

# The Relationship of Tooth Brushing Behavior and the Level of Dental and Mouth Cleanliness in Class V Students at State Primary School 21 Pangkajene District Sidenreng Rappang

Yulistina<sup>1</sup>; Rezki Dirman<sup>2</sup>; Utari Zulkaidah<sup>3</sup>; Washliaty Sirajuddin<sup>4</sup>; Rahmawaty Paita<sup>5</sup>

<sup>1,2,3,4,5</sup>Department of Dental Health, Muhammadiyah Sidrap Institute of Health and Science Technology, Indonesia

**Abstract:- Background:** Dental and oral health is a support for achieving optimal body health. Maintaining dental and oral health will have an impact on improving the quality of life and productivity of human resources. Efforts to maintain dental and oral health must be carried out from an early age at elementary school age considering that dental and oral diseases are ranked in the top ten most common diseases and are spread in various regions. **Research Objective:** In general, to determine the relationship between tooth brushing behavior and the level of oral hygiene in class V students at State Elementary School 21 Pangkajene, Sidenreng Rappang Regency. **Method:** The method in this research is a survey research method (Non-Experimental). In survey research, it does not provide intervention on related variables, but only reviews a phenomenon or looks for the relationship between the phenomenon and other variables. **Sampling** was purposive sampling of 22 child samples using univariate data analysis formulas (percentage, distribution and frequency) and bivariate analysis formulas (square-test). **Results:** Using the square-test, we got a value of 0.002. Therefore the value  $p=0.002 < (0.05)$  ( $\alpha$ ). **Conclusion:** The hypothesis that  $H_0$  is rejected and  $H_a$  is accepted, which means there is a relationship between tooth brushing behavior and the level of oral hygiene.

**Keywords:-** Knowledge, Brushing Teeth, Cleanliness.

## I. INTRODUCTION

Dental and oral health is a support for achieving optimal body health. Maintaining dental and oral health will have an impact on improving the quality of life and productivity of human resources. Efforts to maintain dental and oral health must be carried out from an early age at elementary school age considering that dental and oral diseases are ranked in the top ten most common diseases and are spread in various regions. (Ramadhani, 2018)

Dental and oral health is one part of the body that cannot or should not be separated from one another. Maintaining healthy teeth and mouth is one of the various efforts that must be made to improve dental and oral health. A healthy person not only has a healthy body, but also healthy teeth. So, dental

health has an important role in realizing physical health. (Nagauleng, 2018).

According to world health organization (WHO, 2018), states that dental and oral health is the main indicator of overall health, well-being and quality of life. Dental and oral health is the condition of the oral cavity, including the teeth and supporting tissue structures, which are free from pain and diseases such as mouth and throat cancer. Oral wound infections, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity to bite, chew, smile and speak.

The presentation of dental and oral health problems of 93% was found in the 6-12 year age group, because at the age of 6-12 years, most of them still have the wrong habit of brushing their teeth, namely when taking a shower in the morning and taking a shower in the evening. This has been proven that the correct habit of brushing the teeth of school-aged children is only 2%. (BPPK.2018). It was found that 91.1% of Indonesians brush their teeth every day. However, only 7.3% of the total brush their teeth properly and correctly. The fact is that 72.1% of the Indonesian population has health problems with cavities and 46.5% of them do not treat cavities. (Lubis, 2019)

Dental and oral health knowledge is everything that is known related to maintaining dental and oral health, which can be in the form of knowledge about eating patterns that are good for teeth, brushing teeth and regular visits for dental and oral examinations. Knowledge of dental and oral health is closely related to children's behavior and skills in maintaining good dental and oral health, which will encourage children to behave well and maintain and develop behavior, tooth brushing skills in maintaining healthy teeth and mouth, which will influence the status of dental and oral health. pliers are measured through tooth brushing skills. (Fauziah, 2018)

Basic health research states that 58.45% of Balinese people have dental and oral problems. The percentage of the population who brush their teeth every day among children aged 5-9 years in Bali province is 94.90%, 97.6% of whom brush their teeth incorrectly, while only 2.40% brush their teeth correctly. Based on Bali provincial health research. Klungkung Regency states that 44.85% of the population has

dental and oral problems. The percentage of residents who brush their teeth every day in Klungkung district is 89.36%. As many as 96.74% behaved incorrectly in brushing their teeth. Meanwhile, only 3.26% brush their teeth correctly. (Riskasdas, 2018)

Caries is the most common dental and oral health problem, including in children. Caries is an infection characterized by damage to tooth structure. Untreated caries in children can cause several unfortunate causes including pain, potential disease (infection), stunting, motor dysfunction, problems with daily activities and poor quality of life. (Fauziah, 2018)

One of the causes of dental caries in humans is frequent consumption of sweet and sticky foods, improper brushing of teeth, and routine dental health checks which can also cause tooth decay. Sweet and sticky foods that tend to stick to your teeth, such as candy and chocolate. Considering the importance of the function of teeth, the dental health of young children must be paid attention to and must not be separated from parental supervision. If tooth decay is not treated immediately it can damage the teeth, cause pain and hinder the child's growth and development process. (Salsabila, 2021)

Dental caries is an oral health problem related to public health. Dental caries occurs in children more than adults. Considering the high incidence of dental caries, optimal treatment is needed to prevent dental caries in children. (Winahyu, 2021)

The results of basic health research (Riskasdas) of the Indonesian Ministry of Health in 2018, the problem of dental and oral disease in children aged 10 to 14 years in Indonesia reached 55.6%, but treatment by dental health workers was only 55.6%. According to risksdas data, the number of dental health problems that occur in the 10-14 year age group in Indonesia is dental caries, namely 73.4%. (Riskasdas, 2018)

This research is in line with that conducted by Gopdianto, Ratu and Mariati, (2015) in Artawa (2019), concluding that there is a relationship between dental and oral hygiene status and the toothbrushing behavior of children at SD Negeri 1 Malalang. The behavior of brushing teeth is done diligently, thoroughly and regularly. Diligently means brushing your teeth diligently and seriously, thorough means brushing your teeth regularly and at least twice a day. The right time to brush your teeth is after breakfast and before bed.

Elementary school students (aged 6-12 years) often experience dental and oral health problems, so they need attention and proper dental care. The teeth of children aged 6 to 12 years require more intensive care and training. This is because tooth changes occur at this age. (Mukhbitin, 2022)

At the time of initial data collection at Pangkajene 21 State Elementary School located Jl. Bau Massepe No.15, Pangkajene, Maritengae District, Sidenreng Rappang Regency. There are 22 students in class V, consisting of 10 female students and 12 male students. The results of

observations at the time of initial data collection for prospective researchers showed that the average dental and oral hygiene of class V students was in the poor category.

Based on the description above, researchers are interested in conducting research entitled "The Relationship between Toothbrushing Behavior and the Level of Dental and Oral Hygiene in Class V Students at State Elementary School 21 Pangkajene".

## II. METHOD

The research method used in this research is an analytical survey with a cross sectional approach. Analytical survey research is research that analyzes the dynamics of the relationship between a phenomenon. Analytical survey research can determine the extent of involvement of a factor in the occurrence of an event from correlation analysis. The approach used in this research is a cross-sectional approach, namely research which emphasizes the time of measurement or observation of the dependent variable data from the independent variables calculated at the same time or once. (Notoatmodjo,2018)

## III. RESULTS

Based on the results of research on the relationship between tooth brushing behavior and the level of dental and oral hygiene in class V students at State Elementary School 21 Pangkajene, Sidenreng Rappang Regency. So the following results are obtained:

### A. Respondent Characteristics

Table 1: Characteristics Based on Age

Age	N	%
10 Year	1	4
11 Year	18	82
12 Year	3	14
Total	22	100%

Primary Source 2024

Based on table 1 above, you can see the characteristics of respondents based on the age of class V students from a total sample of 22 students. There is 1 student aged 10 years (4%) and as many as 18 students (82%) aged 11 years.

Table 2: Characteristics based on Gender

Gender	N	%
Male	15	68
female	7	32
Total	22	100%

Primary Source 2024

Based on table 2 above, you can see the characteristics of respondents based on male and female gender from the total sample of 22 students. There were 7 female students (32%) and 15 male students (68%).

*B. Univariate Analysis*

Table 3: Distribution of Respondents Based on Tooth Brushing Behavior

Tooth Brushing Behavior	N	%
Good	6	27%
Not Good	16	73%
<b>Total</b>	<b>22</b>	<b>100%</b>

Based on table 3 above, you can see the distribution of respondents based on the toothbrushing behavior of class V students in the total sample of 22 students. There were 6 students whose tooth brushing behavior was good (27%) and 16 students whose tooth brushing behavior was poor (73%).

Table 4: Distribution of Respondents Based on Level of Dental and Oral Hygiene

Dental and Oral Hygiene Levels	N	%
good	5	23
<b>CURRENTLY</b>	<b>8</b>	<b>36</b>
<b>BAD</b>	<b>9</b>	<b>41</b>
<b>Total</b>	<b>22</b>	<b>100%</b>

Based on table 4 above, you can see the distribution of respondents based on the level of dental and oral hygiene of class V students from a total sample of 22 students. There were 5 students (23%) whose dental hygiene was good and 9 students (41%) whose dental hygiene was poor.

*C. Bivariate Analysis*

Table 5: The Relationship between Tooth Brushing Behavior and the Level of Dental and Oral Hygiene

Dental and Oral Hygiene Levels	Dental and Oral Hygiene						Total		P. Value
	Good		Currently		Bad		N	%	
	N	%	N	%	N	%			
Good	4	18	2	9	0	0	6	27	0,002
Not Good	1	5	6	27	9	41	16	73	
<b>Total</b>	<b>5</b>	<b>23</b>	<b>8</b>	<b>36</b>	<b>9</b>	<b>41</b>	<b>22</b>	<b>1000</b>	

Based on table 5, it can be seen the results of the relationship between tooth brushing behavior and the level of dental and oral hygiene in class V students at SD Negeri 21 Pangkajene, Sidenreng Rappang Regency in 2023. The results between good tooth brushing behavior and good criteria are 4 respondents (18%) , good tooth brushing behavior with medium criteria, namely 2 respondents (9%), good tooth brushing behavior with bad criteria, namely zero, bad tooth brushing behavior with good criteria, namely 1 respondent (5%), poor tooth brushing behavior with medium criteria, namely 6 respondents (27%), behaved poorly with bad criteria, namely 9 respondents (41%).

**IV. DISCUSSION**

Based on the univariate analysis in table 3, it can be seen that there are 6 students whose tooth brushing behavior is good (27%) and 16 students whose tooth brushing behavior is poor (73%).

In table 4, you can see dental and oral hygiene. There were 5 students (23%) whose dental hygiene was good and 9 students (41%) whose dental hygiene was poor.

Based on the bivariate analysis in table 5, it can be seen the relationship between tooth brushing behavior and the level of oral hygiene. The results obtained between good tooth brushing behavior and good criteria, namely 4 respondents (18%), good tooth brushing behavior with medium criteria, namely 2 respondents ( 9%), good tooth brushing behavior with bad criteria, namely zero, poor tooth brushing behavior with good criteria, namely 1 respondent (5%), bad behavior with medium criteria, namely 6 respondents (27%), bad behavior with bad criteria namely 9 respondents (41%).

The results of this research using the square test obtained a value of 0.002. Because the value  $\rho=0.002 < (0.05)$  ( $\alpha$ ), it can be concluded that  $H_0$  is rejected and  $H_a$  is accepted, which means there is a relationship between tooth brushing behavior and the level of oral hygiene in class V students at SD Negeri 21 Pangkajene, Sidenreng Regency. Rappang.

This research is in line with that conducted by Gopdianto, Ratu and Mariati, (2015) in Artawa (2019), concluding that there is a relationship between dental and oral hygiene status and the toothbrushing behavior of children at SD Negeri 1 Malalang. The behavior of brushing teeth is done diligently, thoroughly and regularly. Diligently means brushing your teeth diligently and seriously, thorough means brushing your teeth regularly and at least twice a day. The right time to brush your teeth is after breakfast and before bed.

The research results are supported by research results from Triana in 2018 showing that there is a significant relationship between tooth brushing behavior and dental and oral hygiene status as measured by the Simplified Oral Hygiene Index with a p value: 0.000. The results of this research are also confirmed by the results of research from Kurniawati R, Valentina NK, P Razi in 2015 which showed that there was a relationship between tooth brushing behavior and the oral hygiene status of children in Palembang village, Jambi province in July 2015.

Based on research by Sunarjo et al., (2016) and Mardiaty et al., (2017), it shows that the Oral Hygiene Index (OHIS) has an influence on the occurrence of dental caries. This is in line with research by Putranto et al., (2020) showing that there is a relationship between the dental and oral hygiene index or OHI-S status as a risk factor for dental caries. Children who have moderate to poor OHI-S scores have a greater risk of experiencing dental caries compared to children who have good OHI-S scores.

Based on research by V, A. Damanik, (2020); Evarity et al., (2018); Hidayat & Sinta, (2018); Jalante et al., (2020); Mardiaty et al., (2017); Purwaningsih & Sirat, (2016); Sunarjo et al., (2016) showed that there is an influence between tooth brushing behavior and the occurrence of dental caries. Brushing teeth has a very important role in preventing bacteria that can cause tooth decay (Jalante et al., 2020).

This is in line with research by Artawan & Pradipta, (2019); Factarun, (2018); Napitupulu et al., (2019); Permatasari & Andhini, (2014) showed that there is a relationship between tooth brushing behavior and the occurrence of dental caries. Brushing teeth has a very important role in preventing the development of bacteria that can cause tooth decay (Ningsih, 2016).

Based on the research results, it is assumed that the research location's facilities and infrastructure are inadequate to support the implementation of the school dental health program (UKGS) which also has an impact on the level of poor dental and oral hygiene among students. The results showed that the level of oral hygiene was related to tooth brushing behavior. Attitudes towards dental and oral health are very large, so positive attitudes towards dental health are needed. Behavior is a very important thing that can influence positive dental and oral health, for example the habit of brushing your teeth regularly will make your teeth look clean.

## V. CONCLUSIONS

From the results of research on the relationship between tooth brushing behavior and the level of dental and oral hygiene in class V students at the State Elementary School 21 Pangkajene, Sidenreng Rappang Regency with a sample of 22 students, a conclusion can be found, namely:

- The behavior of brushing teeth is not good among class V students at SD Negeri 21 Pangkajene, Sidenreng Rappang Regency, as many as 16 (73%) respondents.
- Bad dental and oral hygiene criteria for class V students at SD Negeri 21 Pangkajene, Sidenreng Rappang Regency were 9 (41%) respondents.
- The relationship between tooth brushing behavior and the level of oral hygiene in class V students at SD Negeri 21 Pangkajene, Sidenreng Rappang Regency with the results of data analysis using the chi-square test with a value of  $\rho=0.02 \alpha, < (0.05)$

## SUGGESTIONS

➤ *The Suggestions in this Research are as Follows:*

- It is hoped that elementary school students will pay more attention to oral hygiene by brushing their teeth properly and correctly.
- It is hoped that the school will collaborate on dental and oral hygiene with the dental health department from both dental health education institutions and community health centers around the school.

- It is hoped that parents of class V students at SD Negeri 21 Pangkajene, Sidenreng Rappang Regency will motivate their children to always maintain oral hygiene by brushing their teeth properly and correctly and having their children's teeth checked by a dental hygienist at least once every 6 months.

## REFERENCES

- [1]. Fauziah, R. A. (2018). HUBUNGAN PENGETAHUAN KESEHATAN GIGI DAN MULUT TERHADAP INDEKS PLAK PADA SISWA KELAS V SD MENDAK 1 DELANGGU." . *JIKG (Jurnal Ilmu Kedokteran Gigi)*.
- [2]. Lubis, N. (2019). *Sudahkah Anda Menyikat Gigi Dengan Benar*.
- [3]. Mukhbitin. (2022). Gambaran kejadian karies gigi pada siswa kelas 3 MI Al Mutmainnah. *Jurnal Promkes*.
- [4]. Nagauleng, A. (2018). *Pengetahuan Ibu Tentang Pemeliharaan Kesehatan Gigi Dan Mulut Pada Anak*. JIKI Jurnal Ilmiah Kesehatan IQRA.
- [5]. Ramadhani. (2018). *Upaya peningkatan kesehatan gigi dan mulut melalui pendekatan kuratif di sekolah dasar negeri susukan, kecamatan sumbang kabupaten bayumas*.
- [6]. Riskesdas. (2018). *Hasil Utama Riset Kesehatan Dasar*. Jakarta: Badan Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan RI.
- [7]. Salsabila, M. A. (2021). *Salsabila, M. A., HiGigi Anak Usia Sekolah di Kelurahan Kraton Kabupaten Bangkalan Tahun 2020*.
- [8]. WHO. (2018). *World Health Organization*.
- [9]. Winahyu, K. M. (2021). *Winahyu, Hubungan antara Konsumsi Makanan Kariogenik dan Risiko Kejadian Karies Gigi pada Anak Usia Sekolah di Kabupaten Tangerang*. Faletahan Health Journal.