REVIEW ARTICLE

The government policy related to sugar-sweetened beverages in Indonesia

Mohamad Thahir Haning[1], Andi Imam Arundhana[2,3], Asry Dwi Muqni[3]

[1]Tax Center, Faculty of Social & Political Science, Hasanuddin University, [2]Nutrition Department, Faculty of Public Health, Hasanuddin University, [3]Food and Nutrition Research and Development Center, Faculty of Public Health, Hasanuddin University

Abstract | Introduction | Methodology | Results | Conclusion | References | Citation | Tables / Figures

Corresponding Author

Address for Correspondence: Andi Imam Arundhana, Nutrition Department, Faculty of Public Health, Hasanuddin University, Indonesia
E Mail ID: andi.imam@unhas.ac.id

Citation

Haning MT, Arundhana AI, Muqni AD. The government policy relating to sugar-sweetened beverages in Indonesia. Indian J Comm Health. 2016; 28, 3: 222-227.

Source of Funding: Nil **Conflict of Interest:** None declared

Article Cycle

Received: 07/07/2016; **Revision:** 15/07/2016; **Accepted:** 21/09/2016; **Published:** 30/09/2016

Abstract

Background: There are several options to enforce reduction in the use of sugary drinks such as strengthening regulations, taxation on the products and food labeling. **Aims & Objectives**: 1) Identify the policy in Indonesia that regulates the quantity and the use of sugar in a beverage product; 2) Describe the sugar content in sugar-sweetened beverages (SSB) and its impact on human health. **Material & Methods**: Literature search on sugar use and tax policies on SSB was conducted and 6 relevant documents were found. A total of 91 SSB products were selected systematically by randomly selecting 5 beverages per day for 20 days. Beverages chosen were certified Halal by Majelis Ulama Indonesia, having product labeling, and certified by BPOM. **Results**: Indonesia has no policy related to restriction of sugar use. The contribution of sugar to energy of SSB products is quite high (75.68%). SSB intake may increase the risk of obesity and non-communicable diseases. **Conclusion**: The absence of tax policy and rules for regulating the use of sugar in a product can cause an increase in sugar consumption per day. It could potentially lead to non-communicable diseases and could have enormous consequences in health financing. The government needs to create policies for preventing the widespread impact of sugar consumption. Advocacy efforts to encourage the establishment of SSB taxation should be done.

Keywords

Beverage taxes; policy; obesity; non-communicable disease

Introduction

As a developing country, Indonesia is not only facing under nutrition but also over nutrition. Obesity is a real and growing threat to Indonesian population. According to the national basic health research data of 2007, the prevalence of obesity in adults was 10.3%. This figure increased to 15.4% within 6 years in 2013. This occurred not only in adults but also in children and adolescents (1). Previous studies clearly show that a high calorie diet and sedentary activity increase the risk of obesity (2). However, some experts have hypothesized that the cause of obesity and metabolic syndrome might be the excessive consumption of sugar, especially sugar-sweetened beverages (SSB) (3).

Restrictions on sugary drinks are one of the best ways to fight against the increasing trend of obesity. There are many evidences to show that health problems could be minimized by lowering the consumption of SSB. This could be done through the formulation of appropriate policy goal (4). In order to build better public health status, the government should act appropriately and effectively, providing

resources and sustainability to achieve the goals. Public policy analysis is necessary for the successful implementation of policy. The policy regulations, guidelines, and laws that support public health will have a significant effect to the health status (5). Thus, taking into account the effects of sugar on weight gain, the policies related to restriction of sugar use and consumption of SSB will have profound impact on obesity prevention in the community.

In fact, the regulations on consumption and use of sugar in foods are not easy to be made because the efforts to reduce the supply and demand of sugar are influenced by political issues. It was experienced by several countries such as America and Mexico (6). In Indonesia, regulation regarding added sugar in a product has not been set out clearly. The existing regulations are still at the level of food safety domain which protects consumers from food borne diseases due to contamination by biological, chemical, and other objects. In fact, the purpose of the policy is to overcome unsolved social problem that has been relevant politically to the public (7). Therefore, the Indonesian government should focus on the issue of regulating the maximum limit of added sugars in beverage products.

Aims & Objectives

1. To identify the policy in Indonesia that regulates the quantity and the use of sugar in a beverage product.
2. To describe sugar content in sugar-sweetened beverages (SSB) and its impact on health.

Material & Methods

This research was a descriptive study. Literature search related to policy of sugar use and the tax on sugar sweetened beverages was conducted from google.com by entering the keyword "Act of sugary drinks", 5 documents were obtained, "The ministerial regulation+sugar-sweetend beverages" (2 documents), and "Regulation of ministry of trade + sugar-sweetend beverages" (1 document). After the analysis, there were two documents from a total of 8 documents that were irrelevant because it had been replaced by the latest regulation such as PERMENEKU number 213 / PMK.011 / 2011 and Act number 8: year 1983. Therefore, 6 documents were found describing the relevant regulations by government related to tax and the use of sugar in food products in Indonesia.

Data on nutrient content, especially sugar, were collected from beverages sold in the minimarket in Makassar city. A total of 91 samples of SSB products were successfully selected from one of the retail brand grown in Makassar (Indomaret). Method of selecting samples was done systematically selecting, five SSB products were randomly selected per day for 20 days. Inclusion criteria of selected beverages were Halal logo, containing calories, having a nutritional label, and certified by BPOM. Similar SSB products were selected based on name and manufacturing; different flavors were eliminated from the sample (total 9 dropped out). Sugar-sweetened beverages refer to all non-alcoholic beverages with added sugars, such as carbonated drinks, coffee, juice, milk, sports drinks, supplement drinks, tea, yogurt, and energy drinks (8, 4). PASW Statistic version 18 (SPSS Inc.) was used for data analysis.

Results

Table 1 shows the energy content of SSB per serving of product. Milk had the highest calorie content followed by carbonated drinks (157.9 kcal and 147.5 kcal respectively). Interestingly, sports drinks had the lowest energy content (65.8 kcal). On an average, the amount of sugar per serving of product was 22.8g or equal to 86.3g/1000 ml. Table 1 also shows the contribution of sugar to products' energy. It can be seen that the sugar in sports drinks had the highest contribution to energy of products (93.33%), and that of milk was the lowest (44.98%). Sugar content of milk and yogurt is quite low, so these may be consumed every day without causing excessive sugar intake.

The Indonesian government needs to focus on this issue through effective policies and programs. Table 2 shows that no policy in Indonesia regulates sugar needs and its use in processed and ready-to-eat products. Any taxation policy on sugar-sweetened beverages was not found in the literature search. Although the Finance Ministry Regulation number 132 year 2015 has set import duties on beverages containing added sugar, but this applies to imported beverages only. But there is no recommendation or limit on the maximum allowable sugar content of such beverages. In Health Ministry Regulation number 41 year 2014, the recommended sugar intake has been set to not exceeding 50 grams (9). In fact, the content of the sugar alone in carbonated beverages per serving has reached 33.6 grams or

67.2% of the daily requirement. It means that only 32.8% of sugar could be obtained from other foods.

In Government Regulation number 69 year 1999 regarding labeling and advertising of food, it is not mandatory to display the sugar content of product per serving, while the Health Minister Regulation number 30 year 2013 obligates to display the information on sugar, salt and fat content along with health messages of processed and fast food. There are two conflicting rules that can lead the government to become less assertive on this issue. Indonesian Government Regulation number 69 year 1999 needs to be revised as the information on sugar content is very important to be known to the public.

Discussion

According to WHO, obesity is becoming a global issue which has doubled since 1980. It was estimated that in 2014, more than 1.9 billion adults were overweight and 600 million of them were obese. In the last three decades, the level of caloric intake of Americans has been very high and largely derived from SSB (10, 11). Similarly, in Australia, there has been increase in obesity by two-folds within two decades. According to the survey in Australia, published in www.rethinksugarydrink.org.au, fruit juice is most widely consumed by children and adolescents (37%), followed by soft drinks (25%). All of these contain high sugar that contributes to greater calorie intake. A study proved detrimental effects of SSB consumption that daily SSB consumption is significantly related to the risk of obesity in children and other chronic diseases in the future (12). Conversely, lowering SSB consumption is associated with weight loss (13).

The government needs to be concerned about the SSB policy as it has got wide implications on public health. This study indicated the high sugar content of each SSB product sold in retail minimarket in Makassar. In fact, excessive consumption of SSB can lead to obesity disaster and may even increase the risk of chronic health problems (14). Based on a study, the average calories derived from sugary drinks was 400 kcal/day or 25-30% of total daily requirement (15). Many evidences show that SSB has weak satiety properties and failure to adjust the intake at the next meal occasion when compared with semi-solid or solid foods. There has been a change in the pattern of SSB consumption in the world. In the beginning, the consumption of sugary drinks was limited to tea or syrup, but now with the ease of access, various products are being enjoyed by people without limitation (8).

Sugar-sweetened beverages like carbonated or soda drinks are sources of calories but contain little nutrients. The adverse effects of frequent SSB consumption are negative diet quality, weight gain. High consumption of SSB may increase the risk of diabetes mellitus (16) which may increase the risk of chronic heart diseases (17). Therefore, reducing daily SSB consumption and promoting healthy lifestyle might help in weight loss and indirectly in reducing chronic diseases. There should be a comprehensive prevention to address this issue especially in young population. Through right policies, it is possible to potentially decrease the popularity and demand for SSB. The government plays a pivotal role in this problem, as shown by Mexico in the fight against sugar-sweetened drinks (6). Mexico has successfully lowered the purchase of SSB by about 6% by increasing tax and the highest reduction was seen in the low socioeconomic group (18). Indonesia needs to consider this strategy to reduce the potential threat of excessive sugar consumption by the consumers.

Problems that exist in the community especially health problems can arise independently or as a result of social problems. To deliver a policy, a problem should be on the political agenda. If it has become a public health problem, the policy implementation should be encouraged to resolve the issue. Obviously, policy analysis should be done to evaluate the effect of the policy. According to Garraud, the criteria for the problem to be included as public health concern are; 1) the constitution requests originating from a particular social group; 2) the existence of a conflict between groups of organized social and political authority; and 3) the development of public debate. Policy related to SSB is required as the problems posed have become public and have fulfilled the conditions put forward by Garraud (19, 7). There are several steps that could be taken for reducing the level of consumption of sugary drinks, e.g. tax enforcement, display of warning labels, healthy food assistance programs, or healthy breakfast program for children (20). In France, sweetened and high density beverage has become a serious concern, the government has imposed tax £1 per litre of product. The benefits gained have been enormous in terms of public health revenue as well as money revenue of approximately £268 Million (14).

Taxation on SSB is considered by many experts and policy-makers as the best strategy for improving the nutritional status, value for health programs, and lowering financial burden of treatment and insurance of diseases related to food (21). Tax policy should be a "filter" for the high-sugar products including the rationing of SSB in Indonesia. Recent studies have shown that the price of the drinks may reduce demand for SSB and decrease risk of obesity (13, 22). The policy holder should have effective policies to reduce consumption of sugar-sweetened drinks which may result in significant number of deaths (23). In 2014, tax of 1 cent per 100g SSB was imposed in California and it is marked as the beginning of tax policy in the United States (10).

If specific rules on sugar tax can be levied, it is possible to prevent the illnesses associated with the consumption of sugar. This is in line with a study in which the daily SSB consumption decreased (from 0.56 to 0.47 servings/day) after implementation of tax policy on sugary drinks. Price of food products influence consumption patterns, including the sweet drinks. Demand of SSB product is expected to decrease if the price is raised by increasing product taxes. Raising price by about 10% results in decline of about 8 to 12.6% of product consumption. On the other hand, if producers still produce SSB products despite the high taxes, the fixed state benefits obtained through tax revenues could be allocated to the health sector. As performed by the United States in 2008, the Congressional Budget Office suggested that the beverage tax of 3 cents per 12-ounce drink alone could produce 50 billion USD in 10 years to help other health financing (24).

In Makassar, retail minimarket has been growing extremely. This condition encourages District Regulation number 15 year 2009 about Restriction of Modern Retail Minimarket. However, the progress is still unclear after 3 years. Minimarket has become the main choice of people to buy food and beverages due to the easy accessibility, display of prices, providing comfortable surroundings, selling various kinds of drinks which are served cold. Availability of minimarket in some places would affect food pattern of the people around the minimarket. The possibility of SSB consumption is also high because of the absences of a policy that restricts the opening of retail minimarket that mostly sells SSB. Until 2013, the number of Retail Minimarket in Makassar was 151 units.

Conclusion

From all the policies identified in this study, there were no chapter, verse, or statements that stated restriction of sugar use in sugar-sweetened beverage product. The policy related to Minimarket potentially increase high purchase of SSB. Sugar-sweetened beverages sold in Minimarket have relatively high sugar content. The contribution of sugar to energy of SSB product is quite high (75.68%) and this may increase the risk of obesity which leads to non-communicable diseases. Many factors have led to an increase in consumption of SSB, including the high accessibility of SSB at Minimarket as seen in Makassar.

Recommendation

In both perspectives, public policy analysis and health content, the regulation of SSB is urgently needed. An advocacy effort is needed to encourage the government to deliver SSB taxation and restrictions on sugar use in beverage products in Indonesia. According to the experts and previous studies, there are three possible ways for it 1) issuing a policy to increase tax on sugary drinks or raising the price of SSB product; 2) reducing the advertising of SSB in mass media mainly on television, and/or 3) establishing a policy of SSB-free area or vending machine in public spaces.

Relevance of the study

Further research is needed to investigate the velocity of the effects of SSB on the incidence of non-communicable diseases.

Authors Contribution

All the authors have made valuable and substantial contribution to the study process and to the drafting of the article.

References

1. Litbangkes. Riset Kesehatan Dasar (RISKESDAS) 2013. Laporan Nasional 2013; 1-306.
2. Arundhana AI, Hadi H, Julia M. Perilaku sedentari sebagai faktor risiko kejadian obesitas pada anak sekolah dasar di Kota Yogyakarta dan Kabupaten Bantul. Jurnal Gizi dan Dietetik Indonesia 2013; 1(2):71–80. Available from URL: http://ejournal.almaata.ac.id/index.php/IJND/article/download/42/41. Accessed on February 13, 2016.
3. Bremer AA, Lustig RH. Effects of sugar-sweetened beverages on children. Pediatr Ann. 2012 Jan;41(1):26-30. doi: 10.3928/00904481-20111209-09. PubMed PMID: 22224718.[PubMed]
4. Policy brief: Options to reduce sugar sweetened beverage (SSB) consumption in New Zealand. Pac Health Dialog. 2014 Mar;20(1):98-102. PubMed PMID: 25929005.[PubMed].

5. Brownson RC, Chriqui JF, Stamatakis KA. Understanding evidence-based public health policy. Am J Public Health. 2009 Sep;99(9):1576-83. doi: 10.2105/AJPH.2008.156224. PubMed PMID: 19608941; PubMed Central PMCID: PMC2724448.[PubMed]
6. Donaldson E. Advocating for sugar-sweetened beverage taxation: a case study of Mexico. 2015; 1-40.
7. Knoepfel P, Larrue C, Varone F, Hill M. Public Policy Analysis. The Policy Press 2007.
8. Popkin BM. Patterns of beverage use across the lifecycle. Physiol Behav. 2010 Apr 26;100(1):4-9. doi: 10.1016/j.physbeh.2009.12.022. PubMed PMID: 20045423; PubMed Central PMCID: PMC2849916.[PubMed].
9. Kemenkes RI. Peraturan Menteri Kesehatan RI nomor 41 tahun 2014 tentang Pedoman Gizi Seimbang.
10. Falbe J, Rojas N, Grummon AH, Madsen KA. Higher Retail Prices of Sugar-Sweetened Beverages 3 Months After Implementation of an Excise Tax in Berkeley, California. Am J Public Health. 2015 Nov;105(11):2194-201. doi: 10.2105/AJPH.2015.302881. PubMed PMID: 26444622; PubMed Central PMCID: PMC4605188.[PubMed].
11. Marrow MW. Taxing sugar drinks: A policy overview. Public Health Law Center. 2014.
12. Ludwig DS, Peterson KE, Gortmaker SL. Relation between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis. Lancet. 2001 Feb 17;357(9255):505-8. PubMed PMID: 11229668.[PubMed].
13. Ebbeling CB, Feldman HA, Osganian SK, Chomitz VR, Ellenbogen SJ, Ludwig DS. Effects of decreasing sugar-sweetened beverage consumption on body weight in adolescents: a randomized, controlled pilot study. Pediatrics. 2006 Mar;117(3):673-80. PubMed PMID: 16510646.[PubMed]
14. Cornelsen L and Carriedo A. Health-related taxes on foods and beverages. Food Research Collaboration 2015; 1-23.
15. Mattes RD, Campbell WW. Effects of food form and timing of ingestion on appetite and energy intake in lean young adults and in young adults with obesity. J Am Diet Assoc. 2009 Mar;109(3):430-7. doi: 10.1016/j.jada.2008.11.031. PubMed PMID: 19248858; PubMed Central PMCID: PMC2680008.[PubMed].
16. Malik VS, Popkin BM, Bray GA, Després JP, Hu FB. Sugar-sweetened beverages, obesity, type 2 diabetes mellitus, and cardiovascular disease risk. Circulation. 2010 Mar 23;121(11):1356-64. doi: 10.1161/CIRCULATIONAHA.109.876185. Review. PubMed PMID: 20308626; PubMed Central PMCID: PMC2862465.[PubMed]
17. Citrakesumasaril, Hadju V, Bahar B, Arundhana AI, Palutturi S, Sundoro T, Jauhari A, Aspar A, Yusuf I, Thaha AR. Model Predicition Suspected Coronary Heart Disease (CHD) Based Public Health. Internasional Journal of Applied Business and Economic Research 2016; 14(2): 1373-1383.
18. 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 Jan 6;352:h6704. doi: 10.1136/bmj.h6704. PubMed PMID: 26738745; PubMed Central PMCID: PMC4986313.[PubMed].
19. Hill M and Hupe P. Implementing Public Policy: Governance in Theory and in Practice. SAGE Publication 2002. India.
20. Pekruhn C. Tackling Sugar-Sweetened Beverages. GIH Bulletin 2016; 1–3.
21. Brownell KD, Farley T, Willett WC, Popkin BM, Chaloupka FJ, Thompson JW, Ludwig DS. The public health and economic benefits of taxing sugar-sweetened beverages. N Engl J Med. 2009 Oct 15;361(16):1599-605. doi: 10.1056/NEJMhpr0905723. Erratum in: N Engl J Med. 2010 Apr 1;362(13):1250. PubMed PMID: 19759377; PubMed Central PMCID: PMC3140416.[PubMed].
22. Cabrera Escobar MA, Veerman JL, Tollman SM, Bertram MY, Hofman KJ. Evidence that a tax on sugar sweetened beverages reduces the obesity rate: a meta-analysis. BMC Public Health. 2013 Nov 13;13:1072. doi: 10.1186/1471-2458-13-1072. PubMed PMID: 24225016; PubMed Central PMCID: PMC3840583.[PubMed].
23. Singh GM, Micha R, Khatibzadeh S, Shi P, Lim S, Andrews KG, Engell RE, Ezzati M, Mozaffarian D; Global Burden of Diseases Nutrition and Chronic Diseases Expert Group (NutriCoDE).. Global, Regional, and National Consumption of Sugar-Sweetened Beverages, Fruit Juices, and Milk: A Systematic Assessment of Beverage Intake in 187 Countries. PLoS One. 2015 Aug 5;10(8):e0124845. doi: 10.1371/journal.pone.0124845. PubMed PMID: 26244332; PubMed Central PMCID: PMC4526649.[PubMed].
24. Wang YC, Coxson P, Shen YM, Goldman L, Bibbins-Domingo K. A penny-per-ounce tax on sugar-sweetened beverages would cut health and cost burdens of diabetes. Health Aff (Millwood). 2012 Jan;31(1):199-207. doi: 10.1377/hlthaff.2011.0410. PubMed PMID: 22232111.[PubMed].

Tables

TABLE 1 CONTRIBUTION OF SUGAR PER SERVING PRODUCT

Category	Energy per serving (kcal)	Sugar per serving (kcal)		Δ Contribution of sugar to energy (kcal)	% contribution
		Kcal	g		
Carbonated (n = 8)	147.5 ± 19.8	134.5 ± 26.53	33.6 ± 6.6	13.00 ± 22.60	91.51
Coffee (n = 7)	138.6 ± 28.5	73.71 ± 14.40	18.4 ± 3.6	64.86 ± 17.20	53.49
Juice (n = 15)	118.7 ± 25.3	96.80 ± 25.53	24.2 ± 6.4	21.87 ± 16.88	81.74
Milk (n = 16)	157.9 ± 43.9	69.15 ± 29.80	17.3 ± 7.5	88.79 ± 42.02	44.98
Sport drink (n = 6)	65.8 ± 47.6	64.00 ± 49.38	16.0 ± 12.3	1.83 ± 3.82	93.33
Supplement drink (n = 13)	124.6 ± 36.9	105.9 ± 29.92	26.5 ± 7.5	18.77 ± 31.84	87.55
Tea (n = 17)	116.5 ± 65.4	96.00 ± 47.31	24.0 ± 11.8	20.47 ± 27.32	87.52

Yogurt (n = 4)	140.0 ± 56.0	64.00 ± 29.75	16.0 ± 7.4	76.00 ± 31.71	45.94
Energy drinks (n = 5)	108.0 ± 8.4	100.0 ± 12.33	25.0 ± 3.1	8.00 ± 13.49	92.91
Total (n = 91)	126.9 ± 47.01	91.19 ± 37.56	22.80 ± 9.39	35.75 ± 40.37	75.68

TABLE 2 POLICY ON SUGARY PRODUCTS AND THE USE OF SUGAR IN INDONESIA

No.	Documents	Concerning	Details
1.	Finance Minister Regulation number 132/PMK.010/ 2015	The third change of Finance Ministry Decree Number 213/PMK.011/2011 on Classification System of Goods and Imposition of Goods Import Duty.	Appendix: Import duties for beverages containing added sugar is 20%
2.	Indonesian Government Regulation number 69 year 1999	Labeling and advertising of food	Article number 32 and 33 about the nutrients content in the product labeling that should be listed: serving size, number of servings per product, energy per serving, macronutrient per serving, and the percentage of RDA.
3.	Health Minister Regulation number 30 year 2013	Displaying the information of sugar, salt and fat content and health messages in processed and fast food	Displaying information of sugar, salt and fat content and health messages in processed and fast food are intended to reduce the risk of the incidence of non-communicable diseases, especially hypertension, stroke, diabetes, and heart attacks through increased consumer knowledge regarding to intake of sugar, salt, or fat in processed or ready-to-eat food.
4.	Decree of the Head of National Agency of Drug and Food of Indonesia number HK.00.05.5.1.4547	Terms of use of food additives and artificial sweeteners in food products	Article 2 Paragraph 1&2 stated Artificial sweeteners can be used singly or in combination in a low-calorie food products and food without addition of sugar. Food without addition of sugars namely food that is processed without the addition of sugars (sucrose / fructose) or the processing process which does not cause an increase of blood sugar levels significantly.
5.	Health Minister Regulation number 41 year 2014	Balanced Nutrition Guidelines	Restrict consumption of sweet, salty, and fatty foods
6.	Indonesian Government Regulation number 28 year 2004	Safety, quality, and nutritious food	Article 33 stated The Minister which responsible for health, agriculture, fisheries, industry or the Head of the Agency in accordance with field of duties and authority pursue nutritional adequacy, protect the people from malnutrition and fostering the community in improving of nutritional status