

PedsCases Podcast Scripts

This podcast can be accessed at www.pedscases.com, Apple Podcasting, Spotify, or your favourite podcasting app.

Consumption and Taxation of Sugar-Sweetened Beverages – CPS Podcast

Developed by Dr. Sandra Botros Gouda and Dr. Catherine Pound for PedsCases.com.
May 18, 2020

Introduction:

Hello everyone, my name is Sandra Botros Gouda, and I'm a first-year pediatric resident at the University of Alberta in Edmonton. This podcast was developed in conjunction with PedsCases and the Canadian Pediatric Society (CPS). We will be summarizing the new CPS position statement "A proposal to increase taxes on sugar-sweetened beverages in Canada"¹. This podcast was made in collaboration with Dr. Catherine Pound, a pediatrician and researcher at the Children's Hospital of Eastern Ontario in Ottawa.

In this podcast we will be discussing the potential implications of sugar-sweetened beverage consumption and the CPS position on taxation of these beverages. By the end of this podcast we will have covered the following **objectives**:

1. Define sugar-sweetened beverages, which we will refer to as SSBs.
2. Identify the adverse health outcomes associated with excessive consumption of sugar-sweetened beverages (SSB) on children and adolescents
3. Review CPS recommendations for SSB consumption
4. Discuss the CPS position statement proposing increased taxation of sugar-sweetened beverages in Canada
5. Suggest strategies for reducing SSB consumption in pediatric patients

Case:

Let's begin with a case. You are seeing Max, an 11-year-old boy presenting to your primary care clinic for a routine health visit. Max's mother states that he is generally well with no major health concerns, however, she does notice that in recent years he seems to be gaining weight faster than other children his age.

Max has been healthy with no significant past medical history. There is a family history of hypertension and Type 2 Diabetes in his father, developed at age 38, and Type 2 diabetes in his paternal aunt, developed at age 40.

Developed by Dr. Sandra Botros Gouda and Dr. Catherine Pound for PedsCases.com.
May 18, 2020.

You take the opportunity to ask some further questions about Max's lifestyle and dietary history. He reports regular physical activity during gym class at school, and plays soccer twice a week with a local team. On a typical day, he drinks a fruit flavored juice box at school during lunch time, and one can of Coca Cola or Sprite when he gets home after school. He sometimes has a glass of orange juice with his breakfast a few times a week. He likes to drink a sports drink during soccer practice and at soccer games.

On physical examination, Max's height is at the 50th percentile, his weight is at the 95th percentile, and his BMI is at the 97th percentile for his age. The remainder of his physical exam is normal.

What do you tell Max and his mother about the amount of sugar-sweetened beverages he is consuming?

Definition of SSB

The World Health Organization (WHO), defines sugar-sweetened beverages (SSBs) as any beverages containing added caloric sweeteners. Caloric sweeteners include sucrose, high fructose corn syrup, or fruit juice concentrates. Some common examples of sugar sweetened beverages are carbonated sodas, fruit drinks, sports drinks, energy drinks and vitamin water, sweetened ice tea, and lemonade².

The World Health Organization recommends that both adults and children limit their intake of added sugars to less than 10% of their total energy intake³, which translates to approximately 50g, or 13 teaspoons of sugar per day for an adult. This number would be less for children. To give some context, a 355mL can of sugar sweetened soda can contain up to 40g or 10 teaspoons of sugar⁴. Many people exceed their recommended daily sugar consumption through beverages alone⁵.

Negative health outcomes related to sugar sweetened beverage consumption

In 2015, 1.5 million Canadian children aged 5 to 17 were either overweight, with a BMI one to two standard deviations above the mean for age and sex, or obese, with a BMI greater than 2 standard deviations above the mean⁶.

Overweight and obesity is well known to be a significant risk factor for the development of chronic diseases, including hypertension, dyslipidemia, coronary artery disease, stroke, type 2 diabetes, cancer, non-alcoholic fatty liver disease, sleep apnea, and osteoarthritis^{7,8}. Obese children have an increased lifetime risk of developing type 2 diabetes and cardiovascular disease⁹. As the rates of obesity in the population continue to rise, we are also seeing an earlier emergence of these obesity related chronic diseases. While previously thought of as adult diseases, they are now occurring in children and adolescents.

In Canada, the annual direct health care cost of obesity is estimated to be between \$4.6 billion and \$7.1 billion and is predicted to continue to rise¹⁰.

Although the causes of obesity are multifactorial, sugar sweetened beverage consumption has been shown to be associated with increased rates of overweight and obesity^{11,12}, increased rates of diabetes, hypertension, some types of cancer¹³⁻¹⁵, and dental caries^{16,17}.

CPS Position Statement recommending increased taxation on SSB

In January 2020, the CPS released a position statement recommending increased taxation on all sugar-sweetened beverages sold in Canada. I will now summarize these recommendations as well as the evidence behind taxation initiatives for decreasing consumption of SSBs.

Consumption of SSBs causes many Canadians to exceed the daily recommended intake of free sugars. A study in 2015 showed that Canadian youth aged 9-18 were consuming an average of 430 mL of sugar sweetened beverages daily⁵. A survey in the US showed that approximately 60% of children aged 2 to 19 reported drinking SSBs on any given day¹⁸. In Canada, almost 15% of children aged 3 to 17 years surveyed in 2014 reported drinking soft drinks, fruit drinks or sport drinks every day¹⁹.

The Canadian Pediatric Society has recommended an excise tax of at least 20% be applied to sugar-sweetened beverages sold in Canada, as a step towards addressing the overweight and obesity epidemic and its negative health consequences.

Increased taxation as a method of decreasing consumption is a method that has been discussed and studied to determine its effectiveness. A WHO meta-analysis showed that taxes in the range of 20%-50% were effective at altering purchasing patterns and consumption²⁰. There have been documented positive effects in the form of decreases in consumption and sales of SSBs in other countries and US jurisdictions that have implemented an excise tax on sugar-sweetened beverages²¹⁻²⁴.

The second recommendation from the CPS is that SSB tax revenue be used to fund new healthy active living programs. These could include programs that promote food literacy, improve access to physical activity for children, and provide subsidies to improve access to fruits and vegetables. Information about the allocation of this tax revenue should be disseminated to the public.

Once a tax on SSB is implemented, there should be sufficient resources dedicated to evaluating its effects. The third recommendation of the CPS position statement is that there be timely assessment of a tax's impact on sugar-sweetened beverage consumption in the short term, as well as on obesity, dental caries, and nutrition-related chronic disease in the long term. It would also be particularly important to determine how this proposed tax would affect food insecure households.

Back to the case

Let's return to our case.

You explain to Max and his family that drinking sugar-sweetened soda and fruit juice is not recommended in children. You discuss that sugar-sweetened beverages can increase the risk of negative health consequences down the line. You also note that Max is at higher risk for developing these chronic health conditions due to his family history. You provide some education around which types of beverages are sugar sweetened beverages, including sports drinks which many people don't realize are high in sugar.

Suggesting these changes to a patient is easy, but to make an impact it's important to take some time to provide some practical tips on how to implement them. You suggest starting with small changes, such as switching to water with lunch at school, as well as during and after soccer practice, trying to decrease soda consumption, and eating a piece of fruit in the morning instead of orange juice.

You make a plan to check in at Max's next routine appointment to see how this is going.

Review of key learning points

Before we leave, let's review a few key points:

1. According to the World Health Organization, sugar-sweetened beverages are any beverages that contain added caloric sweeteners. Sugar-sweetened beverage consumption has been shown to increase rates of obesity in children and adolescents, leading to higher rates of chronic health conditions.
2. The CPS has recommended a 20% taxation be applied to all sugar-sweetened beverages as a way to decrease consumption of these beverages. Revenue generated from SSB taxation should be used to fund new healthy living programs and subsidies. The effects of taxation on consumption and health outcomes should be followed and evaluated.
3. It is important to inquire about sugar-sweetened beverage consumption when taking a dietary history for children and adolescents. Make sure you also provide education to patients and families about recommended intake of sugar and the negative effects of these beverages.

Thank you for listening to this podcast reviewing the Canadian Pediatric Society position statement "A proposal to increase taxes on sugar-sweetened beverages in Canada". We hope you enjoyed this episode!

References

1. Pound CM, Critch JN, Thiessen P, Blair B. A proposal to increase taxation on sugar-sweetened beverages in Canada. Canadian Pediatric Society, 2020: <https://www.cps.ca/en/documents/position/tax-on-sugar-sweetened-beverages>

2. World Health Organization. Fiscal Policies for Diet and the Prevention of Noncommunicable Diseases: Technical Meeting Report, 5-6 May 2015. Geneva, Switzerland: WHO, 2016:
<https://apps.who.int/iris/bitstream/handle/10665/250131/9789241511247-eng.pdf;jsessionid=22439FDF1915BE0AAF0A6BD572140C40?sequence=1>
3. World Health Organization. Guideline: Sugars intake for adults and children. Geneva, Switzerland: WHO, 2015:
https://apps.who.int/iris/bitstream/handle/10665/149782/9789241549028_eng.pdf?sequence=1
4. Dietitians of Canada. Taxation and Sugar-Sweetened Beverages: Position of Dietitians of Canada. February 2016:
<https://www.dietitians.ca/Downloads/Public/DC-Position-SSBs-and-taxation.aspx>
5. Jones AC, Hammon D. The health and economic impact of a tax on sugary drinks in Canada: Summary. November 2017: <https://www.heartandstroke.ca/-/media/pdf-files/canada/media-centre/the-health-and-economic-impact-of-a-sugary-drink-tax-in-canada-summary.ashx?la=en&hash=69765598FF624EE7D8586EBAD7BCF96835F3FA10>
6. WHO Multicentre Growth Reference Study Group. WHO child growth standards based on length/height, weight and age. *Acta Paediatr Suppl* 2007;95(S450):76-85: <http://dx.doi.org/10.1111/j.1651-2227.2006.tb02378.x>
7. Public Health Agency of Canada. Curbing childhood obesity: A federal, provincial and territorial framework for action to promote healthy weights, 2010:
<https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/hp-ps/hl-mvs/framework-cadre/pdf/ccofw-eng.pdf>
8. Must A, McKeown NM. The disease burden associated with overweight and obesity. Updated August 8, 2102. In: Feingold KR, Anawalt B, Boyce A, et al., eds. *Endotext* [Internet]. South Dartmouth (MA): MDTText.com, Inc.; 2000-: <https://www.ncbi.nlm.nih.gov/books/NBK279095/>
9. Olshansky SJ, Passaro DJ, Hershov RC, et al. A potential decline in life expectancy in the United States in the 21st century. *N Engl J Med* 2005;352(11):1138-45.
10. Canadian Obesity Network - Réseau canadien en obésité. Report Card on Access to Obesity Treatment for Adults in Canada, 2017. Edmonton, Alto: Canadian Obesity Network, April 2017.
11. Te Morenga L, Mallard S, Mann J. Dietary sugars and body weight: Systematic review and meta-analyses of randomised controlled trials and cohort studies. *BMJ* 2012;346:e7492.
12. Malik VS, Pan A, Willett WC, Hu FB. Sugar-sweetened beverages and weight gain in children and adults: A systematic review and meta-analysis. *Am J Clin Nutr* 2013;98(4):1084–102.
13. Malik VS, Popkin BM, Bray GA, Després JP, Willett WC, Hu FB. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: A meta-analysis. *Diabetes Care* 2010;33(11):2477–83.

14. Jayalath VH, de Souza RJ, Ha V, et al. Sugar-sweetened beverage consumption and incident hypertension: A systematic review and meta-analysis of prospective cohorts. *Am J Clin Nutr* 2015;102(4):914–21.
15. Renehan AG, Tyson M, Egger M, Heller RF, Zwahlen M. Body-mass index and incidence of cancer: A systematic review and meta-analysis of prospective observational studies. *Lancet* 2008;371(9612):569–78.
16. Marshall TA. Preventing dental caries associated with sugar-sweetened beverages. *J Am Dent Assoc* 2013;144(10):1148–52.
17. Park S, Lin M, Onufrak S, Li R. Association of sugar-sweetened beverage intake during infancy with dental caries in 6-year-olds. *Clin Nutr Res* 2015;4(1):9–17.
18. Bleich SN, Vercammen KA, Koma JW, Li Z. Trends in beverage consumption among children and adults, 2003-2014. *Obesity (Silver Spring)*. 2018;26(2):432-41.
19. Pan-Canadian Public Health Network. Towards a Healthier Canada – 2017 Progress Report on Advancing the Federal/Provincial/Territorial Framework on Healthy Weights: <http://www.phn-rsp.ca/thcpr-vcpsre-2017/index-eng.php>
20. World Health Organization. Fiscal Policies for Diet and the Prevention of Noncommunicable Diseases: Technical Meeting Report, 5-6 May 2015. Geneva, Switzerland: WHO, 2016: <https://apps.who.int/iris/bitstream/handle/10665/250131/9789241511247-eng.pdf;jsessionid=22439FDF1915BE0AAF0A6BD572140C40?sequence=1>
21. Colchero MA, Popkin BM, Rivera JA, Ng SW. Beverage purchases from stores in Mexico under the excise tax on sugar sweetened beverages: Observational Study. *BMJ* 2016;352:h6704.
22. Falbe J, Thompson HR, Becker CM, Rojas N, McCulloch CE, Madsen KA. Impact of the Berkeley excise tax on sugar-sweetened beverage consumption. *Am J Public Health* 2016;106(10):1865–71.
23. WHO Europe. Good practice brief: Public health product tax in Hungary; An example of successful intersectoral action using a fiscal tool to promote healthier food choices and raise revenues for public health. 2015. Copenhagen: WHO Regional Office for Europe: www.euro.who.int/__data/assets/pdf_file/0004/287095/Good-practice-brief-public-health-product-tax-in-hungary.pdf?ua=1 (Accessed December 13, 2019).
24. Hageaars LL, Jeurissen PPT, Klazinga NS. The taxation of unhealthy energy-dense foods (EDFs) and sugar-sweetened beverages (SSBs): An overview of patterns observed in the policy content and policy context of 13 case studies. *Health Policy* 2017;121(8):887-94.