

Facts on Health Risks of Sugar Drinks

Obesity

- The preponderance of scientific evidence shows that consumption of sugar drinks promotes weight gain.¹
- Caloric beverages contribute to weight gain more than solid foods, because the body doesn't compensate fully for beverage calories by reducing calorie intake later in the day.²
- Children who drink one or more sugar-sweetened beverage per day have 55 percent greater odds of becoming overweight or obese than those who consume little or no sugar-sweetened beverages.^{3,4}
- Adults who drink one sugar drink or more per day are 27 percent more likely to be overweight or obese than non-drinkers, regardless of income or ethnicity.⁵
- Obesity-related health care costs \$190 billion annually, representing 21 percent of all medical spending. Roughly half of these costs are paid through public expenditures.^{6,7,8}
- The medical costs for people who are obese are 150 percent higher (\$2,741 per year) than those of normal weight.⁹

Diabetes

- Drinking one sugar-sweetened beverage per day is associated with an 18 percent increase in the risk of developing type 2 diabetes. Sugar sweetened beverages were linked to a higher risk of diabetes even after accounting for their impact on weight.¹⁰
- Consuming one or more sodas per day increases one's risk of developing type 2 diabetes by 26 percent compared to those who rarely consume such drinks.¹¹
- Diabetes is the seventh-leading cause of death in the United States.¹²
- Diabetes can result in various health complication such as heart disease, stroke, blindness, kidney failure, and premature death.¹³
- According to the Centers for Disease Control and Prevention, costs from diabetes totaled \$245 billion in 2012, with direct medical costs totaling \$176 billion.¹⁴

Related Disease: Non-Alcoholic Fatty Liver Disease

- Daily consumption of sugar drinks for six months increases fat deposits in the liver by 150 percent, which directly contributes to both diabetes and heart disease.¹⁵

Tooth Decay

- Consumption of sugar drinks—especially more acidic carbonated drinks—promotes dental caries and erosion.^{16,17, 18,19}

- Soda consumption increases the likelihood of cavities in adults and is associated with nearly twice the risk of dental caries in children.^{20,21} In fact, for each additional sugar drink consumed per day, children may be at a 22 percent increased risk of developing dental caries.²²
- Untreated caries can lead to pain, infection, and tooth loss.²³

Heart Disease

- Consuming two or more sugar sweetened beverages per day is associated with a 35 percent increased risk of coronary heart disease in women.²⁴ A related study in men found a similar sugar drink–heart disease link.²⁵

¹ Bucher Della Torre S, Keller A, Depeyre JL, and Kruseman M. (2016). Sugar-sweetened beverages and obesity risk in children and adolescents: A systematic analysis on how methodological quality may influence conclusions. *J Acad Nutr Diet*, 116(4): 638-659.

² Malik VS, Pan A, Willett WC, and Hu FB. (2013). Sugar-sweetened beverages and weight gain in children and adults: A systematic review and meta-analysis. *Am J Clin Nutr*, 98(4): 1084-1102.

³ Morenga LT, Mallard S, and Mann J. (2013). Dietary sugars and body weight: systematic review and meta-analyses of randomised controlled trials and cohort studies. *BMJ*, 346: e7492.

⁴ De Ruyter JC, Olthof MR, Seiffel JC, Katan MB. (2012). A trial of sugar-free or sugar-sweetened beverages and body weight in children. *N Engl J Med*, 367(15): 1397-406.

⁵ Babey SH, Jones M, Yu H, and Goldstein H. (2009). Bubbling over: Soda consumption and its link to obesity in California. *Policy Brief UCLA Cent Health Policy Res*, (PB2009-5): 1-8.

⁶ Centers for Medicare & Medicaid Services. (2015). National health expenditures 2015 highlights. Available at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/highlights.pdf>.

⁷ Cawley J and Meyerhoefer C. (2012). The medical care costs of obesity: An instrumental variables approach. *J Health Econ*, 31(1): 219-230.

⁸ Finkelstein EA, Ruhm CJ, and Kosa KM. (2005). Economic causes and consequences of obesity. *Annu Rev Public Health*, 26: 239-257.

⁹ Cawley J and Meyerhoefer C, op cit.

¹⁰ Imamura F, O'Connor L, Ye Z, et al. (2015). Consumption of sugar sweetened beverages, artificially sweetened beverages, and fruit juice and incidence of type 2 diabetes: Systematic review, meta-analysis, and estimation of population attributable fraction. *BMJ*. 351: h3576.

¹¹ Malik VS, Popkin BM, Bray GA, et al. (2010). Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: A meta-analysis. *Diabetes Care*, 33(11): 2477-2483.

¹² Centers for Disease Control and Prevention. (2014). National diabetes statistics report. Available at <http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf>.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Maersk M. et al. (2012). Sucrose-sweetened beverages increase fat storage in the liver, muscle, and visceral fat depot: A 6-month randomized intervention study. *Am J Clin Nutr*, 95(2); 283-289. Available at <http://ajcn.nutrition.org/content/95/2/283.full.pdf>.

¹⁶ Cheng R, Yang H, Shao MY, Hu T, and Zhou XD. (2009). Dental erosion and severe tooth decay related to soft drinks: A case report and literature review. *J Zhejiang Univ Sci B*, 10(5): 395-399.

¹⁷ Tahmassebi JF, Duggal MS, Malik-Kotru G, and Curzon MEJ. (2006). Soft drinks and dental health: A review of the current literature. *J Dent*, 34(1): 2-11.

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- ¹⁸ Marshall TA, Levy SM, Broffitt B, et al. (2003). Dental caries and beverage consumption in young children. *Pediatrics*, 112(3): e184-e191.
- ¹⁹ Vartanian LR, Schwartz MB, and Brownell KD. (2007). Effects of soft drink consumption on nutrition and health: A systematic review and meta-analysis. *Am J Public Health*, 97(4): 667-675.
- ²⁰ Sohn W, Burt BA, and Sowers MR. (2006). Carbonated soft drinks and dental caries in the primary dentition. *J Dent Res*, 85(3): 262-266.
- ²¹ Heller KE, Burt BA, and Eklund SA. (2001). Sugared soda consumption and dental caries in the United States. *J Dent Res*, 80(10): 1949-1953.
- ²² Wilder JR, Kaste LM, Handler A, et al. The association between sugar-sweetened beverages and dental caries among third-grade students in Georgia. *J Public Health Dent*. 76(1): 76-84.
- ²³ Ibid.
- ²⁴ Malik VS and Hu F. (2015). Fructose and cardiometabolic health: What the evidence from sugar-sweetened beverages tells us. *J Am Coll Cardiol*, 66(14), 1615-1624.
- ²⁵ Fung TT, Malik V, Rexrode KM, et al. (2009). Sweetened beverage consumption and risk of coronary heart disease in women. *Am J Clin Nutr*, 89(4): 1037-1042.