

Sugar Consumption of the Adult Age Group: Phenomenological Study

Rani Nuraeni¹, Samuel M. Simanjuntak^{2*}

^{1,2}Universitas Advent Indonesia, 40559, West Java, Indonesia

*Correspondence : smsimanjuntak@unai.edu

Abstract: Sugar consumption has been associated with some diseases such as diabetes mellitus in Indonesia. Qualitative informations regarding sugar consumption patterns among adult individuals is an essential approach to construct appropriate approaches to the emerging problems. The qualitative descriptive method with the phenomenological approach of this research employed a purposive sample technique with data saturation as the number determinant. The key informants who meet the requirements and are willing to participate are given an Informed Consent to be filled in before the interview. Interviews were done by semi structured guided questions. The Colaizzi 7 steps qualitative analysis technique are used to examine the data obtained 7 key informants participated voluntarily in this study. Results: There are 3 sub-themes emerged from the verbatim data: sugar sources, adjustment of the type of sugar intake, attempts to change sugar consumption patterns, and interventions related to sugar eating habits. The three sub-themes formed three major themes: the pattern of sugar intake and consumption time in daily routine, the attempt to change the habits of sugar consumption, the approach in changing the patterns of sugar consuming habits in adults through experience and knowledge, daily practice and through health education. As a health educator, it is expected to be able to modify society's sugar consumption habits.

Keywords: *adult age groups, daily life, sugar consumption patterns*

INTRODUCTION

Everyone is susceptible to diabetes mellitus which most often affects adults between the ages of 20 and 50 years. Worldwide, the prevalence of diabetes will continue to increase every year in many countries, including Indonesia. In 2012, the International Diabetes Federation (IDF) stated that Indonesia had a prevalence of diabetes mellitus of 4.8% and DM cases of 58.8%. IDF also stated that, in 2013, 382 million people worldwide had diabetes mellitus, with 46% of them not being diagnosed with diabetes (Dinisari 2021),(Fibra Milita, 2021).

With an estimated 422 million people worldwide estimated to have diabetes in 2014, the prevalence of diabetes in the adult population has increased from 4.7% to 8.5%. (by age standard). Due to increases in risk factors, such as obesity or being overweight in recent years, low- and middle-income countries have seen greater growth in the prevalence of diabetes mellitus than high-income countries (RI 2019).

Type 1 DM occurs because the pancreas produces little or no insulin, while Type 2 DM typically affects adults and is carried by an unhealthy lifestyle. Urban life with diets high in fat, high in salt, and high in sugar, a lack of social gatherings and parties, and an individual's tendency to overeat are all factors that contribute to diseases such as DM (Antari and Esmond 2017)(Dinisari 2021). Almost 80% of all cases of diabetes mellitus are type 2 DM. This shows that the main cause of the increased prevalence of DM is an unhealthy lifestyle. When observed, the obese population is more likely than the non-obese to develop diabetes. Lack of sleep disorders in diabetic patients can worsen the sufferer's natural condition, which is the cause of increasing diabetes mellitus (Gustimigo 2015). Age, gender, obesity, hypertension, heredity, diet, smoking, alcohol, and lack of physical activity are other risk factors for diabetes mellitus (Pramesta et al. 2021). Because diabetes interferes with pancreatic insulin synthesis,

insulin struggles to convert glucose into energy because blood glucose levels and body fat correlate significantly, this condition will get worse if not treated immediately (Ardiani, Permatasari, and Sugiati 2021).

Diabetes mellitus is a chronic condition that will always be with doctors, nurses, nutritionists, and other health workers. The role of the patient and family in managing various disorders is important. (Febrianti, Thaha, and Hidayanty 2020) (Febrianti et al. 2020). Families will be more involved in efforts to improve management outcomes if patients and their families are given education about the course of the disease, prevention, complications, and implementation of DM (Mertha, Ribek, and Widastra 2015).

Diabetes mellitus can often be treated medically using drugs that are given orally and have anti-diabetic effects, but many people initially do not believe that diabetes mellitus patients can benefit from herbs or medication. As time went on, more and more people started to understand this alternative approach after learning that herbal remedies reduce side effects on the body. Some patients stop taking the drug (Utami, Triayudi, and Esthi Handayani 2021). And one of the lessons we can teach those who have this disease is that caring for their own diabetes patient's feet at home is a preventative measure that can be taken to reduce the number of new cases of this condition (Hidayat and Nurhayati 2014)(Ardiani et al. 2021).

The best way to treat diabetes mellitus is to maintain a healthy lifestyle which includes maintaining normal nutritional status, preventing obesity, managing a healthy diet through balanced nutrition, and engaging in physical activity, especially regular exercise. Psychosocial situations and family support are also key factors in determining how successfully diabetes can be treated by modifying several variables(Ardiani et al. 2021). Worldwide, the average person drinks 10 times the recommended amount of sugar-containing foods, and 86% of people consume more salt than is considered safe (Indonesia 2019). This is due to the current lifestyle of the Indonesian people which is disrupted by the availability of various kinds of processed foods, eating habits, improper cooking methods, and lack of knowledge about nutrition, all of which lead to unsafe food consumption behavior (Arizal, Januarsa, and Fadhila 2018).

The Agency for Health Research and Development claims that consuming too much sugar can increase calories without providing additional nutrition, which can lead to obesity. WHO recommends consuming no more than 10% of a person's daily caloric intake, or 25g of sugar, per person per day (Atmarita et al. 2017). Consumption of sugar should be reduced in the daily diet. This can be a therapeutic or preventive approach to diabetes mellitus. During this period, sugars included in complementary foods, such as sweets, sauces and dishes, are not included in the calculation of how much sugar should be consumed in a day. The yield of sugar in food additives per teaspoon is as follows. tomato sauce (0.58), chili salsa (0.74), and sausage (0.85 grams) are common seasonings (0.88 grams). Sugar from culinary supplements is consumed every day with an average amount of 0.1354 grams. Although the amount of sugar in food supplements does not contribute significantly to increasing daily sugar intake, excessive use of cooking ingredients is not recommended (Loanda, Margaret, and Hidayat 2016).

Epidemiological and ecological studies, as well as studies looking at diabetes risk factors, are examples of research that has been used to support the notion that there is a connection between sugar and diabetes. In addition, there is insufficient evidence from meta-analyses to support an association between sugar consumption and diabetes. Fructose and diabetes were the subject of a systematic review and meta-analysis by Cozma et al., which found no negative effects on glycemic control. Most of the randomized controlled studies in which sucrose or fructose was substituted in the control diet in non-diabetic subjects did not reveal a negative effect of diabetes risk factors. Consequently, there is little evidence to suggest an association between sugar consumption and diabetes when all high-quality evidence is included. However, there appear to be some warning signs in the hypercaloric trials, which may be due more to the extra calories than to the special quality of the sugar (James M Rippe, 2016).

METHOD

The type of research used is descriptive qualitative with a phenomenological approach. In this approach based on one's life experience, phenomenology is an approach to study that uses qualitative data to explain how people see events. This allows research into the minds, knowledge, and emotions of those who face interesting situations. The research population in this survey is adult women and men around Parongpong, and the research uses purposive sample sampling. The number of respondents depends on data saturation.

The measurement tool for the object to be examined in qualitative research is the researcher himself who is based in Parongpong. Semi-structured questions were created to study a person's life experiences related to sugar consumption patterns in everyday life. At this stage, a researcher will prepare everything, including a license, literature review, interview questions, and identification of the most appropriate informants. They will also plan interviews and bring other supporting equipment such as interview guides, books, and stationery, as well as tape recorders (if any) and cameras that can also be used with mobile phones. The next research step is to collect and analyze participant interview data during the data collection stage, make observations, and record interview procedures, and the final step is to produce a report on the findings of the research conducted previously. the next researcher will offer data that has been categorized. The related data uses qualitative research using the Colaizzi qualitative analysis method with the following steps: (1) Read the full description of the participants of the phenomenon studied. (2) Separate important questions. (3) Formulate the meaning of each significant question. (4) Categorize each meaning into one theme/cluster of meaning. (5) Integrate each theme into a complete description. (5) Validate the analysis results to the participants.(5) Complete the results of the analysis with data obtained from the validation process (Praveena K.R, 2022)

RESULTS

Picture of Research Participants

Adult research participants who lived in the Parongpong neighborhood of West Bandung participated in this study, which was conducted where seven adults took part in the study as participants. Seven respondents, aged between 43 and 53, were asked about their daily sugar intake habits both inside and outside their homes. Here are the demographics.

Tabel 1. Participant Demographic Data

Name (Initial)	Name (Replaced)	Type of Gender (Male/Female)	Age (Years)	Occupation
AS	(K1)	Female	43	The housewife
RS	(K2)	Male	53	Businessman
DYS	(K3)	Male	41	Security
AS	(K4)	Male	53	Security
PS	(K5)	Male	50	Businessman
DJS	(K6)	Female	58	Head of Household
Y	(K7)	Female	38	The housewife

DISCUSSION

The results of the study found several sub-categories, categories, and sub-themes, up to the topic and data to the 7 respondents obtained there were 3 themes one of them as follows: (1) Daily sugar consumption pattern are through food and drinks intake during working hours, (2) Modifying source of sugar intake from various sources is one of attentions to change sugar consumption habits, and (3) One of approaches in changing sugar consumption patterns among adult are through experience and

knowledge gained from daily practice and through received health education. These three topics will be described below :

The Pattern Intake and Consumption Time of Sugar in The Daily Routine Through Food/Drink Done at The Time of Working Hours

Based on the results of their interviews with respondents, the researchers found that adults never avoided consuming sugar in everyday life, as adults in sugar consumption may be in a day, adults can consume sugar more than once per day, they not only consume it directly or artificially, but also from some type of sugar-containing food or beverage.

K1: *"Eehhh... I usually in the life of the day I always consume or sugar that usually cooked vegetables or peaches that always use sugar."*

K2: *"Ohhh... So if the problem of sugar consumption is that daily consumption of sugar is not too much of a problem there is no goal as long as you drink milk in the morning."*

K3: *"Well maybe if we hear the use of sugar is too excessive whatever it is the food that obviously must be at risk, especially for our age therefore it is true if the medical nurses doctors suggest that we are not too exaggerated even if we also need sugar but keep as much as possible if you can not be too exaggerated."*

K4: *"Usually if in the house my wife packs sugar to make sweets, make vegetable spices. Adding spices so continuously for me personally most if making sweet tea or coffee I use the most sugar."*

K5: *"Milk rice has cold sweet tea, ABC, tea, already."*

K6: *"Yes, I eat rice and there is also sweet fruit and also cake or bread that sometimes also eat chocolate."*

K7: *"Okay Most usually yeah if my mom is at home when cooking it with sugar as needed as well as if it is somewhat salty with sugar, for example, we Numis salty ya in the village, most suckers a little, if for example make sweet tea, which my mom wears his sugar, corn sugar."*

Eating fruits and vegetables has been linked to higher blood sugar levels. This is done so that the risk of developing diabetes can be reduced by eating fruits and vegetables. Vegetable fiber can help the body become less resistant to insulin. When a person eats foods rich in fiber, they may feel satisfied, can suppress hunger, and may reduce blood glucose absorption (Fatimah and Siregar 2020). The study found that sweetened beverages and food intake – in this example, excessive sugar intake - were linked to obesity (Burhan, Sirajuddin, and Indriasari 2013).

From the results of these interviews, the researchers concluded that respondents consumed foods or drinks that contained these sugars outside of meals or after meals and researchers found from interviews that the respondents sometimes found it difficult to control their appetite in consuming sugar because of the many types of sugars available. These adults consumed more sugar outdoors than at home, and the researchers also found that the average respondent consumed sugar-containing foods or drinks every day. The answer explains the source of sugar intake outside of the home as follows:

K1: *"Eehhh... I usually every morning that I always consume coffee as well as jajan jajan ya snack-snack wet suppose that and it always wears sugar with a little bit of sugar."*

K2: *"Yes sometimes we also buy cakes but yes not too much sugar so the cakes are not too I think if eating cakes we have what is called the cake if I have dried bread so like to buy if not if not in the purchase if children sometimes yes it is usual to eat chocolate-chocolate for children."*

K3: *"ready besides I eat the main food like rice yes that contains sugar also may until this time I if something else like alcohol yes, alcoholic beverages or other I have started to stop including cigarettes if coffee still like once but it if you want but if you do not want again if you don't want it anyway it is medical coffee is not good for our bodies."*

In modifying a diet that includes elements to maintain a stable blood sugar level throughout the day and prevent a sharp drop in blood glucose levels: eat frequently all day long in small portions, maintain a healthy diet (including avoiding foods with simple sugars added instead of complex carbohydrates), and limit or avoid the use of caffeine and alcohol (Hall et al. 2022).

K4: *"Most of the wives can sell in the canteen she makes food rich fried bananas or other."*

K5: *"Everything is in bread, beans, and laughing cake."*

K6: *"Yes there is also eating together can there is eating rice also if you go out of the house almost as rich in the house to eat cakes or cookies or also drink what may be cendol or drink or drink ice fruit."*

K7: *"If the sweet sweet likes yes but not too sweet also really rich donat ya sweet her like that rich wajit also can mother like wajit but not more so eat sweet her normal normal so."*

From the findings of the interviews, the researchers could take the theme of adjusting the application of consumption patterns to the daily routine of life through the source of sugar intake from food/drinks and outside of meals taken during working hours. The researchers concluded that adults often eat foods that contain sugar. The intake consumed can be in the form of pure sugar from foods and drinks which also includes sugar-based ingredients. The patterns of sugar intake in individuals were found to vary, either due to their strong cravings for foods or drinks that contain sugar, their habits of eating such foods and drinks, or the fact that these people consume sugar.

An Attempt to Change Sugar Consumption Habits by Modifying The Type of Sugar Intake From Various Sources

From the findings of the interviews, the researchers could take the theme of adjusting the application of consumption patterns to the daily routine of life through the source of sugar intake from food/drinks and outside of meals taken during working hours. The researchers concluded that adults often eat foods that contain sugar. The intake consumed can be in the form of pure sugar from foods and drinks which also includes sugar-based ingredients. And based on the findings from their interviews with respondents, the researchers found that adults can provide strategies to increase or modify sugary intake patterns by reducing the amount of sugar they eat in foods and drinks they have the understanding to reduce or change sugar intake Patterns K1 said in changing sugar intakes by decreasing sugar consumption, and this is the result of interviews to respondents: sugar-containing foods or drinks, their habits to eat such food and beverages, or the fact that these people consume sugar.

K1: *"The priority to change is to reduce the consumption of sugar, especially on snack-snack foods or container drinks that are too high because they are not good for health."*

The consumption of sugar that has become a habit makes k3 try to stop drinking or eating that contains the following sugar is its emik :

K3: *"Mostly I'll try one I'm going to try to stop drinking coffee and keep stopping the fat-rich foods and the other is."*

K4 and K7 said that in changing the pattern of sugar intake it is necessary to pay attention to combining also with simple sugar or can replace sugar with corn sugar is the result of the interview.:

K4: *"Usually, sugar is to prevent or keep so that we do not suffer from diabetes or we replace sugar. Usually we use sugar to make food ingredients to drink iced juice at that time."*

K7: *"Yes, the most delicious amount is reduced if cooking is also not too sweet. Yes we like salt ehh meaning it is not so sweet-sweet continuously if we suppose that sweet tea is also yes it is replaced by the same sometimes corn sugar."*

In an article published on the WebMD website (Goldman 2021). It is believed that consuming a lot of simple sugar can cause a significant increase in blood sugar levels. In an effort to fight this, the body will also release a lot of insulin, which will result in a sharp drop in blood sugar levels. According to the K6 recognition, the thing that needs to be changed in consuming excess sugar is by increasing the amount of drinking water following its:

K6: *"Yes, what you can do is eat a lot of sweet water, that's why you might drink a lot."*

K2: *"When to change my sugar consumption sugar I don't feel too influential if I consume sugar or eat other foods I also know that it is excessive health discovery is somewhat disturbed I have to work to produce sweat must work to make sweat through it can waste all the dirt from the body."*

Habit is a routine activity done with little thought (Jager 2003). Because it can automate certain actions, a habit can be difficult to break, especially if it is negative. According to one definition, a bad habit is one that, despite producing temporary beneficial results, has long-term harmful effects. The

inability of automatic behavioral attitudes to be altered by cognitive knowledge of the harmful effects of bad habits, such as the practice of consuming sugar, makes it difficult to break bad Habits. Approaches to changing patterns of sugar consumption habits in adults through experience and knowledge, daily tactics, and health education.

From the results of interviews with respondents, the researchers found that adults can provide ways to improve or change sugar consumption patterns by reducing the amount of sugar in foods or drinks consumed and consuming a variety of vegetable leopards or various kinds of fruits, and this is the result of an interview with the respondents.:

K1: "Eehhh... I have no experience in changing my daily sugar consumption pattern."

K2: "If we eat a day we eat rice here continuously if the consumption of sugar is consumed but not too heavy if the thing that promotes the change of sugar consumption I think there is no normal change only."

K3: "There are a lot of vegetables and vegetables to eat in the morning and at night."

K4: "I have never really changed my diet a day. Most of the time I have tried to make sweet tea or coffee without sugar but the usual thing."

K5: "No experience at all.."

K6: "Sometimes the diet is so slim it may be because of eating less or even eating less sweet if you try to eat less in the arrangement."

K7: "If the diet program is connected in our home on fat fat ya child is also fat really we like to have a diet program but sometimes the tea fails to continue , failure is not from the problem we do not consume rich sugar that is not his failure it to dehydration assume we eat nih a day 3 times eat yes if in the village of mah kan nah we reduce once continuously portion a little nah becoming dehydrated so less drink also."

Express their desire to learn more about sugar consumption according to (Gupta et al. 2018). It is possible to change a person's attitude and behavior with the right information. According to one study, there is a correlation between a person's understanding of sugar and their tendency to consume less sugar cite from (Joo, Kim, and Yoon 2017). The first step in choosing foods and beverages and putting the right consumption patterns into practice is to have adequate and correct information and understanding of nutrition.

According to the findings from interviews, the researchers also found that individual efforts to change their daily sugar intake habits require adequate understanding and evaluation. From the point of view of consumption in everyday life, a lack of awareness can hinder attempts to change sugar intake patterns and support the development of a healthy lifestyle by serving as a reminder that high-sugar foods are bad for the body. The respondents were interviewed as follows.:

K1: "Reduce excess sugar because excessive consumption of sugar can cause blood sugar or diabetes."

K2: "When we ask for advice, we never give advice."

K3: "Maybe I would advise like my daily life is negative and positive we will transfer to them if it is positive like this negative is like this and we have experienced it ourselves."

K4: "Yes, it's too low, so don't overdo it."

K5: "We advise you not to drink too much sweet tea, not too much coffee, and not so much consumption of sweet-sweet."

K6: "Yes, they may be the first to drink white water constantly, eating a lot of fruits or vegetables can probably be reduced to eating rice or if you can eat without immediately sleeping, sometimes we are used to so."

K7: "Yes suggestion for them may be the first to drink white water keep eating a lot of fruits or vegetables can probably be reduced to eating rice or if you can eat don't immediately sleep sometimes the richest mother advice yes that he reduces the sugar level continuously if it can be replaced by the same sugar corn as we are accustomed so."

When incorporated into Kurt Lewin's theory of behavioral change, the aforementioned extrinsic incentives and innate impulses act as driving factors as Lewin said (Matthew A Stults-Kolehmainen, 2020). It is necessary to strengthen this motivational impulse to prevent people or groups from coming. Changes in behavior can occur if the push force rises while the resistance force drops. A person who typically eats excess sugar is expected to change their behavior by becoming more aware of the proper

patterns of sugar consumption and by removing the barriers or causes that prevent them from doing so.

CONCLUSION

There are various patterns of sugar consumption among men and women in society. The pattern of consumption of foods and drinks that contain sugar both at meals and between meals. Constant sugar consumption is rationalized by the perception that individuals can limit sugar-content foods. Adults did not try to change their eating habits. Sugar levels varied greatly, but several key informants had the desire to change their sugar intake habits in their daily lives.

The main themes of sugar consumption patterns in adults are Patterns of sugar intake and timing of sugar consumption in the form of eating/drinking intake during working hours; efforts to change sugar consumption habits are by modifying the type of sugar intake from various sources; The approach to changing sugar consumption patterns in adults is through experience and knowledge gained from daily practice and through health education received.

This research suggests that adult members, especially those who like to eat/drink sugar, can pay attention to and develop excessive sugar consumption habits, as well as increase self-understanding through information about proper and healthy sugar intake. Nurses who play an important role in society can inspire people to educate behavior wise and healthy sugar consumption, which will advance nursing science. For other researchers to be able to conduct research studying the function, survival, or effectiveness of health education strategies, interventions, or materials in changing sugar consumption habits in society.

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