

## ANALYSIS OF THE IMPACT OF SWEETED FOOD AND BEVERAGE CONSUMPTION ON INDONESIAN TEENAGERS

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### Abstract

*Non-communicable diseases (NCDs) such as obesity, type II diabetes mellitus, and cardiovascular diseases are increasingly prevalent in Indonesia, particularly among adolescents. High consumption of sugary beverages significantly contributes to the prevalence of these NCDs. Obesity, often driven by excessive sugar intake, can lead to various physical and psychological health issues. Type II diabetes mellitus also shows a significant rise, with factors such as obesity and unhealthy lifestyle playing major roles. Cardiovascular diseases, closely linked to obesity and unhealthy eating patterns, are also on the rise. Factors like weak regulation, affordable prices, and aggressive marketing contribute to high sugary beverage consumption. Efforts to improve regulation, health education, and policy reform are essential to reduce excessive sugar intake and lower the prevalence of NCDs among adolescents.*

**Keywords:** *Non-communicable diseases; obesity; diabetes mellitus type II; sugary beverages.*

### 1. INTRODUCTION

Currently, global attention is focused on health problems, namely obesity, diabetes, and cardiovascular disease. Changes in environmental trends, the use of technology, and lifestyle have changed disease patterns in Indonesia, with non-communicable diseases being the most common. Data collected by the World Health Organisation in 2008 showed that out of 57 million deaths, 36 million were caused by non-communicable diseases. This non-communicable disease is increasing due to an unbalanced lifestyle and diet. Consumption of sweetened food or drinks is one of the unhealthy lifestyles. Sweetened foods are foods with a lot of sugar, high calories, and low nutrition. Ministry of Health RI (Kemenkes) suggested that the consumption limit of sugar, salt, and fat per day is fifty grams or four tablespoons.

Indonesian teenagers often consume sweet foods, increasing the risk of cardiovascular disease, diabetes mellitus type II, and obesity (Malik & Hu, 2022). A modeling study, using data from a worldwide national food survey, estimated 184,000 deaths per year from sweetened beverage consumption; 133,000 of them were from diabetes mellitus, 45,000 were from cardiovascular disease, and 6,450 were from cancer. According to Luger et al. (2018), Sweetened drinks measuring 300-500 ml in Indonesia have around 37 to 54 grams of sugar per bottle. This amount is four times larger than the recommended; it is 6–12 grams (310–420 kcal) (Akhriani et al., 2015).

### 2. DISCUSSION

Concurring to the Indonesian Wellbeing Investigate and Improvement Office, the every day utilization of carbonated drinks is 2.4 milliliters (ml) per individual. Utilization of carbonated delicate drinks is 944 million liters (24,2%), 167 million liters of juice (4,3%), ready-to-drink coffee 16 million liters (0,4%), ready-to-drink tea 2145 million liters (55,1%), and vitality drinks 622 million liters (6,5%). The school canteen also sells this sweet drink. According to research conducted at SDN

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Kebon Jeruk 01 Jakarta, most of the snacks in the school canteen are sweetened food and beverages. A study in Semarang also found the same thing, with samples of foods and beverages that contain artificial sweeteners such as cyclamate and saccharin. This is reinforced by the information released with Balai Besar Pengawasan Obat dan Makanan (BPOM) Semarang, which expressed that around 66,7% of the nourishment and snacks of schoolchildren in Central Java did not meet wellbeing benchmarks. Concurring to FKMK UGM, 2020. There are three reasons why the consumption of sweetened beverages has increased, according to FKMK UGM (2020). First, the law that regulates the sale of sweet drinks in Indonesia is not strong.

There is no standard definition of sweet drinks in the 1945 Constitution or ministerial regulations. As a result, sugary drinks cannot be regulated as legal products. The second factor is the cheap cost of sweet drinks in Indonesia. The third factor is the advancement of sweet drinks, one of which is through mass media. On normal, The offering cost of sweet drinks in online stores is Rp 1,500 per 180 milliliters. Sweet drink notices are appeared on four private TV stations in Indonesia. On Saturdays and Sundays, these promotions are most frequently publicized, when children's programs are broadcast from 06.00 to 21.00 Western Indonesia Time. That's due to the truth that 62% of children in Indonesia drink sweetened refreshments at slightest once a week.

The utilization of this sweetened drink causes a tall rate of non-communicable illnesses (PTM) among Indonesian young people. Riskesdas (2018) comes about appear an increment within the number of non-communicable infections since 2013. Cancer prevalence extended from 1.4% (Riskesdas 2013) to 1.8%, stroke prevalence extended from 7% to 10.9%, and unremitting kidney disillusionment rose from 2% to 3.8%; based on blood sugar examination, diabetes mellitus rose from 6.9% to 8.5%; and blood weight estimation comes approximately, hypertension rose from 25.8% to 34.1% (Hesti Yuningrum, 2021).

**2.1 Obesity**

Obesity is one of the most common diseases in adolescents. Indeks Massa Tubuh (BMI) indicates obesity, which is when energy intake is greater than energy expenditure for a long period of time. In Indonesia, 13.5% of people over the age of 18 are overweight, and 28,7% are obese (BMI is more than 25) (Kemenkes, 2018). Breathing problems, increased risk of bone fractures, hypertension, early markers of cardiovascular disease, insulin resistance, and psychological problems are some of the impacts of obesity (Sugitami et al., 2019). The quality of life of adolescents is affected by psychological problems such as anxiety, depression, lack of self-confidence, emotional increase, and problems related to bullying and social isolation (Likhit Weerawong et al., 2021). Large teenagers are often treated badly or include phenomena such as fatphobia, sizeism, or size discrimination. Because it includes body shaming and has a negative impact on a person's quality of life, this cannot be allowed. Obese people may also experience anorexia or bulimia, two eating disorders that cause them to lose their appetite because they want to be thinner (Nugroho, 2020). Therefore, proper care is needed for teenagers who are obese.

**2.2 Diabetes**

Diabetes mellitus type II, which is usually associated with increased blood sugar levels, is another disease that is often acquired by teenagers due to sweetened foods. Glucose levels in the blood are the main source of energy for cells. Diabetes mellitus (DM) is a metabolic syndrome that is the leading cause of death worldwide. Diabetes causes 1.5 million deaths every year worldwide. According to the World Health Organisation (WHO, 2023), Indonesia has the highest number of DM cases worldwide with 19.5 million cases in 2021. In addition, as many as 14,3 million (73,7%) adults in Indonesia aged 20 to 79 years old have undiagnosed DM (IDF, 2021). According to Riset Kesehatan Dasar (Riskesdas) data, the prevalence of DM based on blood sugar tests increased from 6.9 percent to 8.5 percent in people aged 15 years and above (Kemenkes RI, 2018). Several factors contribute to the development of type 2 diabetes mellitus, according to WHO (2022), including:

1. Genetic factors and family history: having a history of type 2 diabetes mellitus in the family increases the risk of this condition.
2. Obesity: Overweight, also known as obesity, is the main risk factor for suffering from type 2 diabetes mellitus. Excessive body fat can cause insulin to not function properly.
3. Unhealthy lifestyle: Unhealthy diet, consumption of foods high in sugar and fat, lack of physical activity, and smoking increase the risk of developing type 2 diabetes.
4. Age and hormonal factors: The risk of type 2 diabetes increases with age. Women with a history of polycystic ovary syndrome are also more vulnerable.

### 2.3 Cardiovascular

According to the World Health Organisation (2002), unhealthy diet, lack of physical activity, and tobacco consumption are the main causes of coronary heart disease. Around the world, consumption patterns consume more energy, sugar, fat, and salt. Poor countries experience changes in nutritional patterns and lack of physical activity faster than rich countries, so the average chronic disease continues to increase in some poor countries. Excess calories will be stored in fat tissue, causing obesity. Obesity, as mentioned earlier, is the biggest cause of cardiovascular disease. An unhealthy diet, such as the consumption of sweetened beverages, is the biggest cause of obesity. Obese teenagers have a higher risk of cardiovascular disease than non-obese teenagers. According to Nurhidayat's research (2014), out of 300 respondents, 107 (35,7%) teenagers in Ponorogo experienced heart disease. This shows that obese teenagers have a sixfold risk of heart disease.

### 3. CONCLUSION

Non-communicable diseases (PTM) such as obesity, diabetes mellitus type II, and cardiovascular disease are major concerns in global and national public health. In Indonesia, the trend of changing disease patterns shows the dominance of PTM, influenced by unhealthy diets and lifestyles, including the consumption of sweetened foods and drinks that are high in sugar. Obesity is often found in teenagers as a result of the consumption of foods and drinks that are high in calories and sugar, as well as a lack of physical activity. Obesity can cause various health complications, including psychological problems such as anxiety and depression, as well as increasing the risk of cardiovascular disease and type II diabetes mellitus.

Diabetes Mellitus Type II in Indonesia also experienced a significant increase, with the prevalence that continues to increase along with an unhealthy diet and sedentary lifestyle. Major risk factors include obesity, a high-sugar diet, and an inactive lifestyle. Cardiovascular disease is mainly caused by an unhealthy diet, including high consumption of sugar and fat, as well as lack of physical activity. Obesity, as one of the main triggers of cardiovascular disease, worsens the risk of this condition. The main factors that cause the high consumption of sweetened foods and beverages in Indonesia include weak regulations, affordable prices, and aggressive marketing through mass media. Raising awareness about the dangers of excess sugar consumption as well as improving regulations and policies related to the sale of sweetened foods and beverages are important steps to reduce the prevalence of PTM among adolescents and the general population. Overall, effective management for PTM requires a multifaceted approach that includes health education, changes in eating habits, increased physical activity, and policy reform to regulate the consumption of sweetened foods and beverages.

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