Fueling the Obesity Epidemic?
Artificially Sweetened Beverage Use and Long-term Weight Gain

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Sharon P. Fowler, Ken Williams, Roy G. Resendez1, Kelly J. Hunt, Helen P. Hazuda and Michael P. Stern; From the Department of Medicine, Division of Clinical Epidemiology, The University of Texas Health Science Center at San Antonio.

FROM ABSTRACT:

We have examined the relationship between artificially sweetened beverage (ASB) consumption and long-term weight gain in the San Antonio Heart Study.

From 1979 to 1988, height, weight, and ASB consumption were measured among 5,158 adult residents of San Antonio, Texas. Seven to eight years later, 3,682 participants were re-examined.

Outcome measures were incidence of overweight/obesity (OW/OB).

A significant positive dose–response relationship emerged between baseline ASB consumption and all outcome measures.

Consuming >21 ASBs/week (vs. none) was associated with almost-doubled risk of OW/OB (93% increase incidence).

Among the baseline normal-weight individuals, a doubled risk of OW/OB was noted at follow-up (103% increased incidence).

These findings raise the question whether AS use might be fueling—rather than fighting—our escalating obesity epidemic.

KEY POINTS FROM ARTICLE:

1) “Over 6,000 products— including foods, beverages, cosmetics, and pharmaceuticals— contain aspartame alone.”

2) These authors assessed long-term weight change among participants in the San Antonio Heart Study who use AS products compared with those who did not.

3) During the past 30 years, people have increasingly turned to artificially sweetened (AS) foods and beverages in an attempt to lose weight or control it.

4) Manufacturer’s messages and conventional wisdom suggests that use of AS products would enhance weight loss or prevent further gain.
5) Sugar-sweetened beverage consumption was 75% less in ASB users compared to nonusers.

6) “Percent of calories from protein, total fat, and saturated fat were significantly higher in AS users.” [Suggesting appetite control damage]

7) Dieting rates about the same in both groups.

8) The researchers adjusted the ORs for baseline BMI, age, ethnicity, gender, education, socioeconomic index, baseline and interim change in exercise frequency, baseline smoking status, and interim smoking cessation.

9) Overall, obesity “showed significant dose–response relationships with ASB consumption.”

10) For each AS beverage consumed, users experienced significantly higher increase in BMI.

11) “Several studies have described increased appetite, hunger, and food consumption following AS exposure.”

12) Other studies show that the incidence of metabolic syndrome increases with increased diet soda consumption (by 34% to 53%). “Increased incidence of metabolic syndrome has been observed among AS users in two major observational studies.”

13) The authors suggest that because AS are 180–13,000 times sweeter than sugar, their consumption leads to “taste distortion,” increasing appetite for intensely sweet, highly caloric foods. “AS use—or sweet taste itself—may increase hunger, cravings, or food intake.”

14) Studies have shown that AS cause elevated insulin levels. [Important: Gary Taubes (Good Calories Bad Calories {2008}, Why We Get Fat {2011}, Newsweek May 14 2012 “The New Obesity Campaigns Have It All Wrong”) notes that elevated insulin levels upregulates the enzyme lipoprotein lipase which opens the door to the fat cell, increasing fat storage]

15) Aspartame is 40% aspartate. Aspartate is toxic to neurons in the arcuate nucleus of the hypothalamus. The arcuate nucleus of the hypothalamus is a key site for leptin signaling. Leptin signaling in the arcuate nucleus of the hypothalamus instructs us to reduce food intake. The earlier the exposure to excess aspartate, the more profound the damage to the arcuate nucleus. [Byron Richards (The Leptin Diet {2006}) notes that the hormone leptin is key for turning off our hunger so that we stop eating]

16) Animal experiments show that in utero exposure to aspartate produces offspring obesity and causes severe loss of neurons in the arcuate nucleus.
17) The authors suggest that aspartame exposure may cause neurotoxicity with increased leptin resistance and obesity.

18) “We observed a classic, positive dose–response relationship between AS beverage consumption and long-term weight gain.”

19) “Are ASs fueling—rather than fighting—the very epidemic they were designed to block?” These authors suggest the answer is “yes.”

20) “These results, together with findings of increased lymphoma and leukemia in young rodents exposed to aspartame, should be carefully considered when policy recommendations to deter the development of obesity in children and adolescents are being formulated—particularly those recommending increased AS consumption.”

COMMENTS FROM DAN MURPHY

This year, my 14 year old daughter was distressed about losing points in her high school health class for asserting that a regular Coke was healthier than a Diet Coke. Our school children are being taught that diet drinks are an acceptable health option. This study disagrees.