

Why is 'soda' harmful to your health?



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By Mohinder Watson

Summary:

The excess consumption of 'soda' or sugar-sweetened beverages (SSBs) is a leading risk factor for obesity and chronic non-communicable diseases (NCDs) such as diabetes and cancer. However, public awareness of the harmful effects that increased sugar consumption from soda can have on health, is limited. This article aims to raise awareness of the link between excess soda consumption and obesity and provides information on how soda over-consumption can be harmful to health. It also highlights some of the efforts of governments and civil society organizations to help address this public health problem and offers suggestions for what individuals can do to help.

The World Health Organization (WHO) states that unhealthy diets high in sugar, salt and fat contribute to the global epidemic of obesity and place people at higher risk of diabetes, cardiovascular disease and some cancers (1, 2). These diseases, collectively called non-communicable diseases (NCDs), are the leading cause of death worldwide according to a major worldwide study on the Global Burden of Diseases published in December 2012 in The Lancet. (1, 3)

Obesity, a major risk factor for NCDs, is dangerously common in the United States, where over one third of adults and almost a fifth of children and adolescents are obese (4). A staggering 1 in 400 children and adolescents under 20 in America has diabetes (5). Moreover, economists estimate \$190 billion is spent annually on treating obesity-related conditions (6). Therefore, tackling childhood obesity is a major public health priority because obese children have a higher risk of NCDs, disability in adulthood, and premature death (7).

What is not, perhaps, so well-known is that sugar-sweetened beverages (SSBs) are the main source of added sugar in the American diet and have increasingly been shown to contribute to obesity (4). Sugar-sweetened beverages are defined as "any beverage with added sugar or other calorific sweeteners such as high fructose corn syrup, including soft drinks, sports drinks, sweetened teas, vitamin waters, fruit drinks and energy drinks" (8). In this article, the terms "soda" and "SSBs" are used to cover all of these drinks. Worldwide the consumption of soda is increasing (9) and we see a tripling of energy intake from such sugary drinks over the past 30 years in American children aged 2-18 (10). Soda consumption is widespread, and 56-85% of American school children now drink at least one soft drink daily (11). Across the U.S., the average person drinks 45 gallons of soda per year (8) and consumes between 200-600 more calories per day compared to the 1970s (12). Given the increasing scientific evidence that soda is contributing extra calories to our diet, there is a clear need to understand the negative health risks of excess soda consumption.

In the United States...



over **1/3** of adults are obese

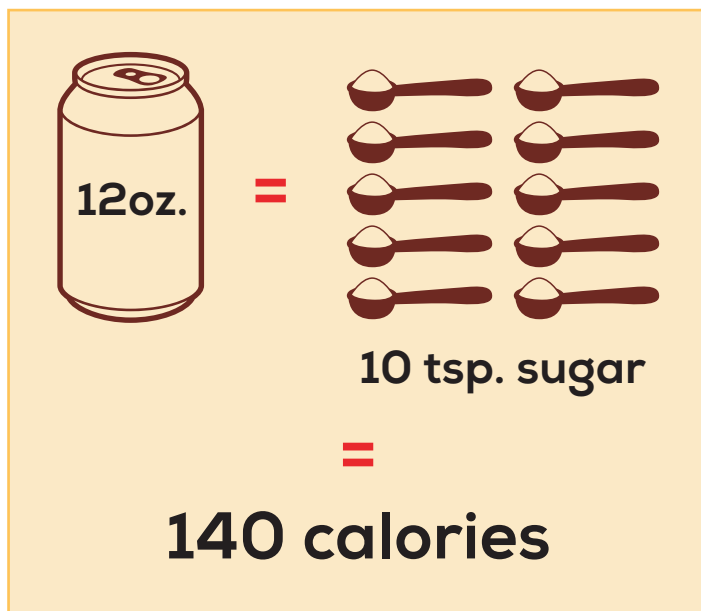


almost **1/5** of children and adolescents are obese

Some unhealthy ingredients found in soda

HIGH SUGAR LEVELS PROVIDE 'HIDDEN' AND 'EMPTY' CALORIES

High amounts of fructose corn syrup are added to sweeten soda – the equivalent of over 10 teaspoons of sugar or about 140 calories in a 12-ounce can of soda (13). Soda contains 'hidden' calories because people do not reduce their food intake to compensate for the extra calories consumed in sugary drinks, thereby increasing their overall calorie intake (14, 15). Soda also contains 'empty' calories because it does not provide any useful nutrients for the body (16). Scientists argue that drinking SSBs instead of milk can lead to calcium, protein, magnesium, phosphorous and Vitamin A deficiency (13, 17, 18). Furthermore, constant exposure to this high sugar content can lead to insulin resistance and an increased risk of type 2 diabetes (19). The Institute of Medicine reports that the average American consumes over 22 teaspoons of added sugar per day. This increases to 34 teaspoons a day in boys aged 14-18, of which about a third come from soda (4).



HIGH CAFFEINE LEVELS CAN BE DANGEROUS

Energy drinks are a relatively new group of SSBs, some of which contain high amounts of caffeine that can be dangerous if consumed in excess, especially by children (20). This is important because caffeine is mildly addictive and drinking just one or two cans of caffeinated soft drinks can affect performance and mood, raise anxiety and cause insomnia (21). Drinking excessive amounts of caffeine, especially by those not used to it, can lead to caffeine intoxication with symptoms of nervousness, anxiety,

restlessness, insomnia, gastrointestinal problems, tremors, rapid heartbeats and, very rarely, death (20). A further concern is the increasingly popular use of energy drinks with alcohol – when combined, the user may not feel the symptoms of alcohol intoxication which can lead to increased chance of injury (20).

HIGH ACIDITY OF SODA CAN CAUSE DENTAL PROBLEMS

Different acids are also added to many sodas. Phosphoric acid gives beverages a characteristic tangy or sour flavour to balance the sweetness and to prevent the growth of micro-organisms (22). Other acids often added include citric acid from oranges, tartaric acid from grapes, malic acid from apples as well as ascorbic and carbonic acids (23). As a result, soda is highly acidic which can cause a softening of tooth enamel, especially in children and adolescents, resulting in dental caries (23, 24).

ARTIFICIAL SWEETENERS CAUSE CONCERN

Artificial sweeteners used in diet SSBs are also of concern. Although the FDA approves the use of aspartame and other sweeteners as safe for consumption (25), the picture may not be that simple. There is a continuing debate about the health risks posed by artificial sweeteners, exacerbated by claims that studies funded by the industry show that aspartame has no harmful effects whilst most independent studies indicate it can have negative effects (26). The Center for Science in the Public Interest (CSPI), an independent organization representing consumers, expresses reservations over aspartame's use, particularly in diet soda. The CSPI states, "The bottom line is that consumption of aspartame may increase the risk of cancer, but reliable, high-quality studies by independent scientists need to be conducted to confirm whether the sweetener is safe or not safe" (27). Further research is necessary to tease out the specific links between artificial sweeteners and poor health outcomes.

MORE RESEARCH IS NEEDED ON FOOD COLORING AGENTS

SSBs may include a variety of coloring agents, such as caramel, which is used to provide the familiar dark brown colour. There is public health concern because some forms of caramel food colouring are considered potentially carcinogenic (28). The Center for Science in the Public Interest (CSPI) has petitioned the U.S. Food and Drug Administration to ban their use because of their link to cancer in

laboratory animals. Furthermore the CSPI wants the use of these colorings clearly labelled since they are only used for cosmetic purposes and serve no nutritional or preservative function (28). Clearly further research on caramel colouring is needed as current evidence on its effects is limited, but in the meantime, the CSPI recommends restricting soda consumption.

Addressing the problem of soda over-consumption

Given the growing evidence of the potential health risks of soda over-consumption, advocacy groups, scientists and public health experts have called for a reduction in their consumption (4, 9, 11, 16) and suggest some ways in which soda consumption may be reduced.

REGULATE MARKETING DIRECTED AT CHILDREN

When adults buy their groceries in shops and supermarkets, often accompanied by their children, they are bombarded with advertising by food and drinks companies (29). 'Nag factor' marketing strategies are used to encourage children to ask their parents for certain foods by using attractive colors, packaging and images such as cartoon characters



which appeal to children (29). These tactics work remarkably well, explaining why U.S. food and beverage companies spend \$195 million dollars a year on in-store marketing to young children and teenagers, of which \$95 million is spent marketing soda (29).

The marketing of food and drink to children and adolescents is a major concern, as children are considered vulnerable (too young to understand the longer term health consequences of their eating and drinking habits), and therefore in need of protection (29, 30, 31). However, behavioural economists warn that simply removing high calorie or 'bad' foods and drinks from the school lunch menu will not necessarily change children's eating habits and may only encourage them to buy these foods elsewhere. Experts say a more promising approach might be to offer a choice of healthy and unhealthy foods, but promote healthier options and place the more unhealthy options at a disadvantage, such as keeping vending machines further away from the food areas to discourage their use. They feel it would be better long-term if children made the choices themselves (32).

SELF-REGULATION BY THE FOOD AND BEVERAGE INDUSTRY

Large food and drinks companies such as Nestle USA, McDonalds USA, PepsiCo., Inc, The Coca-Cola Company, Burger King Corp., Kraft Foods Global Inc., Campbell Soup Company and others have joined the Children's Food and Beverage Advertising Initiative (CFBAI) which encourages healthier dietary choices in children aged 12 and under (29). While these companies have volunteered to restrict some food marketing practices based on their own nutritional criteria, researchers express concern that product packaging, the use of company-owned characters, supermarket sales and in-store marketing has been excluded from this commitment, leaving the problem of marketing directed at children unresolved (29). Some authors argue that self-regulation is potentially problematic given the conflict of interest facing such publicly traded companies between maximizing profits for shareholders and improving public health (12).

HOW GOVERNMENTS AND CIVIL SOCIETY ARE INFLUENCING PUBLIC BEHAVIOR

The obesity epidemic is a complex global health, economic and political problem needing urgent action from governments, civil society, the private sector and the public (33). Much emphasis has been placed on the need for individuals to take more

personal responsibility for their health, but some experts argue that the environment in which people live and work makes it difficult for them to make healthy food choices because of the availability of, and access to, affordable, energy-dense food 24 hours a day, and therefore stronger government leadership is needed to change this (30, 33).

Recognizing the need to regulate the food environment as well as people's food and lifestyle choices, some governments have started to work in partnership with the food and beverage industry to tackle the obesity epidemic. For example, the UK government has opted to work with the food and beverage industry to secure voluntary agreements to reformulate foods to make them healthier, such as by reducing their sugar content (34, 35). Other countries in

contrast have adopted tougher statutory policies to encourage the food and beverage industry to make changes to improve public health, such as levying a tax on SSBs, e.g. Denmark, Norway, Samoa, Australia, Fiji, some U.S. states, Finland, Hungary and most recently, France (34, 36, 37).

In response to the obesity epidemic and in efforts to reduce NCDs, various stakeholders have introduced different approaches to reduce soda consumption. The following examples show how industry, states and civil society organizations are helping people to make healthier eating, drinking and lifestyle choices. Such policies and initiatives are much needed and welcomed from a public health perspective.

Examples of action being taken to reduce sugar-sweetened beverage consumption

BLOOMBERG AND THE NYC HEALTH DEPARTMENT

New York City (NYC) Health Department found that people's eating habits were complex and could not be changed just by educating them about the dangers of unhealthy foods. Mindful of this, Mayor Bloomberg's team instead tries to create an environment where people are supported in making healthier lifestyle choices. NYC was the first place to ban trans fats from restaurant foods and require restaurants to provide calorie information to consumers – a strategy which has since been employed by other cities. NYC also advocated for a reduction in food portion sizes and has controversially tried to break new ground again by trying to limit the size of soda servings to a maximum of 16 ounces in restaurants, cinemas and sporting venues in New York (34, 38). Also see Arogya World's case study on New York City's bold approach at (http://www.arogyaworld.org/wp-content/uploads/2011/07/CaseStudy4NYC_web.pdf)

THE QUEBEC COALITION ON WEIGHT-RELATED PROBLEMS

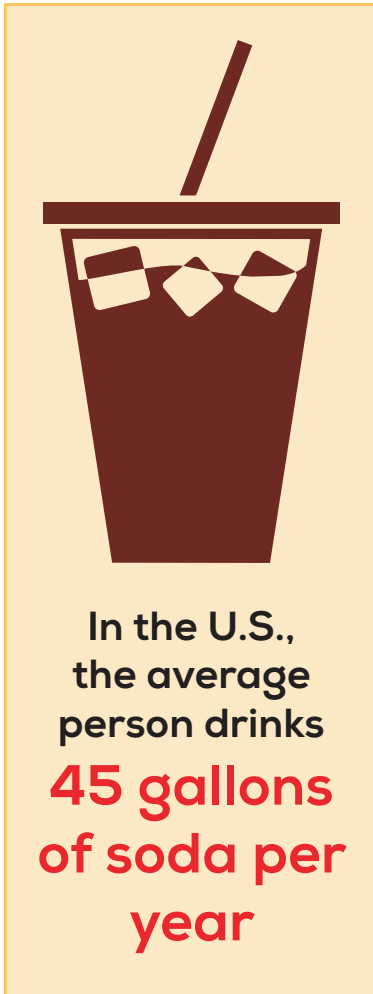
The Quebec Coalition on Weight-related Problems (Quebec Coalition), representing over 100 Canadian organizations and individuals advocating against sugary drinks, is lobbying for stronger regulation of the marketing of soft and energy drinks. In particular they called for tighter controls over product packaging and labelling, and suggested that caffeine and calorie content be displayed, and that health claims be fully substantiated to protect consumers. They want to see soft and energy drink sales banned in buildings under federal jurisdiction and want stronger regulation of marketing directed at children. They are in favour of introducing a tax on soft and energy drinks which would be used to fund disease prevention and health promotion (39). Currently, the Quebec Coalition is lobbying for a tax on sugary drinks in Quebec where 79% of the local population supports such a tax to fund obesity prevention.

THE WALT DISNEY COMPANY AND POSITIVE HEALTH MARKETING

The Walt Disney Company is promising to promote fruit and vegetable consumption to children together with reducing sodium, sugar and saturated fat intake. The Rudd Food Policy Center Director, Kelly Brownell, PhD, stated, "This is a significant advance by Disney. With their reach and credibility, the tight nutrition standards they have set for specially designated foods will touch millions of children" (40, 41). Disney plans to use popular cartoon characters like Mickey Mouse to help achieve this.

However, organizations such as these and others emphasize the need for a joint responsibility in tackling the obesity problem involving individuals, families, governments, advocacy groups, the food and drinks industry, public health experts, etc.

So how can you as an individual help? Some ideas taken from the literature suggest individuals can:



- Protect their family's health by becoming more informed of the negative effects soda can have on the body, check food labelling and be mindful of what drinks are purchased and brought into the home.
- Ask that water and water fountains be made freely available in schools, workplaces, parks, government buildings, recreational and other venues.
- Lobby the food and drinks industry to re-formulate products and to provide more low-sugar and sugar-free options.
- Apply public pressure to have a simple, universal, food labelling system, clearly stating levels of sugar, fat, salt, caffeine, calorie content, etc. on the front of food and drinks.
- Put pressure on local authorities to ban soda advertising (e.g. on TV, in supermarkets, around schools, etc.), ban sponsorship of school related activities by soda companies, prohibit/restrict access to soda in schools (e.g. removing vending machines, etc.).
- Lobby for high nutritional standards and clear written policies on food and wellness in schools, hospitals, workplaces, etc.
- Support local fiscal policies such as levying a tax on soda to decrease consumption which could also pay for health promotion activities.
- Lobby local politicians to support policies to reduce soda consumption, such as limiting the size of soda servings to smaller portion sizes, imposing an age limit for purchase, (like alcohol and cigarettes), limiting the number of drinks which can be purchased.

List above compiled from references: 32 and 42-50

New Research and the Road Ahead

Just as we were putting the finishing touches on this article, a large scale study involving 27,058 men and women across 8 European countries has been published by the InterAct consortium led by Dr. Dora Romaguera at the Imperial College School of Public Health, London, showing a 22% increase in the risk of developing type 2 diabetes from drinking just one 12 oz can of soda a day (51). When people's weight, height and what they ate were taken into account, this risk decreased slightly to 18% but it is still an important finding. Whilst these results do not conclusively prove that drinking sugary drinks daily causes type 2 diabetes, they do help strengthen existing scientific evidence, including the points we've discussed throughout this article.

The InterAct authors also suggest that type 2 diabetes may develop through two totally separate

pathways – either from increased body fat and obesity or from insulin resistance (in which the body's cells become resistant to insulin because of regular exposure to high levels of sugar and insulin and are no longer able to effectively regulate the body's sugar levels). The authors conclude that the European population should be made aware of the harmful effects sugary drinks can have on their health.

This data formed part of a larger study called the European Prospective Investigation into Cancer and Nutrition study (EPIC) set up primarily to understand how diet and physical activity affect the risk of developing diabetes, with the aim of devising prevention strategies.

Conclusion

Reducing soda consumption is a top public health priority because of the growing scientific evidence linking excess soda consumption to obesity and other non-communicable diseases. Sugar-sweetened beverages are the largest source of added sugar in the diet, adding calories while providing no nutritional value for the body. SSBs can have a negative impact on health by contributing to the rise of obesity, diabetes, heart disease, some cancers and dental health problems. Therefore, a coordinated effort is needed from well-informed consumers, governments, public health experts, scientists, the food industry, and advocacy groups to bring about lifestyle and policy changes to make it easier and more affordable to access healthier food and drinks. Public health campaigns have long emphasised the links between excess energy dense foods and obesity, but the link between SSBs and obesity has only come to light more recently. Raising public awareness of the risks of excess soda consumption and its link to obesity is an important first step in tackling obesity.

This article was completed in May of 2013, and was written by Mohinder Watson, PhD who is a freelance researcher currently undertaking a Masters in Advanced Studies in Public Health at the University of Geneva, Switzerland. Mohinder also serves as an Arogya World Fellow in which capacity she has written this article. She thanks Nikhil Patil, an Arogya World Fellow, for review and comments.

Arogya World is a U.S. based non-profit organization, working to change the course of chronic disease, one community at a time. www.arogyaworld.org

References

- (1) WHO Global status report on non-communicable diseases 2010. Available at: http://www.who.int/nmh/publications/ncd_report_summary_en.pdf (Accessed: 20 August 2012)
- (2) International Association for the Study of Obesity website. Available at: <http://www.iaso.org/policy/healthimpactobesity/> (Accessed: 1 December 2012)
- (3) Horton, R. (December 15/22/29, 2012). Comment. GBD 2010: understanding disease, injury and risk. *The Lancet*, Vol 380
- (4) Institute of Medicine of the National Academies, 2012. Accelerating Progress in Obesity Prevention. An Expert Report from the Institute of Medicine. Available at [http://www.iom.edu/Reports/2012/Accelerating-Progress-in-Obesity-Prevention/~media/Files/Report%20Files/2012/APOP/IOM_FoodDrink_brief_v4.pdf](http://www.iom.edu/Reports/2012/Accelerating-Progress-in-Obesity-Prevention/~/media/Files/Report%20Files/2012/APOP/IOM_FoodDrink_brief_v4.pdf) (Accessed: 6 August 2012)
- (5) American Diabetes Association website. Available at: <http://www.diabetes.org/diabetes-basics/diabetes-statistics/> (Accessed: 8 August 2012)
- (6) Cawley, J., Meyerhoefer, C. (2012). The medical care costs of obesity: an instrumental variables approach. *J Health Econ*. 31(1):219-230
- (7) World Health Organisation Obesity and overweight Fact sheet N°311, May 2012. Available at: <http://www.who.int/mediacentre/factsheets/fs311/en/index.html> (Accessed: 5 September 2012)
- (8) Rudd Report Soft Drink Taxes, A Policy Brief, Fall 2012. Rudd Center for Food Policy and Obesity, Yale University. Available at: www.yaleruddcenter.org (Accessed: 3 July 2012)
- (9) Malik, V.S., Popkin, B. M., Bray, G.A., Despres, J.P., Willet, W.C., Hu, F.B. (2010) Sugar-Sweetened Beverages and Risk of Metabolic Syndrome and Type 2 Diabetes. A meta-analysis. *Diabetes Care*, 33 (11): 2477-2483
- (10) Nielsen, S.J., Popkin, B.M. (2004) Changes in beverage intake between 1977 and 2001. *Am J Prev Med*, 27:205-10
- (11) Harrington, S. (2008) The Role of Sugar-Sweetened Beverage Consumption in Adolescent Obesity: A review of the Literature. *The Journal of School Nursing* 24 (1):3-12
- (12) Farley, T.A. (2012) The role of government in preventing excess calorie consumption. *JAMA*, 308 (11): 1093-1094
- (13) Ramprasad, J.R. & Evans, J. S. (2007), How Soft Drinks Contribute to the Pediatric Obesity Epidemic Northeast Florida Medicine, 58(4):25-29
- (14) DiMeglio, D.P., Mattes, R.D. (2000) Liquid versus solid carbohydrate: effects on food intake and body weight. *Int J Obes Relat Metab Disord*, 24:794-800
- (15) Pan, A., Hu, F.B. (2011). Effects of carbohydrates on satiety: differences between liquid and solid food. *Curr Opin Clin Nutr Metab Care*, 14(4):385-390
- (16) Vartanian, L.R., Schwarz, M.B., Brownell, K.D. (2007) Effects of Soft Drink Consumption on Nutrition and Health: A Systematic Review and Meta-Analysis. *American Journal of Public Health*, 97(4): 667- 675
- (17) Guenther, P. Cited in Tahmassebi, J.F., Duggal, M.S., Malik-Kotru, G., Curzon, M.E.J. (2004) Soft drinks and dental health: A review of the current literature, *Journal of Dentistry* 34: 2-11
- (18) Striegel-Moore, R.H., Thompson, D., Affentio, S.G., Franco, D.L., Obarzanek, E., Barton, B.A., Schreiber, G.B., Daniels, S.R., Schmidt, M., Crawford, P.B. (2006) Correlates of beverage intake in adolescent girls: the National Heart, Lung, and Blood Institute Growth and Health Study. *J Pediatr*. 148(2): 183-187
- (19) Colagiuri, S. and Miller, J.B. (2002) The 'carnivore connection'- evolutionary aspects of insulin resistance. *European Journal of Clinical Nutrition*, 56: 30-35
- (20) Reissig, C.J., Strain, E.C., Griffiths, R.R. (2009) Drug Alcohol Depend. 1:99 (1-3):1-10
- (21) Liquid Candy: How Soft Drinks are Harming Americans' Health. Published by the Center for Science in the Public Interest. Available at: http://www.cspinet.org/new/pdf/liquid_candy_final_w_new_supplement.pdf (Accessed 10 December 2012)

- (22) British Soft Drinks Association. Available at: <http://www.britishtsoftdrinks.com/default.aspx?page=409> (Accessed March 1 2013)
- (23) Tahmassebi, J.F., Duggal, M.S., Malik-Kotru, G., Curzon, M.E.J. (2004) Soft drinks and dental health: A review of the current literature, *Journal of Dentistry* 34: 2-11
- (24) Warren J.J., Weber-Gasparoni K., Marshall T.A., et al. (2009) A longitudinal study of dental caries risk among very young low SES children. *Community Dentistry and Oral Epidemiology* 37 (2):116-122
- (25) Bellisle, F. and Drewnowski, A. Intense sweeteners, energy intake and the control of bodyweight. Cited in The Nutrition Source, Sugary Drinks or Diet Drinks: what's the best choice? Harvard School of Public Health. Available at: <http://www.hsph.harvard.edu/nutritionsource/sugary-vs-diet-drinks/> (Accessed: 5 January 2013)
- (26) Walton, R.G. Survey of aspartame studies: correlation of outcome and funding sources. Available at <http://dorway.com/aspartame-the-bad-news-repost/peer-reviewed-aspartame-studies/>. (Accessed October 2012)
- (27) Center for Science in the Public Interest website. Available at: <http://www.cspinet.org/reports/chemcuisine.htm#aspartame> (Accessed: 1 September 2012)
- (28) Center for Science in the Public Interest. Petition to Bar the Use of Caramel Colorings Product with Ammonia and Containing the Carcinogens 2-Methylimidazole and 4-Methylimidazole. Submitted to the U.S. Department of Health and Human Services Food and Drug Administration. February 16, 2011. Available at: http://cspinet.org/new/pdf/caramel_coloring_petition.pdf (Accessed: 2 December 2012)
- (29) Pomeranz, J. (2012) Extending the Fantasy in the Supermarket: Where Unhealthy Food Promotions Meet Children and How the Government Can Intervene. *Indiana Health Law Review*. 9(1):117-185
- (30) Swinburn, B. A., Sacks, G., Hall, K. D., McPherson, K., Finegood, D. T., Moodie, M. L., & Gortmaker, S.L. (2011). The global obesity pandemic: shaped by global drivers and local environments. *The Lancet*, 378: 804-814
- (31) WHO 2012. A framework for implementing the set of recommendations on the marketing of foods and non-alcoholic beverages to children. Available at: <http://www.who.int/dietphysicalactivity/MarketingFramework2012.pdf> (Accessed: 20 July 2012)
- (32) Just, D.R. and Wansink, B. (2009). Smarter lunchrooms: using behavioural economics to improve meal selection. *Choices*, 3rd Quarter, 24(3)
- (33) Swinburn B. (July 2012) Obesity: Why governments must act. (Commentary). *World Nutrition* 3, (7): 307-325. Available at: www.wphna.org (Accessed 10 January 2013)
- (34) Kraak V. (August 2012) Government policies and actions to protect citizen health (Commentary). *World Nutrition* 3(8): 337-357 Available at: <http://www.wphna.org/download-saug2012/12-08%20WN3%20Govt%20action%20pdf.pdf> (Accessed 10 January 2013)
- (35) UK Department of Health, (2011) Public Health Responsibility Deal. Available at: <http://www.dh.gov.uk/health/category/policy-areas/public-health/phrd/> (Accessed: 10 July, 2012).
- (36) Taxation data Coalition Poids. Available at: <http://coalitionpoids.ca/en/priorities/tax-on-soft-and-energy-drinks/taxation-abroad> (Accessed: 8 August 2012)
- (37) Mytton, O.T., Clarke, D., Rayner M. (2012). Taxing unhealthy food and drinks to improve health. *BMJ*;344:e2931
- (38) Reversing the Epidemic: The New York City Obesity Task Force Plan to Prevent and Control Obesity (May 2012). Available at: http://www.nyc.gov/html/om/pdf/2012/otf_report.pdf. Accessed: (October 2012)
- (39) Coalition Poids, 2011. Ensuring stronger regulation of marketing for soft and energy drinks. Brief presented to the Standing Committee on Health as part of the Healthy Living study. Available at: http://www.cqpp.qc.ca/documents/file/2011/Brief-Standing-Committee-on-Health_2011-02-03.pdf. (Accessed: 8 August 2012)
- (40) Disney to quit taking ads for junk food aimed at kids. USA Today, Nanci Hellmich. Available at: <http://usatoday30.usatoday.com/money/advertising/story/2012-06-05/disney-advertising-to-kids/55385470/1>(Accessed March 2013)
- (41) Disney to reduce food marketing to children. Rudd Food Policy Center website. Available at: <http://www.yaleruddcenter.org/disney-to-reduce-food-marketing-to-children> (Accessed: 4 November 2012)
- (42) Harvard School of Public Health. Time to Focus on Healthier Drinks. Available at: <http://www.hsph.harvard.edu/nutritionsource/focus/> (Accessed 30 March 2013)
- (43) Nestle, M., Jacobson, M.F. (2000). Halting the Obesity Epidemic: A Public Health Policy Approach. *Obesity. Public Health Reports*. January/February 2000. Vol 115:12-24
- (44) Couch, K. A. (2011) Editor Point/Counterpoint. Health Policy and Sugar Sweetened Beverages. *Journal of Policy Analysis and Management*, 30 (3): 644-665
- (45) CSPI website. Available at: <http://www.cspinet.org/> (Accessed 1 March 2013)
- (46) Yale Rudd Center, Strategies to Prevent Overweight and Obesity, Fall 2010. Available at: http://www.yaleruddcenter.org/resources/upload/docs/what/policy/PolicyStrategies_Fall2010.pdf. (Accessed 20 March, 2013)
- (47) Sugary Drinks FACTS, Rudd Food Center, Available at: http://www.sugarydrinkfacts.org/resources/SugaryDrinkFACTS_Report_ExecutiveSummary.pdf (Accessed March 5 2013)
- (48) Solving the Problem of Childhood Obesity within a Generation. White House Task Force on Childhood Obesity. Report to the President, May 2010. Available at: http://www.letsmove.gov/sites/letsmove.gov/files/TaskForce_on_Childhood_Obesity_May2010_FullReport.pdf. (Accessed 4 February 2013)
- (49) CDC. Public Health Strategies for Preventing and Controlling Overweight and Obesity in School and Worksite Settings. A Report on the Recommendations of the Task Force on Community Preventive Services. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5410a1.htm>. (Accessed 12 August 2012)
- (50) The CDC Guide to Strategies for Reducing the Consumption of Sugar-Sweetened Beverages. March 2010. Available at: http://www.cdph.ca.gov/SiteCollectionDocuments/StratstoReduce_Sugar_Sweetened_Bevs.pdf. (Accessed 15 March 2013)
- (51) Consumption of sweet beverages and type 2 diabetes incidence in European adults: results from EPIC-InterAct. The InterAct consortium. 24th April 2013. Romaguera-Bosch D. *Diabetologia*. 2013;doi:10.1007/s00125-013-2899-8.[Accessed online 1st May 2013]

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