

THE RELATIONSHIP BETWEEN KNOWLEDGE AND TOOTH BRUSHING BEHAVIOR IN CHILDREN WITH MILD IMPAIRMENT IN SLBN SUNGAI PENUH CITY YEAR 2024

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ABSTRACT

Background: Mental retardation is a child who has below average intellectual abilities and tends to be intellectually, physically, emotionally and socially retarded. The causes of dental and oral disease are influenced by various factors, including knowledge, behavior, and dental and oral health services. Dental and oral diseases that many Indonesian people suffer from are generally related to dental and oral hygiene. One way to maintain oral hygiene is by brushing your teeth properly and correctly. The aim of this research was to determine the relationship between knowledge and tooth brushing behavior in mentally retarded children at SLB N Sungai Penuh City.

Method: This research design used a cross sectional method, the sample used was purposive sampling, a total of 32 students. The data collection method is by distributing questionnaires to be filled in by students and using the data analysis technique uses Chi-Square.

Result: The results of research on the level of knowledge of SLB N students in Sungai Penuh City had high criteria of 31.3%, medium 43.8%, and low 25.0%. Based on tooth brushing behavior, the criteria are 34.4% good, 37.5% moderate, and 28.1%.

Conclusion: The results of statistical tests showed that there was a significant relationship between knowledge and toothbrushing behavior in children with intellectual disabilities at SLB N Sungai Penuh City.

Keywords: mental retarded, knowledge, behavior, brushing teeth

INTRODUCTION

Oral health is part of physical health as the gateway to overall body health. In the oral cavity, there are teeth that function in chewing food, speaking, and maintaining beauty (Kemenkes RI, 2018). Oral health is important for general health and quality of life. Oral health means freedom from throat cancer, infections and sores in the mouth, gum disease, tooth decay, tooth loss, and other diseases, resulting in limited impairments in biting, chewing, smiling, and speaking, World Health Organization (WHO, 2012).

Health Research Data (Riskesdas) Jambi Province 2018, states that the population of Jambi Province in 2018 had oral health

problems of 45.01%, for the age group 5-9 years of 52.08%, and the age group 10-14 years of 42.79%. Children who brush their teeth every day are 96.44%, the correct time to brush their teeth is 0.98%, while in Sungai Penuh City shows the percentage of children brushing their teeth every day is 97.51%, and the data on the percentage of children brushing their teeth at the correct time is 0.87%. This data shows that there is still a low level of how to maintain oral health (Kemenkes RI, 2018).

Oral health maintenance is one of the efforts to improve health. One of the causes of a person ignoring oral health problems is the factor of lack of knowledge and behavior about dental and oral hygiene (Gede et al., 2013). Knowledge is the result of human sensing, or

the result of someone knowing objects through their senses (eyes, nose, ears, and so on).

A person gains knowledge through sensing certain objects. Knowledge can be obtained naturally or in a planned manner, namely through the education process. Dental health education program (counseling) is one of the dental health programs with the aim of tackling dental health problems in Indonesia (Budihartono, 2013).

Oral hygiene maintenance behavior is the effort to improve health. The mouth is not just for the entrance of food and drink, but the function of the mouth is more than that, and not many realize the magnitude of the role of the mouth for one's health and well-being. Therefore, oral health plays a very important role in supporting one's health. One of the factors causing oral health problems in a person is the level of knowledge.

Knowledge is influenced by internal factors and external factors. Internal factors consist of age and gender, and external factors consist of occupation, information sources, experience, socio-culture, and environment. These factors affect a person's knowledge (Ratih, 2019).

Data from the World Bank shows that the population of students with special needs reaches 10%. It is estimated that 85% of students with special needs worldwide under the age of 15 are found in developing countries (Fasalwati, 2016). A special needs child is a child whose intelligence is far below average and is characterized by limited intelligence and inability to communicate socially. Children with special needs are also often known as mentally retarded because of their limited intelligence. As a result, children with special needs with tuna grahita have difficulty following education in ordinary schools (Atmaja, 2018).

Mild Tunagrahita, their intelligence level IQ ranges from 50 - 70, has the ability to develop in the field of academic subjects, social adjustment, and work skills, is able to adapt to

a wider environment, can be independent in society, can do semi-skilled work, and simple work. Tunagrahita is another form of mental retardation. Tunagrahita is characterized by its main feature is weakness in thinking or reasoning, has learning abilities, and social adaptation is below average (Juwono, 2018).

The results of Simaremare and Wulandari (2021) on the relationship between the level of knowledge of oral health and dental care behavior in children aged 10-14 years show that there is a significant relationship between the level of knowledge and children's behavior towards oral hygiene. Meanwhile, the results of research by Zia et al (2023) on the relationship between children's level of knowledge about oral health and tooth brushing behavior in grades 1-3 at SDN 28 East Rawang, with a sample size of 103 respondents taken by purposive sampling.

Data collection was carried out by giving questionnaire sheets to 1-3 grade elementary school students at SDN 28 East Rawang. the results of statistical tests showed that there was a significant relationship between knowledge and tooth brushing behavior. Previous research examining the relationship between education levels and the behavior of maintaining oral health of children with disabilities in Sidoarjo City SLD by Julia et al, the number of research samples was 115 children with disabilities from SDLB, SMPLB, and SMALB education levels, it was found that the level of knowledge about how to maintain oral health of children with disabilities was 32% at a good level, 46% at a moderate level, and 22% at a bad level. In terms of behavior, 39% of children with dementia maintain their oral health at a good level, 59% at a moderate level, and 2% at a poor level.

The knowledge and behavior of mentally retarded children in maintaining oral health is mostly in the moderate category, the results of statistical tests show that the knowledge behavior of mentally retarded children in maintaining oral health has no relationship (Julia, et al., 2018).

METHODS

The tool to measure the level of knowledge and behavior is a questionnaire. This questionnaire uses a Guttman scale, which is a measurement with this scale that will get firm answers, such as "Yes" and 5 "No", "True" and "False" (Sugiyono, 2013). This type of research is quantitative research with a cross-sectional study method, in studying the dynamics of the correlation between risk factors and the effects of "knowledge and behavior" (Praktinya, 2010).

The population of all mildly retarded children at SLBN Sungai Penuh totaling 47 people, sampling by purposive sampling amounted to 32 people who met the intrinsic criteria. Research place at SLBN Kota Sungai Penuh, in March 2024.

Univariate analysis in this study is to see a description of the frequency distribution of each variable studied between knowledge and tooth brushing behavior in children with disabilities at SLBN Kota Sungai Penuh. Bivariate analysis is a data analysis conducted on two variables that are suspected to be related or correlated (Sibagariang, 2010).

The suspected variable is knowledge with tooth brushing behavior. The statistical test used is chi square because the data of the Independent and Dependent variables use a categorical scale.

RESULTS AND DISCUSSION

RESULTS

3.1 Knowledge

Table 1. Frequency Distribution of Respondents Based on Knowledge of Tunagrahita Children of SLB N Kota Sungai Penuh Year 2024

Knowledge	N	%
High	10	31,3
Medium	14	43,8
Low	8	25,0
Total	32	100,0

The results of the analysis of knowledge of children with disabilities in SLB N Kota Sungai Penuh, knowledge in high criteria 10 children (31.3%), moderate criteria 14 children (43.8%), and low criteria 8 children (25.0%). This shows that the level of knowledge of children with moderate criteria is more dominant than knowledge with high or low criteria.

3.2 Behavior

Table 2. Frequency Distribution of Respondents Based on the Behavior of Tunagrahita Children of SLB N Kota Sungai Penuh, Year 2024

Tooth Brushing Behavior	N	%
Good	11	34,4
Medium	12	37,5
Bad	9	28,1
Total	32	100,0

The results of the analysis of the level of behavior of children with disabilities in SLB N Kota Sungai Penuh, behavior with good criteria as many as 11 children (34.4%), moderate criteria as many as 12 children (37.5%), and bad criteria as many as 9 children (28.1%). This shows that the level of behavior with moderate criteria is more dominant than the behavior with good and bad criteria.

3.3 Bivariate Analysis Results

The relationship between the independent variable and the dependent variable was seen by conducting bivariate analysis using the ChiSquare test.

From the results of the analysis of the relationship between knowledge and tooth behavior, it was found that 2 children (6.3%) had good tooth brushing behavior and had low knowledge, as many as 3 children (9.4%) had good tooth brushing behavior and had moderate knowledge, while for good tooth brushing behavior and high knowledge there were 6 children (18.8%).

From the overall data results of the relationship between knowledge and tooth brushing behavior in children with disabilities in SLB N Kota Sungai Penuh, the most

dominant is knowledge with moderate criteria and moderate brushing behavior with a total of 25.0% higher than knowledge and tooth

brushing behavior with high or good or low or bad criteria.

Table 3. Frequency Distribution of Respondents Based on the Relationship Knowledge with Tooth Brushing Behavior in Tunagrahita Children, SLB N Kota Sungai Penuh, Year 2024

Behavior in Pangramakta Children, SLE N Kota Sungai Penuh, Year 2024									
Knowledge Level	Level of tooth brushing behavior								p-value
	Bad		Medium		Good		Total		
	N	%	N	%	N	%	N	%	
Low	5	15.6	1	3.1	2	6.3	8	25.0	0.033
Medium	3	9.4	8	25.0	3	9.4	14	43.8	
High	1	3.1	3	9.4	6	18.8	10	31.3	
Total	9	28.1	12	37.5	11	34.4	32	100.0	

The results of statistical tests using the Chi Square test obtained a p-value = 0.033. These results indicate that H_a is accepted and H_o is rejected, thus, it can be concluded that in this study, there is a relationship between knowledge and tooth brushing behavior in children with disabilities in SLB N Kota Sungai Penuh.

The results of the study of tooth brushing knowledge in SLB N Kota Sungai Penuh showed that the majority of children had moderate knowledge. This can be seen in Table 1, as many as 10 children (31.3%) have high-criteria knowledge, as many as 14 children (43.8%) have moderate criteria, and as many as 8 children (25.0%) have low criteria. The results of this study are also confirmed in research conducted by Julia et al (2018), regarding the relationship between the level of education and the level of education. the behavior of maintaining oral health of children with disabilities in Sidoarjo City SLB in 2018, the results of which showed that the knowledge 7 of children with disabilities had a moderate level of knowledge with a percentage of 0.43% higher than the good criteria with a percentage of 0.32% and bad criteria of 0.22%. From the results of the knowledge questionnaire that has been answered by 32 children with disabilities of SLB N Kota Sungai Penuh as many as 12 questions regarding tooth brushing knowledge and there are 3 questions (questionnaire numbers 10, 11 and 12) which only some children can answer correctly, while the

contents of the questionnaire ask about the requirements for using toothpaste, brushing teeth and the right time to do oral health checks.

DISCUSSION

According to the Indonesian Ministry of Health (2012), the most important thing in choosing the time to brush your teeth is in the morning after eating and at night before going to bed. Toothpaste that is recommended for brushing teeth is toothpaste containing fluoride because fluoride is effective in preventing dental caries or cavities (Andlaw and Rock, 2012). Toothpaste can be used to brush teeth, which is about the size of a corn kernel (Susanto et al, 2017).

According to Notoatmodjo (2010), knowledge is the result of knowing that occurs after someone senses a certain object. Despite having a fairly high knowledge about oral health maintenance, there are still many children who do not know how to maintain oral health. do not know how to improve their knowledge of oral health. According to Fauziah (2015), family environmental factors play a major role in children's knowledge, because basically the family environment is the largest educational vehicle.

This knowledge is also closely related to a person's attitude about disease and prevention efforts; for this reason, it is necessary to carry out school dental health program activities routinely at least 4 times a year. Ghofur (2016) explains that the higher the

knowledge about oral health maintenance, the better the level of dental hygiene, on the contrary, the lower the level of knowledge about dental health maintenance, the worse the oral hygiene.

The results of research on tooth brushing behavior in children with disabilities in SLB N Kota Sungai Penuh show that the majority of children have moderate behavior. This can be seen in table 2. that children who behave with good criteria are 11 children (34.4%), children with moderate criteria are 12 children (37.5%), and children who behave with bad criteria are 9 children (28.1%). The results of this study are the same as the results of research conducted by Julia, et al (2018) entitled the relationship between the level of education and the behavior of maintaining oral health of children with disabilities in Sidoarjo City Special School in 2018, where the results showed that the behavior of brushing teeth with moderate criteria was 0.56% higher than those with good criteria 0.43% and bad 0.02%.

According to Notoatmodjo (2012), the oral health status of a person or community is influenced by four important factors, namely heredity, environment, behavior and health services. Of the four factors, behavior plays an important role in influencing oral health status directly, behavior can also influence environmental factors and health services. Oral health maintenance behavior is an effort made to improve oral health. This research is in line with the theory (Notoatmodjo, 2012) that knowledge is a cognitive domain that is very important for the formation of action (overt behavior) and it turns out that behavior based on knowledge will be more lasting than that without knowledge.

The statistical test results show that the p value = 0.033, meaning that there is a significant relationship between knowledge and tooth brushing behavior in children with disabilities in SLB N Kota Sungai Penuh. This research is supported by Zia, et al (2023) on the relationship between children's knowledge

level about oral health and tooth brushing behavior in grades 1-3 at SDN 28 Rawang Timur, showing that there is a significant relationship between knowledge and tooth brushing behavior.

Research conducted on children with disabilities in SLB N Kota Sungai Penuh to determine the relationship between knowledge and tooth brushing behavior, showed that the highest number of respondents had a moderate level of knowledge criteria with moderate tooth brushing behavior criteria. Children's knowledge about oral health is directly proportional to their brushing behavior, this is because children who have poor knowledge will affect their behavior in everyday life. Educational institutions have a role in improving oral health maintenance in children (Zia, et al, 2023).

The results of data analysis for knowledge variables with tooth brushing behavior show that the two variables have a relationship. higher knowledge will cause the actions of children with disabilities in maintaining oral health to also increase. There are also self-help lessons for children with disabilities at school, so that in their daily lives they are taught how to brush their teeth. This habit that is repeated every day allows it to be the cause of the relationship between knowledge and tooth brushing behavior. This is supported by Notoatmodjo opinion that one of the psychological factors in shaping one's behavior is habit. Habit is the result of a long period of habituation or as a typical reaction that is repeated many times (Zia, et al, 2023).

CONCLUSION

1. Knowledge of children with disabilities SLBN Kota Sungai Penuh with high criteria 10 children (31.3%), moderate criteria 14 children (43.8%), and low criteria 8 children (25.0%).
2. Tooth brushing behavior in children with disabilities SLBN Kota Sungai Penuh, with

tooth brushing behavior with good criteria 11 children (34.4%), moderate criteria 12 children (37.5%), and bad criteria as many as 9 children (28.1%).

3. There is a significant relationship between knowledge and tooth brushing behavior in children with disabilities, SLBN Kota Sungai Penuh, with a p value = 0.033 α < (0.05).

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