

Trends in beverage consumption among children and adults, 2003-2014

Bleich SN, Vercammen KA, Koma JW, and Li Z. Obesity. 2017; (in press)

This study provides the most recent data on sugary drink consumption in America and provides data on trends over time. Results from 2013-2014 show a significant decline in the percent of Americans consuming sugary drinks on a given day and a significant drop in calories per person per day. However, disparities in sugary drink consumption persist: Black, Mexican American, and other Hispanic Americans consume significantly more than White Americans. Young adults and adolescents saw the greatest declines in consumption, but are still the heaviest consumers of sugary drinks. ■

Abstract

Objective: This study aimed to provide the most recent national estimates for beverage consumption among children and adults in the United States.

Methods: Dietary data were collected from 18,600 children aged 2 to 19 years and from 27,652 adults aged 20 years and older in the 2003 to 2014 National Health and Nutrition Examination Survey. Total beverage and sugar-sweetened beverage (SSB) consumption was measured by 24-hour dietary recall.

Results: From 2003 to 2014, per capita consumption of all beverages declined significantly among children (473.8-312.6 calories; $P < 0.001$) and adults (425.0-341.1 calories; $P < 0.001$). In the 2013-2014 survey, 60.7% of children and 50.0% of adults drank SSBs on a given day, which is significantly lower than 2003-2004, when 79.7% of children and 61.5% of adults reported drinking SSBs. From 2003 to 2014, per capita consumption of SSBs declined from 224.6 calories to 132.5 calories ($P < 0.001$) for children and from 190.4 calories to 137.6 calories ($P < 0.001$) for adults. The absolute levels for the percentage of SSB drinkers and per capita consumption of SSBs were highest among Black, Mexican American, and non-Mexican Hispanic children, adolescents, and young adults for all years of the study.

Conclusions: Overall, beverage and SSB consumption declined for children and adults from 2003 to 2014. The levels of consumption are highest among Black, Mexican American, and non-Mexican Hispanic participants.

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Financial incentives and purchase restrictions in a food benefit program affect the types of foods and beverages purchased: Results from a randomized trial [🔗](#)

French SA, Rydell SA, Mitchell NR, et al. *Int J Behavioral Nutr & Phys Activity*. 2017;14(127)

This study adds to a growing body of evidence examining the effects of providing financial incentives and/or putting restrictions on certain foods purchased through food benefit programs for low income people. In this study, purchases of fruit were 2 to 3 times higher in the group that received incentives plus restrictions compared to the restriction only and control groups. This supports other studies that have also found that incentive plus restrictions are more effective than either strategy alone. ■

Abstract

Background: This research evaluated the effects of financial incentives and purchase restrictions on food purchasing in a food benefit program for low income people.

Methods: Participants (n=279) were randomized to groups: 1) Incentive- 30% financial incentive for fruits and vegetables purchased with food benefits; 2) Restriction- no purchase of sugar-sweetened beverages, sweet baked goods, or candies with food benefits; 3) Incentive plus Restriction; or 4) Control- no incentive or restrictions. Participants received a study-specific debit card where funds were added monthly for 12-weeks. Food purchase receipts were collected over 16 weeks. Total dollars spent on grocery purchases and by targeted food categories were computed from receipts. Group differences were examined using general linear models.

Results: Weekly purchases of fruit significantly increased in the Incentive plus Restriction (\$4.8) compared to the Restriction (\$1.7) and Control (\$2.1) groups ($p < .01$). Sugar-sweetened beverage purchases significantly decreased in the Incentive plus Restriction (-\$0.8 per week) and Restriction (-\$1.4 per week) groups compared to the Control group (+\$1.5; $p < .0001$). Sweet baked goods purchases significantly decreased in the Restriction (-\$0.70 per week) compared to the Control group (+\$0.82 per week; $p < .01$).

Conclusions: Paired financial incentives and restrictions on foods and beverages purchased with food program funds may support more healthful food purchases compared to no incentives or restrictions.

Pricing strategies to encourage availability, purchase, and consumption of healthy foods and beverages: A systematic review

Gittelsohn J, Trude ACB, Kim H. *Prev Chron Dis*. 2017;14(107)

Healthy food access is the focus of many emerging strategies to improve the diets and health of communities, however there is little consensus on the most effective strategies and best practices for improving availability of healthy foods and changing consumer behaviors. This systematic review examined the effect of food-pricing interventions. Most of the pricing interventions that were reviewed focused on promoting healthy foods and beverages, and generally had a positive impact on stocking and sales of healthy products and increased purchase and consumption of promoted foods. More research is needed to determine which pricing interventions most effective to establish best practices and guidelines. ■

Abstract

Introduction: Food pricing policies to promote healthy diets, such as taxes, price manipulations, and food subsidies, have been tested in different settings. However, little consensus exists about the effect of these policies on the availability of healthy and unhealthy foods, on what foods consumers buy, or on the impact of food purchases on consumer health outcomes. We conducted a systematic review of studies of the effect of food-pricing interventions on retail sales and on consumer purchasing and consumption of healthy foods and beverages.

Methods: We used MEDLINE, Embase, PsycINFO, Web of Science, ClinicalTrials.gov, and the Cochrane Library to conduct a systematic search for peer-reviewed articles related to studies of food pricing policies. We selected articles that were published in English from January 2000 through December 2016 on the following types of studies: 1) real-world experimental studies (randomized controlled trials, quasi-experimental studies, and natural experiments); 2) population studies of people or retail stores in middle-income and high-income countries; 3) pricing interventions alone or in combination with other strategies (price promotions, coupons, taxes, or cash-back rebates), excluding studies of vending-machine or online sales; and 4) outcomes studies at the retail (stocking, sales) and consumer (purchasing, consumption) levels. We selected 65 articles representing 30 studies for review.

Results: Sixteen pricing intervention studies that sought to improve access to healthy food and beverage options reported increased stocking and sales of promoted food items. Most studies ($n = 23$) reported improvement in the purchasing and consumption of healthy foods or beverages or decreased purchasing and consumption of unhealthy foods or beverages. Most studies assessed promotions of fresh fruits and vegetables ($n = 20$); however, these foods may be hard to source, have high perishability, and raise concerns about safety and handling. Few of the pricing studies we reviewed discouraged purchasing and consumption of unhealthy foods ($n = 6$). Many studies we reviewed had limitations, including lack of formative research, process evaluation, or psychosocial and health assessments of the intervention's

impact; short intervention duration; or no assessment of food substitutions or the effects of pricing interventions on food purchasing and diets.

Conclusion: Pricing interventions generally increased stocking, sales, purchasing, and consumption of promoted foods and beverages. Additional studies are needed to differentiate the potential impact of selected pricing strategies and policies over others.

Simulation of growth trajectories of childhood obesity into adulthood

Ward ZJ, Long MW, Resch SC, et al. *NEJM*. 2017;377(22)

This study used a simulation model to estimate the risk of obesity for the current population of children into adulthood. The model predicted that more than half (57 percent) of today's children will have obesity by the time they are 35 years old. Obesity early in life significantly increased the odds of having obesity as an adult. However, even kids who remain a normal weight throughout childhood still had a 30 percent risk of having obesity at 35 years old. ■

Abstract

Introduction: Although the current obesity epidemic has been well documented in children and adults, less is known about long-term risks of adult obesity for a given child at his or her present age and weight. We developed a simulation model to estimate the risk of adult obesity at the age of 35 years for the current population of children in the United States.

Methods: We pooled height and weight data from five nationally representative longitudinal studies totaling 176,720 observations from 41,567 children and adults. We simulated growth trajectories across the life course and adjusted for secular trends. We created 1000 virtual populations of 1 million children through the age of 19 years that were representative of the 2016 population of the United States and projected their trajectories in height and weight up to the age of 35 years. Severe obesity was defined as a body-mass index (BMI, the weight in kilograms divided by the square of the height in meters) of 35 or higher in adults and 120% or more of the 95th percentile in children.

Results: Given the current level of childhood obesity, the models predicted that a majority of today's children (57.3%; 95% uncertainly interval [UI], 55.2 to 60.0) will be obese at the age of 35 years, and roughly half of the projected prevalence will occur during childhood. Our simulations indicated that the relative risk of adult obesity increased with age and BMI, from 1.17 (95% UI, 1.09 to 1.29) for overweight 2-year-olds to 3.10 (95% UI, 2.43 to 3.65) for 19-year-olds with severe obesity. For children with severe obesity, the chance they will no longer be obese at the age of 35 years fell from 21.0% (95% UI, 7.3 to 47.3) at the age of 2 years to 6.1% (95% UI, 2.1 to 9.9) at the age of 19 years.

Conclusions: *On the basis of our simulation models, childhood obesity and overweight will continue to be a major health problem in the United States. Early development of obesity predicted obesity in adulthood, especially for children who were severely obese.*

Policy lessons from health taxes: A systematic review of empirical studies

Wright A, Smith KE, Hellowell M. *BMC Public Health*. 2017; 17(583)

This scoping review examined over 100 studies on the impact of health taxes, primarily sugary drink taxes. Result in reduced purchase and consumption of sugary drinks may result in long-term health benefits such as reduced rates of obesity and diabetes. ■

Abstract

Introduction: *Taxes on alcohol and tobacco have long been an important means of raising revenues for public spending in many countries but there is increasing interest in using taxes on these, and other unhealthy products, to achieve public health goals. We present a systematic review of the research on health taxes, and aim to generate insights into how such taxes can: (i) reduce consumption of targeted products and related harms; (ii) generate revenues for health objectives and distribute the tax burden across income groups in an efficient and equitable manner; and (iii) be made politically sustainable.*

Methods: *Six scientific and four grey-literature databases were searched for empirical studies of ‘health taxes’ – defined as those intended to increase the costs of manufacturing, distributing, retailing and/or consuming health damaging products. Since reviews already exist of the evidence relating to traditional alcohol and tobacco excise taxes, we focus on other taxes such as taxes on retailers and manufacturers of unhealthy products, and consumer taxes targeting unhealthy foods, such as sugar-sweetened beverages.*

Results: *Ninety-one peer-reviewed and 11 grey-literature studies met our inclusion criteria. The review highlights a recent, rapid rise in research in this area, most of which focuses on high-income countries and on taxes on food products or nutrients. Findings demonstrate that high tax rates on sugar-sweetened beverages are likely to have a positive impact on health behaviours and outcomes, and, while taxes on products reduce demand, they add to fiscal revenues. Common concerns about health taxes are also discussed.*

Conclusions: *If the primary policy goal of a health tax is to reduce consumption of unhealthy products, then evidence supports the implementation of taxes that increase the price of products by 20% or more. However, where taxes are effective in changing health behaviours, the predictability of the revenue stream is reduced. Hence, policy actors need to be clear about the primary goal of any health tax and*

frame the tax accordingly – not doing so leaves taxes vulnerable to hostile lobbying. Conversely, earmarking health taxes for health spending tends to increase public support so long as policymakers follow through on specified spending commitments.

QUICK TAKES

Vital Signs: Trends in incidence of cancers associated with overweight and obesity – United States, 2005-2014

Steele CB, Thomas CC, Henley J, et al. *MMWR*. 2017;66(39)

Overweight and obesity are associated with increased risk of at least 13 different types of cancer. This study examined data from the United States Cancer Statistics from 2005 to 2014 to determine if diagnoses of obesity-related cancers have increased with increasing obesity rates. In 2014, 40 percent of all cancer diagnoses were for obesity-related cancers, and diagnoses for all of these cancer (except colorectal) have increased since 2005. These findings suggest that more emphasis should be placed on weight management as a cancer prevention strategy. ■

Sugar-sweetened beverage taxation: An update on the year that was 2017

Public Health Nutrition. 2017; 20(18)

2017 was a busy year in the world of sugary drink taxes. This editorial chronicles major events in 2017 related to sugary drink taxes in the United States and other countries, including a detailed timeline, summary of emerging evidence of the efficacy of taxes, and a preview of what's to come in 2018. ■

Viewpoint: The misuse of meta-analysis in nutrition research

Barnard ND, Willett WC, Ding EL. *JAMA*. 2017; published online

Meta-analyses, studies that combine findings from multiple studies in order to draw more robust conclusion, are considered the gold standard for consensus on nutrition science and are relied on heavily for forming policies and recommendations on diet and health. This article takes a critical look at the limitations of meta-analyses and suggests actions to improve the reliability of such studies. ■

Sugar industry sponsorship of germ-free rodent studies linking sucrose to hyperlipidemia and cancer: An historical analysis of internal documents

Kearns CE, Apollonio D, Glantz SA. *Plos Biology*. 2017; 15(11)

This study captured headlines for exposing some of the practices carried out by the sugar industry decades ago to manipulate scientific evidence showing the potential health harms of sugar consumption. Researchers examined internal documents from the Sugar Research Foundation to compile this narrative case study of Project 259 – an industry-funded study from the 1960s examining the effect of carbohydrate consumption on blood lipids. The study found that sucrose consumption increased risk of coronary heart disease and elevated levels of a potential carcinogen in mice. The Sugar Research Foundation ultimately terminated the project without publishing the results. ■

Prevalence of obesity among adults and youth: United States, 2015-2016

Hales CM, Carroll MD, Fryar CD, et al. *NCHS Data Brief No. 288*. October 2017.

This report from the Centers for Disease Control and Prevention provides the most recent estimates on obesity prevalence by sex, age, and race, and overall estimates from 1999-2000 through 2015-2016. Prevalence of obesity was 39.8 percent in adults and 18.5 percent in children. The overall prevalence was higher among Black and Hispanic Americans than White or Asian Americans. Obesity prevalence was not significantly higher for adults or children than in the previous survey years (2013-2014). ■

Research Watch reviews the evidence on the health effects of sugar and the effectiveness of policy and other interventions to curb consumption to inform sugar reduction activities across the US.

This publication was prepared by Jaclyn Konich.

Healthy Food America acts on scientific evidence to drive change in food policy and industry practice, giving people greater control over their health and reducing diet-related illnesses, such as obesity, diabetes, and heart disease.