

The Relationship between Brushing Behavior and the Status of Dental and Mouth Hygiene in the Deaf Children in Slb Negeri 1 City of Jambi in 2019

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ABSTRACT

According to basic health research (2018), in Indonesia, dental and oral hygiene tends to be problematic, namely 57.6% of the Indonesian population experiencing problems with dental and oral health. In addition, it can be seen from the percentage of the Indonesian population brushing their teeth, namely 94.7% of the Indonesian population brushing their teeth every day, but only about 2.8% of the time they brush their teeth properly. The results of interviews with the principal of SLB Negeri 1 Jambi City have never researched the behavior of brushing teeth with dental and oral hygiene in deaf children.

This study aims to determine the relationship between tooth brushing behavior with dental and oral hygiene status in deaf children at SLB Negeri 1 Jambi City in 2019. The research design used a cross-sectional approach. The sampling technique was purposive sampling. The sample of this study was deaf children in grades I to V at SLB Negeri 1 Jambi City in 2019, totaling 34 people according to the inclusion and exclusion criteria. This research was conducted by giving a questionnaire, then checking the condition of oral hygiene by using the Oral Hygiene Index Simplified (OHI-S) measurement as an indicator of dental and oral hygiene assessment.

The results showed that the level of tooth brushing behavior in deaf children in SLB Negeri 1 Jambi City which was categorized as good as many as 5 people were 14.7%, moderate criteria were 25 people at 73.5% and bad criteria were 4 people at 11.8%. There is no significant relationship between tooth brushing behavior with dental and oral hygiene status in deaf children in SLB Negeri 1 Jambi City with p-value = 0.142.

Keywords: Behavior, Dental, and Oral Hygiene Status

INTRODUCTION

According to the Health Law of the Republic of Indonesia, Number 6 of 2009 Articles 94 and 93 concerning dental and oral health, dental and oral health services are carried out to maintain and improve public health status in the form of improving dental health, treatment of dental diseases, and restoration of dental health by government, local government, and community in an integrated, integrated and sustainable manner. Dental and oral health is carried out through individual dental health services, community dental health services, school dental health efforts¹.

According to basic health research (2018), in Indonesia, dental and oral hygiene tends to be problematic, namely 57.6% of the Indonesian population experiencing problems with dental and oral health. In addition, seen from the percentage of the Indonesian population

brushing their teeth, 94.7% of the Indonesian population brushes their teeth every day, but only about 2.8% of the time they brush their teeth properly.

Based on the Jambi Province Basic Health Research (RISKESDAS) report in 2018 it showed that 45.0% of the population experienced problems with dental health and 96.4% brushed their teeth every day but only 1.0% of the time to brush their teeth properly.

According to the guidelines for health services for children in special schools in 2011, a person with hearing impairment is someone who physically experiences limitations in hearing, either completely hearing loss (deaf) or partially hearing (hard of hearing), and is usually followed by a speech disorder, so that the deaf are often referred to as speech impaired².

Based on the results of interviews with the Principal of SLB Negeri 1 Jambi City, there has

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never been any counseling on dental health and dental examinations, and no research has been conducted on tooth brushing behavior in deaf children with dental and oral hygiene status.

Based on the results of an initial survey conducted on 9 deaf children in grade VI in SLB Negeri 1 Jambi City that deaf children are not appropriate in brushing teeth and in the SLB canteen there are cariogenic foods that can damage dental and oral health. between tooth brushing behavior and dental and oral hygiene status for deaf children at SLB Negeri 1 Jambi City in 2019.

MATERIAL AND METHOD

The type of research is descriptive-analytic research. The research design was cross-sectional which was a study on several populations that were observed at the same time to study the relationship between tooth brushing behavior and oral and dental hygiene status in deaf children.

The population in this study were deaf students at SDLB Negeri 1 Jambi City in 2019. The sample of this study was class IV, deaf students, at SDLB Negeri 1 Jambi City in 2019. The sample in this study was conducted using a purposive sampling technique, namely by selecting a sample that represents the inclusion criteria. 34 students had been assigned to this study. The statistical test used was chi-square.

The normality test of the data is to determine whether the data is normally distributed, then the normality test is used. The normality test can be seen from the probability value (p), if the p value > 0.05 then Ho is accepted, Ha is rejected, this indicates that the distribution is normal. On the other hand, if the p-value < 0.05, then Ho is rejected and Ha is accepted, which means that the data is not normally distributed. To find out whether the data that has been obtained is included in the category of normal or abnormal distribution, the Kolmogorov-Smirnov test is used³.

RESULT AND DISCUSSION

1. Description of Tooth brushing Behavior in Deaf Children at SLB Negeri 1 Jambi City in 2019

Table1. Distribution of Tooth brushing Behavior in Deaf Children at SLB Negeri 1 Jambi City in 2019

Behavior Criteria Brushing teeth	N	%
1. Good	5	14,7
2. Medium	25	73,5
3. Bad	4	11,8
Total	34	100

Based on table 1. that the behavior of brushing teeth in deaf children in SLB Negeri 1 Jambi City in 2019 has good criteria as many as 5 people by 14.7%, moderate criteria as many as 25 people by 73.5% and bad criteria as many as 4 people by 11.8% . The behavior of brushing teeth in the most deaf children is with moderate criteria as many as 25 people, amounting to 73.5%. The results of this study are different from the research of Martin et al, (2018) which states that the behavior of brushing teeth is in the good category as many as 42 people (52.5%), with moderate criteria as many as 7 people (8.75%) and poor criteria as many as 11 people (13.7 %). This is due to limitations in hearing and speaking which is one of the obstacles for deaf people to gain knowledge about dental and oral health which will determine children's attitudes and behavior in maintaining dental and oral hygiene. In deaf children, the process of understanding in reading will be delayed. The process of understanding received through pictures and writing will take more time because it must be expressed concretely through direct movements or demonstrations in language that is easily understood by deaf children².

The limitations that deaf children have in hearing, result in information processing disorders in receiving, storing, and re-disclosing information as an understanding, being able to explore and add information about something, especially about dental and oral health. So one way that can only be used is to use and maximize the function of his vision to read².

Based on the results of Riskesdas Jambi Province in 2018 showed that 45.0% of the population had problems with dental health and 96.4% toothbrushes every day but only 1.0% time brushing the right teeth. This is by Houwink's opinion (1994 in Budiharto⁴Dental brushing behavior must be carried out in everyday life without feeling forced. The ability to brush your teeth is well and correctly is an important factor for dental and oral health care. The success of brushing teeth is also influenced by the use of the tool, the method of brushing your teeth, and the frequency and time of brushing the right teeth.

The right behavior in brushing teeth is to brush your teeth every day, at least twice a day, after breakfast, and before going to bed at night (Kemenkes RI, 2018). The duration of the recommended teeth is at least 5 minutes, but

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actually, this is too long, generally, people do maximum teeth of 2 minutes. The way of teeth can be systemically so that there is no tooth that is missed, which starts from the posterior to the anterior and ends in the posterior part of the other position⁴.

2. Overview of Dental and Oral Hygiene Status in Deaf Children in Negeri 1 SLB Jambi City in 2019

Table2. Distribution of Dental and Oral Hygiene Status in Deaf Children at SLB Negeri 1 Jambi City in 2019

Dental and Oral Hygiene Status	N	%
1. Good	1	3,0
2. Medium	28	82,3
3. Bad	5	14,7
Total	34	100

Based on table 2. that the status of dental and oral hygiene in deaf children in SLB Negeri 1 Jambi City in 2019 has good criteria as many as 1 person by 3.0%, moderate criteria as many as 28 people by 82.3%, and bad criteria as many as 5 people by 14, 7%.

The results showed that deaf children in SLB Negeri 1 Jambi City had dental and oral hygiene status with good criteria as many as 1 person (3.0%), moderate criteria as many as 28 people (82.3%), and bad criteria as many as 5 people (14,7%). Here it can be concluded that the status of dental and oral hygiene in deaf children in SLB Negeri 1 Jambi City has the most moderate criteria, as many as 28 people, amounting to 82.3%. This is different from the results of Nursia's research, 2012, in Ningsih⁵ that the OHI-S status of deaf children is categorized into 2 categories, namely less good and good. More than half of 73.5% of deaf children have poor dental and oral hygiene status and only 26.5% are in the good category. Based on the results of Riskesdas (2018), in Indonesia, dental and oral

hygiene tends to be problematic, namely 57.6% of the Indonesian population experiencing problems with dental and oral health. This is by the opinion of Rukayah's research (2014 in Andiyani, 2018) on deaf children at Cicendo Special School Bandung, it was found that as many as 21 of 30 respondents had a bad OHI-S category, which was 70%. The dental and oral hygiene status of deaf children has poor criteria due to their limited ability to maintain dental and oral hygiene, physical limitations in children that affect their function and ability to maintain limited dental health. This is in line with Widasari's opinion⁶ that deaf children experience disturbances in the hearing process, hearing limitations in deaf children result in a lack of information, including dental and oral health. Lack of information about how to maintain dental health in deaf children will form a wrong behavior that can affect the health of their teeth and mouth. According to Notoatmodjo⁷ in Martin⁸, dental and oral hygiene are influenced by behavioral or attitude factors. Health behavior consists of closed behaviors such as knowledge and attitudes towards health and open behaviors in the form of health actions and practices such as brushing teeth. This is in accordance with Suwelo's opinion in Martin⁸, dental and oral hygiene is influenced by brushing teeth and the type of food.

If dental and oral hygiene is maintained properly then dental and oral diseases can be avoided. Tooth decay is influenced by various factors, one of which is poor dental hygiene. The mouth is said to be clean if the teeth inside are free of plaque and calculus⁹.

3. The Relationship of Tooth brushing Behavior with Dental and Oral Hygiene Status in Deaf Children at SLB Negeri 1 Jambi City in 2019

Table3. The Relationship of Tooth brushing Behavior with Dental and Oral Hygiene Status in Deaf Children at SLB Negeri 1 Jambi City in 2019

Tooth brushing Behavior	Dental and oral hygiene status						Total		p-value
	Good		Medium		Bad				
	n	%	n	%	n	%	N	%	
Good	1	20	4	80	0	0	5	14,7	0,142
Medium	0	0	21	84	4	16	25	73,5	
Bad	0	0	3	75	1	25	4	11,8	
Total	1	3,0	28	82,3	5	14,7	34	100	

Based on table 3. it can be seen that from 34 respondents who have a level of behavior brushing teeth with good criteria as many as 5

people (14.7%) with a level of dental and oral hygiene with good criteria as many as 1 person (3.0%), the level of behavior brushing teeth with

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moderate criteria as 25 students (73.5%) with moderate levels of dental and oral hygiene criteria as many as 28 people (82.2%), and the level of tooth brushing behavior with poor criteria as many as 4 people (11.8%) with dental and oral hygiene criteria bad as many as 5 people (14,7%). Statistical test results obtained $P\text{-value} = 0.142$ ($P > 0.05$) meaning that there is no significant relationship between tooth brushing behavior with dental and oral hygiene status. This is in line with the research of Astoetiet al¹⁰ that the behavior towards the dental and oral health of students is in the moderate category at 93.3%, and there is no relationship between behavior and oral hygiene with a $P\text{-value} = 0.93$. This may be because the students already have a fairly good awareness of dental and oral health which can be seen in the behavior and hygiene of their teeth and mouth which are in the moderate category. Based on table 3. it can be seen that from 34 respondents who have a level of behavior brushing teeth with good criteria as many as 5 people (14.7%)

with a level of dental and oral hygiene with good criteria as many as 1 person (3.0%), the level of behavior brushing teeth with moderate criteria as many as 25 students (73.5%) with moderate levels of dental and oral hygiene criteria as many as 28 people (82.2%), and the level of tooth brushing behavior with poor criteria as many as 4 people (11.8%) with dental and oral hygiene criteria bad as many as 5 people (14,7%). Statistical test results obtained $P\text{ value} = 0.142$ ($P > 0.05$) meaning that there is no significant relationship between tooth brushing behavior with dental and oral hygiene status. This is in line with the research of Astoetiet al¹⁰ that the behavior towards the dental and oral health of students is in the moderate category at 93.3%, and there is no relationship between behavior and oral hygiene with a $P\text{ value} = 0.93$. This may be because the students already have a fairly good awareness of dental and oral health which can be seen in the behavior and hygiene of their teeth and mouth which are in the moderate category.

Table4. Data Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Ptotal
N		34
Normal Parameters ^a	Mean	10.3529
	Std. Deviation	2.24124
Most Extreme Differences	Absolute	.143
	Positive	.092
	Negative	-.143
Kolmogorov-Smirnov Z		.834
Asymp. Sig. (2-tailed)		.490
a. Test distribution is Normal.		

Based on table 4. After the normality test using the Kolmogorov-Smirnov Test, the analysis results show that the value of $p = 0.490$ while $p > \alpha$ (0.05), so it can be concluded that the sample is normally distributed.

The relationship between tooth brushing behavior and dental and oral hygiene status in deaf children in SLB Negeri 1 Jambi City has a level of brushing behavior as many as 5 people (14.7%) with a level of dental and oral hygiene with good criteria as many as 1 person (3.0 %), the level of tooth brushing behavior with moderate criteria was 25 students (73.5%) with a moderate level of dental and oral hygiene as many as 28 people (82.2%), and the level of tooth brushing behavior with poor criteria was 4 people (11.8 %) with the level of dental and oral hygiene with poor criteria as many as 5 people (14,7%). Statistical test results obtained $P\text{-value}$

$= 0.142$ ($P > 0.05$) meaning that there is no significant relationship between tooth brushing behavior with dental and oral hygiene status. This is in line with Maysaroh's research, 2010 in Herlina 2016) that there are 58 respondents (53.2%) with good behavior and 51 respondents (46.8%) with bad behavior. The results of the Chi-Square test found that there was no relationship between tooth brushing behavior and oral hygiene with $P\text{-value} = 0.562$. This is probably caused by several factors, namely the existence of electronic media such as television, where on television there are many programs and advertisements about how to maintain oral hygiene. And also the students already have a fairly good awareness of dental and oral health which can be seen in the behavior and hygiene of their teeth and mouth which are in the moderate category.

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The deaf children in SLB Negeri 1 Jambi City have brushed their teeth every day but it is not following the recommended program in brushing teeth. This can be seen from the results of the questionnaire regarding the time of brushing teeth, the way of brushing teeth that is not appropriate, students who do not brush their teeth after breakfast are 18 students (52.9%), students who do not brush their teeth before going to bed at night are 21 students (61, 8%), while the way to brush their teeth is not appropriate, namely 26 students (76.5%).

The correct behavior in brushing teeth is brushing teeth every day, at least twice a day, after breakfast, and before going to bed at night¹. The recommended length of brushing is a minimum of 5 minutes, but actually, this is too long, generally, people brush their teeth a maximum of 2 minutes. The way of brushing teeth must be systematic so that no teeth are missed, starting from the posterior to the anterior and ending in the posterior part of the other position⁵.

According to Notoatmodjo⁷ behavior is formed within a person from two main factors, namely the stimulus which is a factor from outside the person (external factor), and the response is a factor from within the person concerned (internal factor). A person's behavior can be obtained naturally or in a planned manner, namely through the educational process. Scientifically it can be obtained based on personal experience or hearing people's complaints about illness and how to overcome it. Because of this experience, the person tries to get behavior about how to maintain health and efforts to prevent illness.

Changing a person's behavior requires a long process and time and is not an easy thing, a person's behavior can be good but not necessarily good dental and oral hygiene status due to the timing and improper brushing methods. This is in line with the results of Riskesdas (2018) that most Indonesians brush their teeth every day but only about 2.8% of the time they brush their teeth properly.

Good and correct brushing behavior is done diligently, thoroughly, and regularly. Diligent means that tooth brushing is done diligently and seriously, meticulous means that tooth brushing is carried out on all surfaces of the teeth and regularly means that it is done at least twice a

day at the right time, namely after breakfast and before going to bed at night⁸.

CONCLUSION

Based on the results and discussion in this study, it can be concluded. The behavior of brushing teeth in deaf children in SLB Negeri 1 Jambi City in 2019 had good criteria as many as 5 people (14.7%), moderate criteria as many as 25 people (73.5%), and bad criteria as many as 4 people (11.8%). The status of dental and oral hygiene in deaf children at SLB Negeri 1 Jambi City in 2019 had good criteria as many as 1 person by 3.0%, moderate criteria as many as 28 people by 82.3%, and bad criteria as many as 5 people by 14.7%. There is no relationship between tooth brushing behavior with dental and oral hygiene status in deaf children at SLB Negeri 1 Jambi City in 2019 with a value (P-value: 0.142).

REFERENCES

- [1] Kemenkes RI., (2012). Buku Panduan Pelatihan Kader Kesehatan Gigi dan Mulut Di Masyarakat, Kementrian Kesehatan RI, Jakarta.
- [2] Agusta, M.V, dkk, (2014). Hubungan Pengetahuan Kesehatan Gigi Dengan Kondisi Oral Hygiene Anak Tunarungu Usia Sekolah. *Medali Jurnal Universitas Islam Sultan Agung*, 2(1), 65.
- [3] Santjaka, A., (2015). Aplikasi SPSS Untuk Analisis Data Penelitian Kesehatan (hlm. 41-47). Nuha Medika, Yogyakarta.
- [4] Budiharto, (2013). Buku ilmu perilaku dan pendidikan kesehatan gigi, penerbit kedokteran EGC, Jakarta
- [5] Ningsih, C.S, dkk, (2016). Hubungan Tingkat Pengetahuan Orang Tua Dengan Status Kebersihan Gigi Dan Mulut Anak Tuna Rungu Usia 9-12 Tahun Di SLB Kota Padang, *Jurnal Kedokteran Gigi Universitas Andalas Padang*, 2(1), 86.
- [6] Widasari, D, (2010). Perbedaan Status Kesehatan Gigi dan Mulut Pada Anak Tunarungu dengan Anak Tidak Tunarungu Usia 6 Sampai 12 Tahun. *Skripsi Bagian Ilmu Kesehatan Gigi Masyarakat Fakultas Kedokteran Gigi Universitas Jember : Jember*.
- [7] Notoatmodjo, S., (2010). Promosi Kesehatan dan Ilmu Perilaku Kedokteran dan Kesehatan, Rajawali Pers, Jakarta
- [8] Martin, E.N, dkk, (2018). Gambaran Kebersihan Gigi dan Mulut Serta Keterampilan Menyikat Gigi Pada Siswa Kelas IV SDN 7

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- Dauh Puri, Jurnal Kesehatan Gigi Poltekkes Denpasar Bali, 6(1), 14.
- [9] Nio, B.K, (1987), Preventif Dentistry Untuk Sekolah Pengantar Rawat Gigi, Yayasan Kesehatan Gigi Indonesia, Bandung.
- [10] Astoeti, E.T, dkk, (2013). Hubungan Perilaku Terhadap Kebersihan Gigi dan Mulut Murid Kelas IV-VI SDN DKI Jakarta. *Jurnal Kedokteran Gigi Universitas Indonesia*, 13(10), 493.

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