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How Sweet It Isn't

BY LISË STERN

On my bulletin board is a page from *Life* magazine, circa 1971. Below a photo of a woman holding an ice cream cone, large letters proclaim, "Sugar can be the willpower you need to undereat." The fine print continues, "Sugar... only 18 calories per teaspoon, and it's all energy." Fine-tuned spin from the Sugar Association.



In the early 1970s, sugar is promoted as a way to combat overeating Credit: The Atlantic In the decades since, various foods and food types have gotten negative press for being unhealthy – fat is bad, sugar is bad, meat is bad, eggs are bad! The <u>Sugar Association</u> continues to promote the virtues of its product. "The simple, irrefutable fact is this: Sugar is a healthy part of a diet." (And it seems to have dropped 3 calories along the way, now 15 per teaspoon.) Yet issues with sugar keep surfacing, and resurfacing with increasingly substantial data indicating health problems caused by excessive consumption, especially with the rise of type 2 diabetes and obesity.

On the plus side, while our sugar consumption is significantly higher than it was four decades ago, it's actually gone down slightly in the past few years, as reported in a 2014 article in US News and World Report. However, it's still too high for our own good. According to the Centers for Disease Control, the average American eats 19.5 teaspoons of sugar per day.

This is two to three times higher than experts advise. In March this year, the World Health Organization released "<u>Guidelines: Sugar Intake for Adults and Children</u>," recommending that "adults and children reduce their daily intake of free sugars to less than 10% of their total energy intake. A further reduction to below 5% or roughly 25 grams (6 teaspoons) per day would provide additional health benefits."

Did you know?

- The American Heart Association recommends no more than 6 teaspoons of added sugar per day for women and 9 teaspoons per day for men.
- · Yet, we are eating way more than that.
- Americans consume an average of 19.5 teaspoons of sugar per day.

Credit: SugarScience.org

"Free" sugars refer to added sugar, that is, sugar that does not occur naturally in a given food. For example, plain yogurt has sugar in it, because milk has naturally occurring sugar. Flavored yogurt has added sugar. Added sugar is usually either table sugar (sucrose) – what we think of as granulated sugar (from sugar cane or beets) – or high fructose corn syrup, the sweetener most commonly used in sweetened beverages.

What attracts us to sugar? Dietitian and Certified Diabetes Educator Alix B. Landman (M.P.H., R.D., C.D.E) runs a <u>nutrition consulting company</u> in Plantation, Florida. Our inclination to the sweet is built in, she says. "Sugar is a pleasure food. On your tongue, you have regions that are centers for flavor. The largest region, the flat part of the tongue, is for sweet. Breast milk is very sweet – it's designed for good uptake of nutrients. Many food compounds keep us coming back for more because they are addictive."

Is sugar, in fact, addictive? Professor Laura Schmidt at the University of California San Francisco School of Medicine researched alcohol addiction before changing her focus to sugar. "Over time I became more and more concerned about the obesity epidemic." Addiction, she says, "has very complex psychological and physiological symptoms. Some of those symptoms qualify sugar. The strongest evidence is around craving. We have pretty good evidence that sugar is a substance people crave, but we just don't have the research yet to say it's addictive."

A longtime outspoken anti-sugar activist is Dr. Robert Lustig, a neuroendocrinologist at the UCSF School of Medicine and author of *Fat Chance: Beating the Odds Against Sugar, Processed Food, Obesity, and Disease.* In a 2013 Tedx talk, "Sugar – the Elephant in the Kitchen," Lustig responds to an ad campaign produced by Coca-Cola that states, "Beating obesity will take action by all of us, based on one simple common sense fact: All calories count. No matter where they come from. Including Coca-Cola and everything else with calories. And if you eat and drink more calories than you burn off, you'll gain weight."



All calories are not created equally, according to Dr. Robert Lustig

"You know what?" Lustig says. "I don't believe in common sense. I believe in data. And the data say something else entirely. What the data says is that some calories cause disease more than others, because different calories are metabolized differently, because a calorie is *not* a calorie. And when you believe a calorie is not a calorie, a whole world opens up. And how to fix this problem becomes very clear."

Cut back on sugar. "Does sugar cause diabetes?" Lustig asks. "Everyone says well, yeah, it's because of the calories, sugar are empty calories, that's the mantra. It is not – absolutely not true. Sugar are toxic calories."

If "toxic" means damaging to our health, than Lustig's assessment is accurate. Cumulative studies, even if dismissed by the sugary beverage industry, support this. A 2007 U.S. study found a connection between soda consumption and type 2 diabetes. A 2013 study in the UK indicated that consuming one (12 ounce) can of soda daily increases the potential to develop type 2 diabetes to between 18 and 22 percent.

Yet the Sugar Association continues to promote sugar as essential to good health, and would prefer that such studies and health claims remain unpublicized. In 2009, the American Heart Association released a study that asserted, "High intakes of dietary sugars in the setting of a worldwide pandemic of obesity and cardiovascular disease have heightened concerns about the adverse effects of excessive consumption of sugars."

The <u>Sugar Association responded</u> aggressively, stating that they were "very disappointed that a premier health organization such as the American Heart Association (AHA) would issue a scientific statement titled "Dietary Sugars Intake and Cardiovascular Health" without a higher standard of evidence to support its contentions and therefore mislead the average consumer."



If the population cleaned up its sugar consumption, experts say type 2 diabetes rates would drop by half

Further, they claim, "Every major systematic review of the body of scientific evidence exonerates sugar as the cause of any lifestyle disease, including heart disease and obesity." What's striking to me, however, is the entire 650-word statement includes no links to any studies supporting their claims, no footnotes, no references, unlike the AHA study.

In fact, a lack of transparency in sugar-related studies became an area of suspicion. Cristin E. Kearns, a dentist and postdoctoral fellow in the UCSF School of Medicine, told us she specializes in the "history of sugar industry trade organizations and their influence on research and policy." She began to investigate discrepancies. "Research on the suspected links between sugar and chronic disease largely ground to a halt by the late 1980s," she writes in a 2012 Mother Jones article. "Precisely how did the sugar industry engineer its turnaround? The answer is found in more than 1,500 pages of internal memos, letters, and company board reports we discovered buried in the archives of now-defunct sugar companies as well as in the recently released papers of deceased researchers and consultants who played key roles in the industry's strategy."

Kearns' research contributed to the creation of <u>SugarScience.com</u>, an organization philanthropically funded by the <u>Laura and John Arnold foundation</u>. A year in the making, SugarScience launched in November 2014, with Schmidt as the lead investigator; Kearns and Lustig are also on the team. "Certain scientists are funded by industry, and produce biased results that are essentially industry friendly," Schmidt says. "We try to rise above all of that and take as objective a stance as we can on the research." The team did a meta-analysis of all the studies on the relationship between sugary beverages and obesity. "If an investigator was not funded by the industry, they were five times as likely to find there was a relationship."

Landsman says, "If we could help people clean up sugar, and stop drinking all these sugary beverages, we'd clean up our disease rate by half."

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