

A Sweetened Beverage Tax Is Needed to Combat the Obesity Epidemic as Well as Related Absenteeism and Presenteeism

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The Significant Adverse Health Risks of Obesity

The health consequences of obesity are well known. Obesity is the leading predisposing factor to the development of type 2 diabetes. A study released by Nevious and colleagues from Sweden on February 24, 2009, in the *British Medical Journal* has highlighted the danger of being obese.¹ These investigators reported that obesity increases the risk of premature death at the same rate as cigarette smoking. Among 45,000 men whose health was monitored for 38 years, being overweight at the age of 18 was found to be equivalent to being a regular smoker in terms of the risk of dying relatively early in life from preventable diseases.

In this study, an obese [body mass index (BMI) >30] nonsmoker had the same risk of premature death as a healthy-weight person smoking more than 10 cigarettes a day. Being overweight (BMI 25–30) increased the risk of premature death by more than 30%, which was the same increased risk as smoking 1–10 cigarettes per day.

Although many nonmedical professionals may consider being obese or overweight to be harmless, the risks of those two states of excessive caloric intake are, in fact, not harmless. Being obese or even just being overweight is as harmful as smoking.

The United States has developed a massive antismoking educational infrastructure since the late 1980s. Smoking is becoming increasingly less socially acceptable because it is part of an unhealthy lifestyle choice, which leads to costly and debilitating health complications and raises the costs of health care for everyone. Obesity is as dangerous as smoking. Thus, as is the case with smoking, if a patient is overweight or obese, these nutritional disorders should also alert the patient and health care provider to similar health concerns, and society should be prepared to take similar preventative actions.

The Link between Intake of Sugar-Sweetened Beverages and Obesity

Why are we experiencing an epidemic of obesity in this country? There are surely many factors for this problem, which may relate to a sedentary lifestyle, inadequate amounts of physical exercise, excessive caloric intake, an obesigenic environment, and/or lack of education and money for healthy foods. Many of these issues are beyond the capability of an individual to fully solve. One significant factor in the development of obesity is the intake of sugar-containing soda and other sugary beverages. This important component of obesity can be solved by cutting back on the intake of these substances.

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Abbreviation: (BMI) body mass index

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Americans today derive 10 to 15% of total calories from sugar-sweetened beverages.² These beverages provide no nutritional value other than calories. A higher consumption of sugar-sweetened beverages is associated with weight gain and an increased risk for the development of type 2 diabetes.³ An increased sugar-sweetened beverage intake has also been found to be associated with increased insulin resistance, systolic blood pressure, and waist circumference, as well as decreased high-density lipoprotein cholesterol levels.⁴ Although there is some debate in the literature about how to interpret data regarding caloric intake from sugar-sweetened beverages,^{5,6} the majority of epidemiologic and experimental evidence indicates that a greater intake of sugar-sweetened beverages is associated with weight gain and obesity.^{7,8} Most review articles on this topic have concluded that data support discouraging the consumption of sugar-sweetened beverages, such as soda drinks, is an important way to attain and maintain a healthy body weight in children and adults.

The Sugared Beverage Tax

In December 2008, Governor David Paterson of New York proposed an 18% state sales tax on sugared beverages, including sodas and fruit drinks that are less than 70% juice. Diet drinks would not be subject to this tax. This tax has been referred to as the soda tax and the obesity tax. The purpose was to encourage decreased consumption of these high-calorie beverages. The tax revenue was intended to be used to fund public health programs, including obesity prevention programs. The governor estimated that this tax would reduce the consumption of these affected beverages by 5%; however, the decrease in consumption was estimated to be as much as 14%.⁸

Governor Patterson's proposal was not well received and the beverage industry came out strongly against it. Governor Patterson backed off from support of this measure by February 2009. The flames of this controversy were fanned once again in April 2009, when New York City's health commissioner wrote an article advocating "hefty" taxes on sodas and sports drinks containing sugar. In the *New England Journal of Medicine*, Thomas Frieden, M.D., M.P.H. (together with Kelly Brownell of Yale University) wrote that government intervention is needed to combat the problem of increasing sugary beverage intake in the United States. The two authors concluded that a soda tax is appropriate for three reasons: (1) externality, which means that all taxpayers are currently bearing the increasing financial costs of an obese population;

(2) information asymmetry, which means that consumers, especially children, cannot distinguish television advertisements from programs and cannot interpret misleading health claims made by soda advertisers; and (3) revenue generation, which means that a sugared beverage tax could generate funds that could be used to promote healthy behavior.⁹

The Adverse Public Health Consequences of Obesity

The sugared beverage tax was a reasonable proposal from a public health standpoint. Although individuals who pay increased taxes might object to this directed tax, the situation is similar to when cigarette taxes were increased to decrease smoking. The result was less smoking and better health for the country. In this case, the desired result is less consumption of sugared beverages. The costs to the U.S. economy for obesity are high and are becoming higher, just as the costs of smoking have been high. Obesity is associated with a 36% increase in spending on health care services, more than smoking or problem drinking.

Obese employees cost private employers in the United States an estimated \$45 billion annually in medical expenditures and absenteeism.¹⁰ However, presenteeism, which is reduced productivity on the job because of problems faced when employees come to work despite an illness (obesity in this case), can have similar negative repercussions on business performance. Like absenteeism, presenteeism is a drain on the economy. This phenomenon can lead to reduced employee efficiency and workplace safety. An employee who goes to work despite illness may perform at only a fraction of normal capacity, but will require the same expenditure in wages, taxes, and benefits as an employee operating at 100%. They may also be more prone to mistakes. Presenteeism may be an even larger problem for overweight workers and their employers than absenteeism.

Public Health Measures to Decrease Obesity

Since the 1950s, the prevalence of smoking has dropped by more than 50%. In 1965, the prevalence of smoking was over 40%.¹¹ As of 2008, the prevalence was under 20%.¹² This public health feat has been accomplished through education, legislation, and taxation.

As of 2006, the obesity prevalence among adults in the United States was reported by the Centers for Disease

Control to be 34% and rising.¹³ Various remedies have been proposed to this epidemic of obesity, which is fueling the rapidly rising increase in the incidence of type 2 diabetes and which is contributing to health problems and health care expenditures. Many of the types of proposed remedies to combat obesity were also applied to combat smoking, so we know what works and what will meet resistance from industry.

Just as a cigarette tax has helped reduce the number of smokers and smoking-related deaths, a tax on high-calorie, sugar-sweetened beverages can help reduce the prevalence of obesity and obesity-related medical complications, such as type 2 diabetes. One argument against such a tax is that it is regressive and will affect low-income people more than high-income people. However, low-income individuals may be more price sensitive, more likely to cut back on the intake of taxed sugar-sweetened beverages, and therefore more likely to benefit from this public health measure.¹⁴ Another argument against such a tax is that low-income people may switch from sugar-sweetened beverages to other unhealthy foods. This remains to be determined.¹⁵ Indeed, the optimal outcome of a decrease in the intake of sugar-sweetened beverages is a replacement of these fluids with water. Substitution of these beverages with even healthy calorie-containing beverages such as milk or pure fruit juice will not achieve a decline in total daily caloric intake¹⁶ but may provide some vitamins or minerals usually absent from sugar-sweetened beverages.

Certainly, a sugar-sweetened beverage tax is no substitute for education about nutrition, encouragement to exercise regularly, and removal of junk food from schools. The five elements of a healthy lifestyle to best avoid obesity and minimize the risk of developing type 2 diabetes are listed in **Table 1**. The sweetened beverage tax is consistent with societal promotion of those behaviors. This tax will ultimately save money for burdened taxpayers by decreasing the prevalence of

obesity, which will in turn decrease the nation's medical costs and increase the nation's productivity. A tax on sugar-sweetened beverages is sound public policy.

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Table 1.
Five Elements of a Healthy Lifestyle to Best Avoid Obesity and Minimize the Risk of Developing Type 2 Diabetes

1.	Maintain a proper weight
2.	Maintain an appropriate waist circumference
3.	Exercise regularly: both cardiovascular and resistance
4.	Eat a healthy diet
5.	Avoid soda and other sugar-sweetened beverages