

Children Daily Eating Behavior and Sugar Consumption Pattern: A Phenomenological Study

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Abstract: *The pattern of food consumption is a picture of the type of food consumed, the amount of food consumed, and the lifestyle of the community. The pattern of eating is formed in the same way as a person's eating habits. The habit of consuming sugar among children can also be associated with the existence of several health problems such as diabetes mellitus. This study aims to explore and find consumption patterns of daily food and fluid intake in the age group of children that contain sugar in the community around Parongpong, West Bandung. and themes that will conclude the phenomenon of consumption and dependence on sugar in community groups. This research is a qualitative phenomenological study, where the aim is to reduce the individual experience of a phenomenon into a description that finds the universal essence of the phenomenon. 7 key informants were voluntarily involved in this study. The verbatim data were analyzed for their ethical and emic meanings using the Colaizzi method. The results of the analysis of the data obtained during the interviews were able to bring up 6 sub-themes. The six sub-themes raised 3 major themes, namely consumption patterns of daily sugar intake for the youth age group, understanding the need for change and approaches to reducing sugar intake, and types of approaches in changing sugar consumption patterns for adolescents.*

Keywords: *Sugar dependence, Patterns of sugar consumption, Sources of sugar intake*

INTRODUCTION

Diabetes mellitus (DM) is one of the most common non-communicable diseases and affects most people, which of course does not only exist in Indonesia but throughout the world. Based on data from the 2021 Indonesian Pediatrician Association (IDAI), 1,346 were recorded as having diabetes in 2021 (Anugrah Andriansyah 2021). Where in 2023 based on data from the 2023 Indonesian Pediatrician Association (IDAI), It was noted that the number of pediatric diabetics in Indonesia recorded as of January 2023 reached 1,645 patients (Faisal Javier 2023) Based on data collected from 2010 to January 2023, shows a 70-fold increase in the prevalence of children with type 1 diabetes mellitus, where most children with diabetes mellitus are aged 10-14 years, with a ratio of 46.23 percent. Then followed by children aged 5-9 years, with a proportion of 31.05 percent. In terms of gender, most cases of childhood diabetes occur in women, with a proportion of 59.3 percent (Faisal Javier 2023).

Diabetes mellitus (DM) is a metabolic disease characterized by high blood sugar (hyperglycemia) due to insulin deficiency, impaired insulin action, or both (Bulu et al. 2019). When you eat, your body breaks down carbohydrates into sugar (glucose). Because diabetes is a non-communicable disease, there is no specific treatment. Therefore, if the metabolism is well controlled, children can grow and develop like other healthy children. What is known as metabolic control is an effort to maintain blood sugar within normal limits or close to normal so as not to cause hypoglycemia in children (Kemenkes 2018). This is managed, among others, by using insulin and the right medication, regulating diet, exercise, and education, as well as self-monitoring of blood sugar (monitoring blood sugar levels at home). To achieve optimal metabolic control, families, pediatric endocrinologists or pediatricians, nutritionists, psychiatrists, child psychologists, social workers, and home education require comprehensive care (Kemenkes 2018). The first lifestyle is to like to eat

sweets, and Indonesians are known to like to eat snacks or snacks that are high in sugar, especially children who really like sweets. In addition, people often use alternative sweeteners and often feel safe not to get diabetes. Then the second way of life is physical inactivity, with less physical activity, healthy lifestyle behaviors are not embedded in everyday life (Garcia 2019).

Lifestyle reflects a person's behavior. Behavior can be defined as a psychological condition. Running a healthy lifestyle is the key to success in preventing diabetes mellitus. Even though the patient has been given diabetes mellitus medication, implementing a healthy lifestyle can fail. If diabetes mellitus patients do not live a healthy lifestyle, the risk of recurrence will increase. A lifestyle indicator is eating habits. Eating habits reflect individual choices to form eating behavior patterns based on desires and tastes. Healthy eating habits are a source of energy, a building block, and a regulatory substance. All these nutrients are essential for growth, maintenance of the body, brain development, and productivity. An adequate and adequate supply of nutrients and safe and balanced eating habits are very important to achieve and maintain optimal nutritional and health status. Eating unhealthy food increases the risk of degenerative diseases such as diabetes. Foods high in sugar and fat should be avoided or reduced. Consuming too much sugar increases the risk of diabetes. Potassium content in fruits and vegetables can protect against diabetes and lower blood sugar.

Currently, Indonesian people prefer simple carbohydrates such as white rice, noodles, potatoes, and granulated sugar. However, keep in mind that consuming too many simple carbohydrates can increase the risk of diabetes and obesity. Consuming too many simple carbohydrates can cause blood sugar to spike, which in turn increases the risk of diabetes. Too much food contains sugar and fat, which can accumulate excessively in the body. This forces the pancreas to work harder to produce the hormone insulin to balance sugar intake. If the pancreas does not produce enough insulin, the excess sugar cannot be processed and enters the blood and urine (Febri Yusnanda, R. Kintoko Rochadi, and Linda T. Maas 2017).

Addiction is characterized by difficulty controlling habitual behavior even in the face of negative consequences (Lindgren et al., 2018). The concept of food "addiction" usually focuses on excessive consumption of sweets or the so-called sugar "addiction". At its extreme, some believe that sugar and sweet tastes trigger neural and behavioral responses like those observed in abused drugs. The understanding of these concepts has become more complicated over the decades due to uncertainties regarding the validity and reproducibility of functional magnetic resonance imaging (fMRI) methodologies used to identify the neurobiological pathways associated with sugar and sweet taste excitability. In addition, there is still a question of whether the sweet taste or metabolic effects of sugar intake will trigger addiction or excessive consumption of calories. In this context, a narrative review has been conducted to evaluate the reward value of sweetness, and the results suggest that reward value can be compromised by the "addictive potency" construct (DiNicolantonio, O'Keefe, and Wilson 2018).

We already know enough about physiology to explain why people, especially children, can consume large amounts of sugar. However, there is little information available to give a sense of why people consume more sugar than their bodies need. For this reason, researchers want to conduct research that aims to explore children's attitudes and experiences towards excessive sugar consumption behavior. Consumption of sugar referred to here refers to consumption of added sugar, namely sugar found in children's food and drinks (Sundana et al. 2022).

METHOD

This study uses a qualitative descriptive design with a phenomenological approach. Phenomenology is a type of qualitative research method that is used to find similarities in meaning which is the essence of a concept or phenomenon experienced by a group consciously and individually. individual in his life (Suyanto 2019). The use of qualitative methods in this study is focused on sugar consumption patterns in children. While the phenomenological approach aims to describe the meaning of the experience of sugar consumption patterns experienced by children from certain concepts or phenomena and exploring the structure of human consciousness. Therefore, researchers here want to

know the meaning of the experience of sugar consumption experienced by children through phenomenology studies. The population in this research are children around Parongpong West Bandung, and this research will involve a sample of 7 female children. The participants involved in this study were selected by the purposive sampling method. The purposive sampling technique is taking samples from the population through special considerations or certain characteristics so that the researcher determines they are feasible to be sampled.

The characteristic of qualitative research is that the researcher acts as a tool as well as a data collector. Non-human tools (e.g., questionnaires, interview guides, observation guides, etc.) researchers as the main tool. Thus, in qualitative research, the presence of researchers is absolute because researchers must interact with the environment in their field of study, both human and non-human. Its existence in the field must be explained by the researcher, whether the subject is aware of it or not. This involves the involvement of researchers in the field of research, both active and passive (Murni, 2017).

In qualitative research, the main data collection tool or means is the individual or the researcher himself through observing, asking, and answering, listening, asking, and recording research data. Researchers must get valid information to ask for one source. Therefore, the conditions of the informants must also be clear according to their information needs, so that the authenticity of the data can be realized (Thalha et al., 2019). To collect data from information sources (informers), researchers as the main research tool need instrumental support. There are two types of tools commonly used, namely: (1) In-depth interview guide or semi-structured questionnaire guide to investigate children's experiences when consuming sweet foods and drinks, (2) Digital voice recorder. Researchers can use recording devices such as tape recorders, mobile phones, cameras, and video cameras to record the results of interviews. Recording tools can be used if researchers have difficulty recording results (Thalha et al. 2019).

The main instrument used in collecting research data is the researcher himself. Data collection was also carried out via cell phones and guided interviews. Cell phones have the function of recording conversations between researchers and key informants during the interview process. To record the conversation during the interview, the researcher used a voice recorder application on the researcher's cell phone. The interview guide contains questions that help researchers ask questions and gather information from key informants (Munawwarah Ridwan, Muhammad Aminullah, and Elihami 2021)

After the researcher received an ethical certificate from KEPK FIK UNAI (No. 267/KEPK-FIK.UNAI/EC/I/23), the researcher conducted a search for participants around Parongpong West Bandung. Prospective participants who met the inclusion criteria and who were interested in participating in the study were given an informed consent form to fill out while the researcher gave an explanation about the research being carried out. Interviews were conducted immediately afterward where the interviewer and participant met, while the conversation was recorded.

Information obtained from research informants was processed and analyzed using the Colaizzi method. Interview conversations as research material were written verbatim right after the interview process. The researcher transcribed the document verbatim based on the interview results and field notes. Before carrying out the analysis, the researcher read several times to understand the material and improve the topic according to the research objectives. (Rizka Emiliah 2019).

The process of data analysis in phenology can use Colizzi's steps (Steeva Yeaty Lidya Tumangkeng 2022), which include following steps: (1) Describe information about the phenomenon of informants in the form of reports on the results of interviews and field notes, (2) Re-read the entire description of the informant's information to get the same feeling as the informant's experience, (3) Identification of keywords by filtering statements from informants that are meaningful to the phenomenon under study, sentences that repeat and have the same or similar meaning are ignored, (4) Form the meaning of keywords by grouping keywords based on research questions and then grouping similar keywords, (5) Sort the identified meanings into several thematic groups, after the topics have been compiled, the researcher reconfirms the topic groups, (6) Integrate all research findings into interesting and in-depth research topic narratives, (7) Return all study results to each informant for

confirmation after copying, whenever new information became available from an informant, it would be included in the final study result description.

RESULTS

This research was conducted in the community around Parongpong West Bandung, the participants in the study were school-age children. Participants in this study consisted of 7 child respondents or parents of these children who were willing to take part in this study. The age of the children varies between 11-15 years, where these children are school-age children. Of the 7 respondents, there were 2 interviewed by the researchers, namely the parents of the child, why did the parents of the child participate in the interview, so that the researcher could see and be able to compare how the pattern of daily sugar consumption outside the home and inside the house is. And get the demographic data of the respondents as follows:

Table 1. Participant Demographic Data

Name (initials)	Name (substitute)	Gender	Age (in years)	Education
G	Respondent 1 (R1)	Woman	15	SENIOR HIGH SCHOOL
A	Respondent 2 (R2)	Woman	13	JUNIOR HIGH SCHOOL
E	Respondent 3 (R3)	Woman	15	SENIOR HIGH SCHOOL
E	Respondent 4 (R4)	Woman	15	SENIOR HIGH SCHOOL
A	Respondent 5 (R5)	Woman	11	ELEMENTARY SCHOOL
S	Respondent 6 (R6)	Woman	15	SENIOR HIGH SCHOOL
K	Respondent 7 (R7)	Woman	14	JUNIOR HIGH SCHOOL

DISCUSSION

The results of the study found several sub-categories, categories, and sub-themes, up to the theme, and from the 7 respondents, three themes were obtained, where the themes were: (1) Consumption patterns of daily sugar intake in the adolescent age group, (2) understanding the need for change and approaches to reducing sugar intake and (3) types of approaches in changing sugar consumption patterns for adolescents. The three themes will be explained as follows.

Consumption Patterns of Daily Sugar Intake in the Adolescent Age Group

From the results of interviews with respondents, the researchers found that children never miss consuming sugar in everyday life, children like to consume sugar maybe in a day children can consume sugar more than 1 time a day because they consume it in consuming sugar they do not only consume sugar directly or artificial sugar but from several kinds of foods or drinks that contain sugar, and during the interview respondents explained the sources of daily sugar intake:

R1: *"I happen to rarely snack like that, at least a few times, for example, for example, if I snack like yogurt like that, yogurt I made it myself at school, after that it was ice cream."*

R2: *"At home, maybe the staple food is rice, white rice It contains sugar, right? When you're at school, you usually go home school might have some snacks, uhh maybe some biscuits..."*

R3: *"Yes, most of the time, it's normal, for example, like rice, usually with side dishes, yes, of course, there are vegetables and side dishes, for side dishes I think, (confused face while scratching his head) uhh not really, it's not consistent sometimes it's just usually it's if it's not fish yes eggs..."*

R5: *"Eh, I am stuck when I eat sweet things, I like chocolate but it's very rare..."*

R6: *"He's like snacking like buying like that, like buying candy, buying like chocolate that is sold in stalls like that..."*

The results of this study (Qorrotu Aini 2019) indicate that children's attitudes toward food are different. Children often choose the wrong food, especially if they are not guided by their parents. Plus, kids spend more time away from home, so they often find great gifts on sale at schools, playgrounds, or gifts from friends. Elementary school students always want to try new foods. School snacks are in great demand by children because of their attractive colors, attractive flavors, and affordable prices. They don't even think about the money they spend on junk food that doesn't meet nutritional standards. In addition, school canteens and food vendors around the school provide or sell snacks in bulk, with more than 5 vendors selling different types of snacks every day, which are usually consumed by students (Mulyani et al., 2022).

And from the results of this interview, the researcher asked respondents about their daily consumption of sugar outside the home, and it was found that these children consumed more sugar outside the home than at home, and on average the respondent's consumed food or drinks containing this sugar outside of working hours. eating or after eating hours, from the results of interviews the researchers found that it was sometimes difficult for respondents to suppress their appetite in consuming sugar because of the many types of food or drinks containing sugar that attracted the attention of respondents, and from that respondents consumed more sugar outside the home than at home, because the respondent's house is guarded in consuming sugar, and respondents explained the sources of sugar intake outside the home:

R1: *"Like chocolate drinks like that. It's rare to drink syrup at the end of the year but I don't like it either..."*

R1: *"For example, in the house, I usually eat rice, but for example, for snacks, usually outside the house, I rarely eat snacks outside the home..."*

R2: *"Or have you once eaten a drink that contains a sugar shield like that, what's the name cocobit there's a pink one, cocobit if you don't have milk, milo milk. If, for example, you are going out, you are invited by your family to continue eating, maybe order this, order juice, orange juice, but sometimes you like to find the orange juice that you use, uh, what's the name of using syrup..."*

R2: *"If I don't go home too often because I'm too lazy to go out and buy it, if I'm at school while I'm out buying snacks, in the past I used to eat lots of yupi food, yupi candies like that, ehh chocolate maybe from bread but there's a lot of chocolate in it..."*

R3: *"Uh, when I come home from school, for example, there are friends' activities, I usually buy food, when I come home from school, I usually buy light snacks like basreng and cilor like that..."*

R4: *"Then we also drink milk often Milk is also provided at home, but, uh, not so often, like that, only a few times a week like that..."*

R4: *"Ok, for example, food and drinks at home that are like snacks at home are really limited, if indeed outside the home you are still given leeway so you can buy snacks that are flavorful like chitato or lays like that..."*

R5: *"For example, outside, if you have a snack, you have money, right? At home, it's the same, for example, buying like that, buying chocolate if you want it is also rare..."*

R6: *"Also drinks, as if he also bought something like at the shop, like squeezed oranges like that..."*

R6: *"So, the food he buys is for example like yupi and marimas, chocolate, milk candies. At least at school, I think there are often salty snacks, but the drinks are colored drinks that are sweet like the ones that taste like that, like squeezed oranges, nutritional juice like that maybe..."*

R7: *"Oh yes, if you are at home in the morning drink energy, before going to school, drink energy, if it's not energetic, it's usual milk, white milk like that..."*

R7: *"What kind of thing is that... orange juice is often the way we go out, orange juice is often what we usually eat, right? donuts, meatballs like that, yes donuts and eat meatballs for sure when you leave the house..."*

And from the results of this interview, the researcher got the theme, namely the pattern of consumption of daily sugar intake in the teenage age group. From this theme, it was concluded that the consumption of daily sugar intake in children interviewed by researchers, that children really like to consume sugar, where not only sugar, but in the form of food or drinks that contain sugar. And the pattern of sugar consumption in these children is very irregular, maybe because of their high appetite for foods or drinks that contain sugar, then because they are used to consuming foods or drinks that contain sugar, or because children don't like foods that contain sugar. vegetables or fruit.

Understanding The Need For Change And Approaches To Reducing Sugar Intake

The knowledge possessed by humans is the result of human efforts to find the truth or the problems they face. Activities or human efforts to seek the truth or the problems they face are human nature or lust. People's desires will motivate people to achieve whatever they want. What differentiates one person from another is the effort people put into getting what they want. In a narrow sense, knowledge is something that only humans have (Darsini 2019). And from the results of interviews with respondents, the researchers found that children can provide ways to improve or change sugar consumption patterns by reducing the amount of sugar in the food or drink consumed and eating more various kinds of vegetables or eating various kinds of fruit. Even though the respondents are children, they understand reducing or changing sugar consumption patterns in everyday life, and this is the result of interviews with respondents:

R1: *"So maybe it's like eating a balanced meal, like if the rice isn't too much, then the side dishes aren't too much. Outside my house, I want to work on it, so I don't snack too often, even though it's not often, it's just like it's getting rarer and less like that..."*

R2: *"From rice, maybe you can change it to brown rice and then add lots of vegetables and fruits..."*

R3: *"Yes, eat healthy food and don't eat too much food outside, because for example like this, there are lots of examples of snacks outside or eating from outside, right? We don't know what the sugar level is, but if we are at home, we are the ones who manage it ourselves, so we know better how much we contain, at least that's what we eat at home..."*

R5: *"Snacks that have high sugar content, yes, eat more of the food that is provided because if the food is prepared or cooked by yourself, of course, it will be healthier than if we buy snacks outside that way..."*

R7: *"I want to drink more water white, for school snacks, my aunt wants not to eat chiki-chiki, because my aunt can't keep track of being at school, fatty foods I also want to reduce meatballs even though it's a hobby (laughs) but I think it's not good if it's too frequent, like drinks I want to reduce it There's a lot of syrupy drinks like at school, that's for sure, sweet drinks like that even though water is available, of course the children run for sweet drinks, that's for sure at school, I want to reduce it too..."*

Because there is understanding or knowledge that allows respondents to reduce their consumption of sugar in everyday life, knowledge can also be one of the factors that influence the choice of snack foods. Knowledge is the result of knowledge, and it occurs after people perceive certain objects. Perception occurs through the five human senses. Most of the information people receive comes through their eyes and ears. Knowledge or cognition is a very important area to shape one's activity (more than behavior). This is based on the experience of various studies, according to which knowledge-based behavior is more sustainable than knowledge-based behavior. The knowledge that includes information about nutrition, snacks, and snacks can be obtained through formal and informal learning (Syam, Indriasari, and Ibnu 2018) (Even though children understand how to reduce sugar, children will still be curious about new things so sometimes they will forget and keep trying these new things. But because there is a lot of support from the family or from learning new knowledge and dancing, children will not easily forget about how to reduce sugar consumption, maybe not just how to reduce it, but there are many things that can be learned.

Types of Approaches to Changing Sugar Consumption Patterns for Adolescents

Social support is the motivation and enthusiasm that individuals need in their lives and what they receive from the environment (Saarah Alyaa Prameswari 2022) The assumption above is supported by research (Rembet, Nugroho, and Mangalik 2021), that the way to prevent children from mindless eating is to increase support from schools, parents, researchers, health service providers, and students' needs require awareness of the child itself. Awareness parents can, for example, offer clean and healthy homemade food and drinks, so that children are not used to eating carelessly. When gathering with family members, parents are expected not to accustom their children to eat fast food for practical, easy, and fast reasons.

And from the results of interviews with respondents, the researchers found that there were children's efforts to change sugar consumption patterns in everyday life, even though it was simple to change sugar consumption patterns, these children had sufficient understanding. Family support also affects children in learning and also in terms of consumption in everyday life, because there is a family, children can know what is good and know what is wrong, and because there are families who help each other, a healthy lifestyle in the family will be guaranteed to be healthy because both remind that foods that contain lots of sugar are unhealthy for the body. And here are the results of interviews with respondents:

R1: *"Eh, it's just that the more I come here, the more I come, the more I go, I don't often, but several times I take part in health webinars like that, so I'm afraid like that, for example, when I'm old because I eat carelessly, then what happens, or -or later, eh, like, I'm a woman, I'm afraid, so, eh, what does it look like (confused face), he said, food has the same effect on hormones, so I'm like trying to watch what I eat so that later I will in the future what will come in the future, maybe when you are old, what will you do, be healthy..."*

R2: *"From daily food, maybe from rice, maybe brown rice, from white rice to brown rice..."*

R4: *"Ehh, it just so happened that when I was in elementary school, right? In the past, it often became like sugar, it became like a snack, it just tastes good, it's like eating it, right, it just seems like it's getting more and more often, like eh, parents often reprimand me too much eating sugar can cause obesity, sugar can lead to diabetes like that, starting from there it's like reducing sugar too bad, it's rarely prepared at home so it can't be consumed like that so now I'm used to not eating sugar either, so yeah I'm used to eating healthy too..."*

R7: *"I have this aunt, is it like being forced to eat vegetables, sometimes it's hard to eat vegetables, so it's like my aunt is a bit forced to eat vegetables too. If the drink is ice syrup, I like syrup. Oh, if your aunt's house doesn't have stock like that, what do you want, reduce it from your usual auntie who has syrup or what is that? The fizzy one has been cut down..."*

CONCLUSION

Lifestyle can also describe a person's behavior. There are several lifestyle indicators, including eating habits. This eating habit is a form of behavior based on human will and desire. This eating habit isn't just for adults who want to get rid of it, children are no exception. Of course, children also have healthy eating habits and there are also unhealthy eating habits. A study conducted found that children have bad eating habits where children prefer to eat sugar rather than eat healthier. Children are more likely to eat what they want because sometimes children also have different attitudes towards food and prefer food that is attractive in terms of color, shape, and taste. Most of these foods contain sugar, of course, it is not known how much sugar is used. And this study also found that children prefer to eat out rather than at home, perhaps because the interest in eating out is greater than at home.

Based on the research conducted, it is known that children have the knowledge or understanding to improve sugar consumption habits. But if you already understand, sometimes children forget how to consume sugar properly because there are many possible factors. This study concluded that support is needed to change daily sugar habits. The family is the support that can be

given at home to change eating patterns to sugar, especially parents, because they are the ones who regulate eating habits at home so that children can consume sugar within normal limits, not excessively. And of course, not only in the family, but we as health workers can also offer various ways to change daily sugar consumption.

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