets a record

More about ***Uaf***

- **ARTICLE**: Midnight Sun Run gives Alaska residents a chance to show their creative side
- **ARTICLE**: UAF artists host 1st annual iron pour workshop, demonstration
- **ARTICLE**: UAF 2013-14 rifle season announced
- **ARTICLE**: Nanooks improve semester grade-point average

Discuss

Print

Posted in Local news on *Sunday, June 23, 2013 1:21 am. Updated: 6:58 am.* | Tags: Fairbanks, Uaf, Sugar