

THE RELATIONSHIP BETWEEN KNOWLEDGE OF DENTAL AND MOUTH HYGIENE WITH OHI-S STATUS IN CLASS IV STUDENTS AT SDN SIBREH, SUKA MAKMUR ACEH BESAR DISTRICT

¹Elfi Zahara, ²Resa Zahara, ³Nurdin, ⁴Linda Suryani

^{1,2,3,4} D-IV Dental Therapist of Applied Undergraduate Program of Poltekkes Aceh

*Authors Correspondence: elfizahara@gmail.com

ARTICLE INFO

eISSN:2830-7186

DOI Prefix: 10.30867

Published online Desember 2023

Received : November 09, 2023

Accepted : November 13, 2023

Published : Desember 15, 2023

Keywords:

Keywords 1; Knowledge

keywords 2; Maintenance of dental and oral hygiene

keywords 3; OHI-S status

ABSTRACT

Knowledge is a very important domain for the formation of an action because one's actions are influenced by the knowledge one has. Based on the results of dental examinations conducted on 10 students by researchers at SDN Sibreh, Aceh Besar, it was found that the average OHI-S status was 50% with bad criteria. This study aims to determine the relationship between dental and oral hygiene maintenance knowledge and OHI-S status in class IV students at SDN Sibreh, Suka Makmur District, Aceh Besar. This type of research is analytic method with cross sectional design. The population of this study were all 48 students of Class IV at SDN Sibreh. Sampling in this study using total sampling technique. The analysis in this study used the chi-square test. The results showed that the knowledge of maintaining dental and oral hygiene was 23 students (47.9%) in the good category and 25 students (52.1%) in the poor category. OHI-S status with good category was 10 students (20.8%), medium category was 17 students (35.4%), and bad category was 21 students (43.8%). The results of the chi-square statistical test showed that there was a relationship between knowledge of oral hygiene maintenance P value = 0.001 < 0.05 and OHI-S status. Based on the results of this study it can be concluded that there is a relationship between knowledge of dental and oral hygiene maintenance and OHI-S status. It is recommended for students to further increase their knowledge, and maintain oral hygiene, namely to brush their teeth at least 2 times a day regularly,

INTRODUCTION

Republic of Indonesia Law No. 36 of 2014 article 1 states that health efforts are any activities that are carried out in an integrated, integrated and sustainable manner to maintain and improve the degree of public health in the form of disease prevention, health promotion, disease treatment and health restoration by the government and the community (RI Ministry of Health, 2014).

Dental and oral health is the most important thing for general health which is often not a priority, even though teeth and mouth are the gateway for germs and bacteria to enter so that they can interfere with the health of other organs of the body. A healthy mouth means free from cavities infection, mouth sores, gum disease, tooth decay, free from throat cancer, and other diseases (Abdullah, 2018).

Dental and oral health is a support for achieving optimal body health. Dental and oral health conditions that are maintained will affect the improvement of 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 in the top ten rankings of the most common diseases and are spread in various regions.(Nadhiyatul Putri, 2020).

Dental and oral hygiene is a condition that shows that a person's mouth is free of impurities such as debris, plaque and tartar. Plaque will always form on the teeth and extend to the entire surface of the teeth if someone ignores dental and oral hygiene.(Makassar, 2021)One of the causes of dental and oral health problems is behavior or attitude of ignoring dental and oral hygiene.

Efforts to maintain dental and oral health as well as foster dental and oral health, especially in school-age children need special attention because at this age children are going through a process of growth and development.(Kawangkoan et al., 2015).

Dental and oral hygiene knowledge should be given from an early age, because at an early age children begin to understand the importance of health and the prohibitions that must be avoided or habits that can affect the condition of their teeth. Provision of knowledge about dental and oral hygiene should be given to school-age children. Elementary school (SD) is a group that is very strategic for dental and oral health management(Gopdianto et al., 2015).

The age of 9 or 10 years of Elementary School (SD) in children has a characteristic that children can face their tasks well and try to complete them, want to know and want to learn. Children aged 9 or 10 years who are classified as high class children (Yusuf, 2011).

Maintenance of children's teeth and mouth hygiene needs to be done from an early age. Knowledge of a child is very important in underlying the formation of behavior that supports or does not support children's dental and oral hygiene (Natamiharja and Margaret, 2011).

Children who have good dental and oral hygiene behavior also have good dental and oral hygiene status. And conversely, children who lack knowledge have poor oral hygiene status. And this will affect caries status in children (Shanblog et al, 2014).

Based on the results of research conducted by Nurlinda (2020) which stated that most of the knowledge levels were good as many as 24 (40.0%) respondents and those who had less knowledge were 36 (60.0%). It can be concluded that the better the knowledge and awareness of a person to maintain dental hygiene will make his teeth clean, conversely if the knowledge is not good, the status of bad dental and oral hygiene will affect the behavior of brushing teeth is not good.

According to data from Riskesdas (Basic Health Research) for 2018, the proportion of dental and oral hygiene in the people of Aceh is 6.4% and based on the age group 10-14 years the proportion of brushing their teeth every day is 96.5% and the proportion when brushing their teeth properly is 2.1% (RISKESDAS, 2018).

Based on reports obtained from the Suka Makmur District Health Center in Aceh Besar, there are 9 schools consisting of 4 public elementary schools and 5 public Islamic elementary schools (MIN). And data on the implementation of UKS and UKGS for 2019-2021 at SDN Sibreh, Suka Makmur District, Aceh Besar, with a total of 202 cases of dental caries. In 2019, there were 59 cases of caries, in 2020 there were 69 cases and increased in 2021 to 74 cases of dental caries.

Based on the results of initial interviews conducted with 10 grade IV students at SDN Sibreh, Suka Makmur District, Aceh Besar, there were 8 students who did not understand how to brush their teeth properly and correctly and the importance of maintaining oral hygiene. Based on the results of the initial examination of the status of dental and oral hygiene, there were 2 students (20%) had good dental and oral hygiene status, 3 students (30%) had dental and oral hygiene status in the moderate category and 5 of them (50%) had dental and oral hygiene status with bad category.

METHODS

This type of research is analytic in nature with a cross-sectional design which aims to determine the relationship between dental and oral hygiene maintenance knowledge and OHI-S status in fourth grade students at SDN Sibreh, Suka Makmur District, Aceh Besar. The population of this study were all 48 students of Class IV SDN Sibreh, Suka Makmur District, Aceh Besar, consisting of 26 students in class IV-A and 22 students in class IV-B. Sampling in this study used a total sampling technique. This research was conducted from 25 February to 3 March 2022. Bivariate analysis was conducted to determine the relationship between the independent variables, namely, knowledge of dental and oral hygiene maintenance and the dependent variable, namely OHI-S status by using the Chi Square statistical test with $\alpha = 0.05$.

RESULTS

Based on the results of research conducted on February 25 to March 3 2022, the results obtained from interviews on knowledge of dental and oral hygiene maintenance and examination of OHI-S status of 48 respondents in class IV students at SDN Sibreh, Suka Makmur District, Aceh Besar District.

1. Univariate analysis

- a. General data
1) Age of Respondents

Table 1. Frequency Distribution of Respondents by Age in Grade IV Students at SDN Sibreh, Suka Makmur District Aceh Besar

No	Age	Amount	Percentage
1	9 years	31	64,6
2	10 years	17	35,4
Total		48	100

Based on table 5.1 above, it can be seen that the age of the students in this study was between 9-10 years. The results of the analysis showed that the highest percentage of student age was in the 9 year age group with 31 students (64.6%).

- 2) Gender of Respondents

Table 2. Frequency Distribution of Respondents by Gender In Grade IV students at SDN Sibreh Suka Makmur district Aceh Besar

No	Gender	Amount	Percentage
1	Man	18	37.5
2	Woman	30	62.5
Total		48	100

Based on table 5.2 above, it can be seen that the frequency of respondents based on gender, the highest percentage results were female, with 30 students (62.5%).

- b. Custom Data

- 1) Knowledge of Dental and Oral Hygiene Maintenance

Table 3. Frequency Distribution of Knowledge of Dental and Oral Hygiene Maintenance in Grade IV Students at SDN Sibreh District Like Prosper Aceh Besar

No	Category	Frequency	Percentage
1	Good > 50%	23	47,9
2	Not Good ≤ 50%	25	52,1
Total		48	100

Based on the results of interviews using a questionnaire with 48 students, it was found that the knowledge category of maintaining

dental and oral hygiene was not good, namely 25 students (52.1%).

- 2) OHI-S status

Table 4. Frequency Distribution of OHI-S Status in Grade IV Students at SDN Sibreh District Like Prosper Aceh Besar

No	OHI-S criteria	Frequency	Percentage
1	Good	10	20,8
2	Currently	17	35,4
3	Bad	21	43,8
Total		48	100

Based on the results of the examination of OHI-S status on 48 students, it was shown that those who had the most dental and oral hygiene were in the bad category, namely 21 people (43.8%).

2. Bivariate Analysis

Table 5. Frequency Distribution of Relationship between Dental and Oral Hygiene Knowledge and OHI-S Status in Grade IV Students at SDN Sibreh, Suka Makmur District, Aceh Besar

No	Knowledge	OHI-S status						Total		P Value
		Good		Currently		Bad		F	%	
		F	%	F	%	F	%			
1	Good	8	34,8	11	47,8	4	17,4	23	100	0.001
2	Not good	2	8,0	6	24,0	17	68,0	25	100	
Total		10	20,8	17	35,4	21	43,8	48	100	

The results of the research from 48 respondents showed that 23 students who had good dental and oral hygiene maintenance knowledge with OHI-S status had good criteria as many as 8 students (34.8%), moderate criteria as many as 11 students (47.8%), and criteria bad as many as 4 students (17.4%). Meanwhile, 25 students had poor dental and oral hygiene maintenance knowledge with OHI-S status, 2 students (8.0%) had good criteria, 6 students (24.0%) had moderate criteria and 17 students (68) had bad criteria. ,0%). The results of the statistical analysis showed that the P value = 0.001, so it can be concluded that there is a relationship between knowledge of dental and oral hygiene maintenance and OHI-S status.

DISCUSSION

Researchers assume that a person's knowledge can affect oral hygiene. A person's knowledge cannot guarantee dental and oral hygiene, because knowledge is not applied in their actions in everyday life so that it has a negative influence on OHI-S status. Factors that influence the lack of awareness to clean teeth and mouth, namely by brushing teeth properly and properly and taking appropriate actions to clean teeth.

The results of this study are in line with research conducted by Slamet Riyadi (2015), who explained that knowledge of dental and oral hygiene is very important for the formation of an action in maintaining dental and oral hygiene. Dental and oral hygiene is carried out to prevent dental and oral diseases, increase endurance, and improve oral function to increase appetite. Knowledge of dental and oral hygiene maintenance must be in line with actions to create optimal dental and oral health.

The lack of knowledge of students about how to brush their teeth properly and correctly and the actions of cleaning their teeth are not quite right, such as the habit of how and when to brush their teeth is not correct or is correct but they are not careful in brushing their teeth.

Based on table 5.4, the frequency distribution of OHI-S status shows that those with the most OHI-S status are in bad criteria, namely 21 people (43.8%). This is because many dental and oral hygiene statuses have poor criteria, due to the high behavior of brushing teeth with skills criteria need guidance, especially in tooth brushing technique errors. They move the toothbrush in any direction as long as all tooth surfaces are exposed to the paste. This is because they think that brushing their teeth with any movement can make their teeth clean, even though brushing their teeth must be done with the right technique. Based on the theory from (Irpan, 2014) the parts of the teeth that must be brushed are the front teeth, side molars, molars for chewing, and inner front teeth.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research and discussion, the following conclusions can be drawn: Knowledge of maintenance of dental and oral hygiene is not good, namely as much as 52.1%. The OHI-S status of children who had the most dental and oral hygiene was in the bad category, namely 43.8%. The relationship between knowledge of dental and oral hygiene

maintenance and OHI-S status, the results of statistical analysis showed that the value of the chi-square statistical test was obtained P value = 0.001 ($\alpha = 0.05$), so there was a significant relationship between knowledge of dental hygiene maintenance and mouth with OHI-S status in class IV students at SDN Sibreh, Suka Makmur District, Aceh Besar.

ACKNOWLEDGMENTS (OPTIONAL)

Thank you to the head of the SDN Sibreh, Suka Makmur District, Aceh Besar and the head of the district health office. SDN Sibreh who has given permission regarding the implementation of this activity and the Director of Poltekkes, Ministry of Health, Aceh, who always provides motivation regarding scientific development for us so that we are able to compile this article.

REFERENCES

1. Abdullah, Nurwijayana. 2018. The relationship between the dental and oral health status of school children and the implementation of UKGS (School Dental Health Business) in elementary schools and equivalents in the city of Makassar.
2. Budiman Riyanto. (2013). Factors Influencing Knowledge. *Journal of Chemical Information and Modeling*, 1689–1699.
3. Chandki R, Banthia P, Banthia R. (2011). Biofilm: A microbial home. *J. Indian Soc Periodontology* No 15 Vol (2), Pages 111-114.
4. Republic of Indonesia Ministry of Health. (2014). "RI Law Number 36 of 2014 Concerning Health Workers." President of the Republic of Indonesia: 1-78
5. Gopdianto, Randy, AJ M Rattu, Thesis Candidate for the Dentistry Study Program, Faculty of Medicine, Department of Physiology, Faculty of Medicine, and Department of Periodontics, Dentistry Study Program, Faculty of Medicine, Sam Ratulangi University, Manado. 2015. Status of oral hygiene and brushing behavior of children at Negeri 1 Malalayang Elementary School.
6. Irpan. (2014). Tips on how to brush your teeth the right way. Article. <http://www.tiportips.com/2014/02/tips-how-to-brush-the-good-and-correct-teeth.html>.
7. KK, YIG, Pandelaki, K., & Mariati, NW (2013). *Relationship between Dental and Oral Hygiene Knowledge and Dental and Oral Hygiene Status in Students of SMA Negeri 9 Manado*.

8. Kawangkoan, STA, Mawuntu, MM, Pangemanan, DHC, (2015). "Description of the Status of Oral Hygiene of St. Augustine Kawangkoan Catholic Elementary School Students." e-GIGI 3 (2).
9. Makassar, DI (2021). Dental and Oral Hygiene Against the Occurrence of Caries in Elementary School Children in Makassar. *Dental Health Media: Makassar Health Polytechnic*, 20(1), 49–54.
10. Ma'rifatul Rizka., Ta'adi., Widayati Aryani. (2016). Description of Saliva Ph and Tartar in Karang Taruna in Ngargogondo Village, Borobudur, Magelang. *Journal of Dental and Mouth* Issn2338-963x, Vol 3.
11. Marimbun, BE, Mintjelungan, CN, (2016). Correlation between the level of knowledge about oral and dental health and the status of dental caries in the visually impaired. e-GIGI. Vol 4.
12. Natamiharja L, Margaret. (2011). The role of parents in maintaining dental and oral health for class II SD Medan children. *Dentika Dental Journal*.
13. Nadhiyatul Putri, Irmawati, Sri Hidayati. 2020. "Knowledge Overview of Dental Fillings for Grade 5 Mi Al Fahmi Students in Surabaya." *Scientific Journal of Dental Nursing (JIKG)* 2(1).
14. Notoatmodjho, S 2012. *Health Promotion and Health Behavior*. Rineka Cipta. Jakarta.
15. Nurjannah. (2016). The Relationship of Knowledge, Attitudes and Dental and Oral Health Actions for SMP/MTS Students at Putri Ummul Mukimin Islamic Boarding School. Makassar Hasanuddin University. *Journal Of Dentistry*.
16. Pratamawari and Hadid. (2019). Correlation between Self Rated Oral Health and the Index of Routine Dental and Oral Health Examination Visits to the Dentist. *Odonto Dental Journal*. Vol 6. Malang.
17. Princess IN. The effect of counseling on the demonstration method of brushing teeth on reducing the dental plaque index in elementary school students. Macassar. *Dentofacial* 2012. ISSN: 1412-8926. Vol 11.
18. Ramadhan, AG, 2010. *Miscellaneous Dental and Oral Health*. Bukune. Jakarta.
19. Riskesdas, (2018). *Ministry of Health Health Research and Development Agency*. Rineka Cipta. Jakarta.
20. Sahrini. 2015. Factors Causing Gingivitis Due to the Use of Fixed Dentures (Gtc) in Visitors at Hasanuddin University Rsgm. *Thesis*. Hasanuddinn University Faculty of Dentistry. Macassar.
21. Congratulations Riyadi. (2015). Relationship of Knowledge About Dental and Oral Health Maintenance with Dental and Oral Hygiene Status in Students of SDN 177/IV Jambi City. *Jambi Polytechnic Journal*. ISSN: 2085-1677. Vol XIII. No. 3.
22. Shanblog R, Raju V, Nandjal B. Correlation of oral health status of socially handicapped children with their oral health knowledge, attitude, and practices from India. *J Nat Sci Biol Med*. 2014.
23. Yuliana, E. 2017. Analysis of Student Knowledge About Healthy and Nutritious Food on Selection of Snacks at School. *Thesis*. Purwokerto: University of Muhammadiyah Purwokerto.
24. Yusuf, M. Relationship between Dental and Oral Health Knowledge and Caries and Ohis Status in Middle School Children. Medan: FKG USU. 2011.