Analysis of the Habit of Consuming Sweet Foods with Dental Health of the DMF-T and DEF-T Index in Students of Primary School 8 Pangkajene, Sidrap District, 2024

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Abstract:-

➢ *Background:*

Data on cavities in South Sulawesi Province is 55.5%, while in Makassar City data on cavities is 52.09%. In the 5-9 year age group it was 65.51%, while in the 5-9 year age group it was 5.02%. And the results of Community Service carried out by the ITKES Muhammadiyah Sidrap Dental Health Study Program with the results of dental health data collection for classes IV and V totaling 44 students. For class 3 def-t the average of 4.4 is considered high and for class 4 the average of 4.0 is considered moderate. So research was conducted to determine the relationship between the habit of consuming sweet foods and dental health by measuring using the DMF-T and def-t indices.

➢ *Research Objectives:*

To find out the relationship between the habit of consuming sweet foods and dental health in students.

➢ *Methods:*

Quantitative research using discovery research methods. The sampling technique is total sampling with a total sample of 56 students.

➢ *Results:*

Based on the results of statistical tests using the chi square test, the result was a p value = 0.000, where the p value < 0.05, indicating that the hypothesis in this study was acceptable. of the 56 students who consumed sweet foods, there were 49 students (87.5%) who consumed sweet foods in the frequent category with high dental health as many as 23 students (41.7%) and very high as many as 26 students (46.4%) with results p value 0.000.

➢ *Conclusion:*

There is a relationship between the habit of consuming sweet foods and dental health in elementary school students in grades IV and V at SD Negeri 8 Pangkajene, Sidenreng Rappang Regency in 2024.

I. INTRODUCTION

According to the 2018 World Health Organization report, dental and oral health is a major determinant of a person's health, quality of life and overall well-being. This includes the condition of the oral cavity, including teeth and supporting structures, free from pain and various diseases such as oral cancer, infection, gum disease, tooth decay, and other conditions that can affect a person's ability to bite. chew, smile, and communicate effectively (Suparyanto et al, 2020).

The World Health Organization's Global Oral Health Goal Indicators for Indonesia focuses on maintaining oral health in all age groups. The Ministry of Health aims to achieve a 90% caries-free rate in children, ensuring they can maintain optimal oral health (WHO, 2021)

In Indonesia, cavities pose a major challenge to people's dental and oral health. Based on data from the Ministry of Health in 2018, there was a decrease in the prevalence of cavities from 53.3% in 2013 to 45.3% in 2018. Despite improvements, the number of cavities still remains high. Specifically in South Sulawesi Province, the prevalence of cavities is 55.5%, and in Makassar City it is 52.09%. In children aged 3-4 years, the oral cavity rate was 44.22%, while in the 5-9 year age group it was 65.51%. Correct tooth brushing behavior was only observed in 5.02% of children aged 5-9 years (Widyastuti et al., 2022).

Lack of awareness about dental care and the benefits of oral health is a major factor contributing to various dental problems Marsigid et al. (2022). Education plays an important role in increasing knowledge, with higher education it is hoped that it will produce broader understanding. It is important to assess dental health initiatives, considering factors such as environmental influences, educational resources, public awareness, and dental health management for prevention and treatment. One

strategy to increase public awareness is through outreach programs. The ultimate goal of education is to empower individuals to understand and apply the principles of disease prevention to maintain optimal health and safety, especially those related to dental and oral health (Zulkaidah, 2023)

Wrong eating habits in elementary school children often occur, such as the habit of consuming excessive amounts of snacks. Many of the snack foods consumed by elementary school children are cariogenic, such as sweet and sticky foods and foods with interesting shapes. The bad effect of frequently consuming sweet or cariogenic foods is on dental health. According to (Kartikasari, 2016). This is because cariogenic foods have a tendency to stick to the surface of the teeth. If this happens it can cause dental caries (Arsad, 2022).

The output of community service carried out by the ITKES Muhammadiyah Sidrap Dental Health Study Program in January 2023 at SD Negeri 8 Pangkajene obtained data on the dental health status of 22 Class 3 students with an average OHIS level of 2.0. In Class 4 there are 22 students, with 10 people classified as poor health status, 9 people as moderate, and 3 people as good. The average def-t of Class 3 is 4.4 which is considered high, while Class 4 is 4.0 which is considered medium.

Based on the description above, researchers are interested in conducting research with the title "Relationship between the habit of consuming sweet foods and dental health in elementary school students in grades IV and V at SD Negeri 8 Pangkajene, Sidenreng Rappang Regency in 2024" in order to find out whether there is a relationship between the habit of consuming sweet foods. with dental health.

II. METHODS

This research uses quantitative research methods through discovery research techniques. This approach involves systematically collecting and analyzing data to uncover patterns or correlations in the data. By utilizing this method, researchers can uncover and advance the development of new science and technology using numerical data and statistical analysis (Balaka, 2022). Data collection instruments in this research used questionnaires and observation. The frequent category is >51% and the rare category is <51%. This research uses statistical analysis of the chi-square test with a significance value ($\alpha = 0.05$).

This research was carried out at SD Negeri 8 Pangkajene, Sidenreng Raappang district. The sample in this study was class IV and V of SD Negeri 8 Pangkajene with a sampling technique, namely a total sampling of 56 students.

III. RESULT

Table 1. Respondent characteristics based on age

Age	Frequency	Percentage
9 th	18	32.1
10 th	26	46.4
11 th	7	21.4
Total	56	100

Based on table 1, you can see the characteristics of respondents based on the age of elementary school students from a total sample of 56 students. The number of children aged 9 years was 18 students (32.1%), children aged 10 years were 26 students (46.4%) and children aged 11 years were 12 students (21.4%).

Table 2 Respondent Characteristics based on Gender

Gender	Frequency	Percentage
Male	27	48.2
Female	29	51.8
Total	56	100

Based on table 2 above, you can see the characteristics of respondents based on male and female gender from the total sample of 56 students. For the male gender there were 27 students (48.2%) and for the female gender there were 29 students (51.8%).

Table 3 Distribution of Respondents based on Sweet Foods

Sweet Foods	Frequency	Percentage
Seldom	7	12.5
Often	49	87.5
Total	56	100

Based on table 3 above, it can be seen the distribution of respondents based on sweet foods from all samples totaling 56 students. The results for sweet foods are 7 students (12.5%) who consume sweet foods in the rare category and children who consume sweet foods in the rare category. often as many as 49 students (87.5%)

Table 4 Distribution of respondents based on dental health

Dental Health	Frequency	Percentage
Very Low	1	1.8
Low	1	1.8
Currently	5	8.9
Tall	23	41.1
Very high	26	46.4
Total	56	100

Based on table 4 above, you can see the distribution of respondents based on dental health in elementary school students in grades IV and V. From all samples totaling 56 students, the results obtained for the children's dental health category were very low at 1 student (1.8%), low at 1 students (1.8%), medium as many as 5 students (8.9%), high as many as 23 students (41.1%) and very high as many as 26 students (46.4%).

Table 5 The relationship between the habit of consuming sweet foods and the dental health index
DMF-T and Def-t in elementary school students

| Sweet Foods | Dental Health | | | | | n | % | P Value |
	Very Low	Low	Currently	Tall	Very high			
Seldom	1	1	5	0	0	7	12.5	0.000
Often	0	0	0	23	26	49	87.5	
Total	1	1	5	23	26	56	100	

Based on table 5 above, it can be seen the relationship between the habit of consuming sweet foods and dental health in elementary school students in grades IV and V at SD Negeri 8 Pangkajene. Children who consumed sweet foods in the rare category were 7 students (12.5%) with 1 student having very low dental health, 1 student with low, 5 students with moderate, 0 students with high and 0 students with very high. Meanwhile, 49 students (87.5%) often consumed sweet foods with very low dental health, 0 students low, 0 students medium, 23 students high and 26 students very high.

Based on the chi square results, it is known that the Sig. (2-sided) is 0.000 < 0.05, then H0 is rejected and Ha is accepted. So it can be concluded that there is a relationship between frequently consuming sweet foods and the level of dental health, which means there is a relationship between the habit of consuming sweet foods and dental health in elementary school students in grades IV and V at SD Negeri 8 Pangkajene, Sidenreng Rappang Regency in 2024.

IV. DISCUSSION

Based on the research results, it shows that there are no respondents who consume sweet foods in the rare category with high and very high levels of dental health, while there are 49 respondents who consume sweet foods in the frequent category with high and very high levels of dental health.

After analysis, this research shows that the p value = 0.000 is smaller than the α value (0.05), which means there is a relationship between the habit of consuming sweet foods and dental health in elementary school students in grades IV and V at SD Negeri 8 Pangkajene, Sidenreng Rappang Regency in 2024. This is further strengthened by data showing that individuals who frequently consume sweet foods tend to have worse dental health compared to those who rarely consume sweet foods. Increased consumption of sweet foods can cause enamel demineralization and an increased risk of dental caries. Apart from that, the frequency and timing of carbohydrate intake also plays a role in the development of cavities.

The lack of facilities and infrastructure at SD 8 Pangkajene hampers the implementation of dental health programs. In addition, it is known that students often consume sticky snacks such as candy and chocolate at school, which can have a negative impact on dental hygiene and increase the likelihood of dental caries.

One of the causes of the prevalence of dental health problems in students in grades IV and V of SD Negeri 8 Pangkajene, Sidenreng Rappang Regency is the high consumption of sweet foods. This is often caused by children's preferences for snacks that are visually attractive and have a sweet taste. Regular consumption of sugary foods is a contributing factor to the development of dental caries in children, which ultimately leads to tooth decay.

Consuming sweet foods plays an important role in the development of dental caries in children. These foods, including cakes, bread, ice cream, milk, candy and other sweet foods, usually have high levels of carbohydrates and sucrose. Regular consumption of these items can lead to tooth decay and formation of dental caries. Sweet foods are readily available for children, especially in school canteens.

The School Dental Health Initiative (UKGS) is a public health initiative focused on improving the oral health of students in selected schools, complemented by individual health interventions to provide necessary dental care to students in need. (Abdullah, 2018)

Research conducted by Kusmana (2022) examined the relationship between cariogenic food consumption habits and the prevalence of dental caries in elementary school children using a correlative cross-sectional approach. Sampling was carried out purposively, resulting in a total

sample of 31 respondents. Analysis showed a significant correlation (p <0.001 at α = 5%) between consumption of cariogenic foods and the development of dental caries in children. It has been observed that children are attracted to visually appealing and sweet-tasting snacks, which may contribute to the onset of tooth decay. Consuming too much cariogenic food was found to be a contributing factor to dental caries in this demographic.

In research conducted by Rizki Safira Talibo and colleagues in 2016, it was found that there was a significant relationship between the frequency of consumption of sweet foods and the incidence of dental caries in class III students at SDN 1 and 2 Sonuo. The research results showed that out of 40 respondents, 3 students who rarely consumed sweet foods experienced dental caries, while 10 students who frequently consumed sweet foods experienced dental caries. Apart from that, 26 students who often consumed sweet foods did not experience dental caries. The chi square test confirms this relationship, leading to acceptance of the alternative hypothesis (Ha) and rejection of the null hypothesis (Ho) (Eni, 2021)

After reviewing various theories and supporting research, it has been proven that there is a direct correlation between children's liking for sweet foods and their likelihood of developing cavities. Research shows that increased consumption of sugary foods is a contributing factor to the prevalence of dental caries in elementary school children. Therefore, it can be concluded that there is a significant relationship between the habit of consuming sweet foods and the overall oral health of elementary school children.

V. CONCLUSION

Based on the results of research and discussion regarding the relationship between the habit of consuming sweet foods and dental health in elementary school students in grades IV and V at SD Negeri 8 Pangkajene, it can be concluded that there is a relationship between frequent consumption of sweet foods and poor dental health in students in grades IV and V at SD Negeri 8 Pangkajene. Because of the 56 students there are 49 students who consume sweet foods in the frequent category with a moderate level of dental health, 23 students have a high level and 26 students have a very high level of dental health with a p value of 0.000.

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