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THE RELATIONSHIP OF DENTAL AND ORAL HEALTH KNOWLEDGE WITH THE EVENT OF DENTAL CARRIES ON STUDENTS (Grade III) AT LINGGABUDI ELEMENTARY SCHOOL

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ABSTRACT

Dental caries in children is the first as a chronic disease in school age children. Problems caused by dental caries can make children to experience loss of chewing power, disruption of the digestive system, decreased food absorption and impaired growth and development of children. According to WHO, the incidence of dental caries in 2016 is 60-90%. The prevalence of dental caries in Indonesia in 2018 has increased quite significantly, in the 5-9 years old category 54.0% and 10-14 years old is 41.4%. Dental and mouth problems in West Java reached 45.7%, the highest incidence of dental caries in Cimahi City was in the South Cimahi area with 2,373 cases. The purpose of this study was to analyze the relationship of dental and oral health knowledge with the incidence of dental caries in students (grade III) at elementary school Linggabudi. The research design used descriptive correlation with the cross-sectional approach. Knowledge of dental and oral health and caries incidence were assessed using an online questionnaire via the Whatsapp group. Samples were taken by total sampling technique, amount 72 students of Linggabudi. Data analysis using the Kolmogorov Smirnov test. The results showed that as many as 40 students (55.6%) had sufficient knowledge and 60 students (83.3%) had dental caries. Obtained p value 0.035 <α 0.05, there is a significant relationship between knowledge of dental and oral health with the incidence of dental caries in grade III students at Linggabudi. It is expected that the school will create a weekly extension program and put up posters on dental health to reduce the number of children experiencing caries.

Keywords: Knowledge, Dental caries, Students

INTRODUCTION

According to the WHO (World Health Organization) in 2016, the incidence of caries in children was still 60-90%. According to research results in European, American and Asian countries including Indonesia, it turns out that 90-100% of children under 18 years of age are affected by dental caries. The prevalence of dental caries in Indonesia is still quite high. According to the results of the 2013 Basic Health Research, the high prevalence of children under the age of 12 years was 42.6% which increased by 13.7% compared to 2007 which was 28.9%, while in 2018 the prevalence of dental caries experienced a significant increase. namely in the 5-9 year age category which is 54.0% and in the 10-14 year age group that is 41.4% so that in this case it proves that there is something wrong with the behavior of the Indonesian people regarding the maintenance of oral health. (Yudi abdul mazid, 2020).

Correct tooth brushing behavior in Indonesia, is twice a day in the morning and at night is 2.8%, 57.6% of the population in Indonesia who experience dental and oral problems and only 10.2% of the population receive treatment by dental medical personnel. Dental and oral

problems in West Java are high, reaching 45.7% and the ability to get services from dental medical personnel/ EMD (Effective Medical Demand) in West Java is 9.4% ((Rikesdas), 2018). Based on data from the Cimahi City Health Office, in 2019 the incidence of dental caries in Cimahi City, the highest is in the South Cimahi region with a total incidence of dental caries as many as 2,373 people, while the incidence in North Cimahi was 1,164 people and Central Cimahi was 2,102 people. The highest caries incidence rate was in Leuwigajah Public Health Center with 288 cases, while in Cibeber Public Health Center 158 cases and Cibeureum Health Center 132 cases. (Cimahi, 2019). The incidence of dental caries in the working area of the South Cimahi Leuwigajah Public Health Center, from 7 Elementary Schools Linggabudi was the highest with 259 caries cases, then at Kihapit 252 cases, Kreatif 215 cases, Leuwigajah 2 209 cases, Leuwigajah 5 201 cases, Leuwigajah3 186 cases, and at Budi Luhur 64 cases(Hernilah, 2020).

According to the WHO definition, children are aged 7-15 years, while in Indonesia usually children are aged 7-12 years. According to Wong (2017), school age is children 6-12 years old, which means school is the child's core experience. The period when children are considered to be starting to take responsibility for their own behavior in relationships with their parents, peers, and others. School age is a time when children acquire the basics of knowledge for successful adjustment to adult life and acquire certain skills (Donna L.Wong, 2017) (Christian Rompis, 2016). The age of 6-12 years old is the age when children are in a transitional or mixed dentition period, which is a period of change between milk teeth and permanent teeth. Generally, children who have just entered school age have a high caries risk (Christian Rompis, 2016). In elementary school-age children, changes in motor and cognitive improvement also occur. This age is a critical period for the acceptance of behavioral and health training towards a healthy adult life. Generally, children who have just entered school age have a high caries risk due to various factors (Yudi abdul mazid, 2020).

The factors that cause caries in school-age children are generally children who like to eat and drink according to their wishes so they have a high risk. Another opinion says because children eat too often foods that contain high sugar such as chocolate, candy, and biscuits. Low socio economic factors can also result in consuming a lot of cariogenic foods, coupled with a lack of awareness in brushing teeth so that it will add risk factors that will have a bad impact on dental health status (Sita Aulia Agustin, 2018). The impact of dental caries can cause pain, swelling containing pus, tooth loss. The pain and swelling caused makes it difficult for children to chew, bad breath. Children are vulnerable to nutritional deficiencies, so their weight can shrink drastically. Tooth decay can also affect a child's overall health and if not treated properly and appropriately can cause infections that spread to the brain (Ganda sigalingging, 2019).

Good knowledge affects health behavior in improving health, especially dental and oral health. On the other hand, lack of knowledge about the importance of dental and oral care can lead to an attitude of neglecting dental and oral hygiene. Increased knowledge is needed to achieve a better degree of health, the higher the level of knowledge a person has, the easier it will be for children to behave in a healthy life. The level of knowledge will also affect individual perceptions and attitudes, meaning that the higher a person's level of knowledge will affect the ability to act quickly and precisely. (Notoatmodjo, 2018).

This is in line with Orem's theory of self-care nursing, which argues that everyone learns the ability to care for themselves so that they can help individuals meet the needs of life, maintenance of health and well-being. (Brajakson, 2017). Self care is very important for children to be able to fulfill their health, considering that at school age children have a great interest in learning and always feel curious about something, it is important to instill knowledge of self-care from an early age. The purpose of this theoretical approach in research is to analyze the characteristics of children in the behavior of maintaining dental and oral health.

Judging from several studies on dental and oral health, according to Alhidayati, Syukaisih et al (2018) with the results of the study there is a relationship between behavioral factors, namely knowledge, negative attitudes, sweet eating habits, frequency of brushing teeth, selection of toothbrushes that do not meet the requirements, and parents of students who do not play a role in the prevention of dental caries with the incidence of dental caries. Research according to Sukarsih, et al (2019) with the results that there is a relationship between how to brush teeth and dental caries status (DMF-T) in students aged 10-12 years at Elementary School 59/IV Jambi City with a p value of 0.05. From the research above, it shows that there are many factors that influence the occurrence of caries, one of which is a behavioral factor or an attitude of neglecting dental and oral hygiene. This is based on a lack of knowledge about the importance of maintaining teeth and mouth. Children are still dependent on adults in terms of maintaining dental and oral hygiene and lack of knowledge about dental and oral health compared to adults (Ganda sigalingging, 2019).

Based on the results of a preliminary study and interviews with the UKGS (School Dental Health Business) team at the Leuwigajah Health Center on March 6, 2020, dental health problems at Elementary School Linggabudi were still very high. The highest dental health problems were found in third grade students, namely 27 third grade students who received referrals. to the Puskesmas, and most of the third grade students have cavities/dental caries(Hernilah, 2020).

Based on an interview survey conducted by researchers to 10 students at Elementary School Linggabudi on March 13, 2020, it was found that students' lack of knowledge about dental health maintenance, such as when to brush their teeth, how to brush their teeth correctly, the impact of dental caries, how many months should be taken. check with the dentist and often eat sweet foods and don't regularly apply the habit of brushing your teeth before going to bed.

Based on this phenomenon, researchers are interested in conducting further research and with the study material entitled "The Relationship of Knowledge of Dental and Oral Health with the Incidence of Dental Caries in Class III Students at Elementary School Linggabudi"

The general objectives of this study were to determine the relationship between knowledge of dental and oral health and the incidence of dental caries in third grade students at Elementary School Lingga Budi and to find out some specific objectives including:

a. Knowing the description of the level of knowledge of dental and oral health in third grade students at Elementary School Linggabudi covering dental hygiene, causes of cavities, dental and oral care
b. Knowing the description of the incidence of dental caries in third grade students at Elementary School Linggabudi
c. Knowing the relationship between knowledge of oral health and the incidence of dental caries in third grade students at Elementary School Linggabudi

METHOD

The research design used was descriptive correlation with a cross sectional approach. Knowledge of oral health and caries incidence was assessed using an online questionnaire of 17 questions using the "yes-no" Guttman scale through the Whatsapp group. Sampling in this study used a total sampling of 72 students of Elementary School Lingga Budi. The study was analyzed bivariately using the Kolmogorov Smirniov test.

RESULTS

Table 1. Frequency Distribution of Dental and Oral Health Knowledge in grade III Students at Elementary School Linggabudi

Knowledge	Frequency (f)	Percentage (%)
Well	9	12,5
Enough	38	52,8
Not enough	25	34,7
Total	72	100

Table 2. Distribution of the Frequency of Dental Caries in Class III Students at Elementary School Linggabudi

Dental Caries	(f)	(%)
Caries	60	83,3
No Caries	12	16,7
Total	72	100.0

Table 3. Analysis of the Relationship of Knowledge of Dental and Oral Health with the incidence of dental caries in third grade students at Elementary School Linggabudi

Knowledge	Dental caries incident				Total		p Value*
	No Caries		Caries				
	F	%	F	%	F	%	
Well	6	66,7	3	33,3	9	100	
Enough	4	10,5	34	89,5	38	100	0,035
Lack	2	8,0	23	92,0	25	100	
Total	12	16,7	60	83,3	72	100	

DISCUSSION

1. Description of oral health knowledge for third grade students at Elementary School Linggabudi

The results of the study in the table show that 38 (52,8%) respondents have enough knowlegde, 25 (34,7%) of respondents have lack of knowledge. The results of this study can be caused by several factors, and according to the researcher's analysis this can be because there are still students who do not understand about how to brush their teeth properly, the impact of cavities, and how many months have to go to the dentist.

Knowledge can be influenced by internal (from within) and external (from outside) factors, including education and experience. Education can affect a person's knowledge. This is because knowledge is an effort to develop personality and abilities inside and outside educational institutions and lasts a lifetime. The higher a person's education, the easier it will be to receive information. The more information, the more knowledge is obtained (Notoatmodjo, 2014).

According to Sigalingging et al (2019) regarding the relationship between knowledge of dental and oral hygiene with the incidence of dental caries, it was found that children's knowledge was lacking (41.3%) with the incidence of caries (65.1%) in addition, research

conducted by Rahtiyanti (2018) revealed that a person's oral health status is influenced by how high his knowledge of dental and oral health is.

Based on the results of the research above, the researcher argues that some third grade students at Elementary School Linggabudi still do not understand about dental and oral health, such as how to brush their teeth properly, the impact of cavities and the importance of going to health services. This can be because students do not get enough information about dental and oral health.

2. Description of the incidence of dental caries in third grade students at Elementary School Linggabudi

The results in the table show that of the 72 students, most of them, 60 people (83.3%) experienced dental caries. The results of this study can be caused by several factors including children having bad behavior in maintaining oral health such as liking to snack on sweet foods and not getting used to brushing their teeth before going to bed. Low knowledge about health is a predisposing factor for health behavior that leads to disease (Sita Aulia Agustin, 2018).

According to Ramadhan (2016) regarding the relationship between the level of knowledge of dental and oral health and the rate of dental caries at SMPN 1 Marabahan, it was found that the high prevalence of dental caries was caused by children not applying knowledge of dental and oral health in their daily dental health behavior or perhaps after eating chocolate or other foods. like not brushing teeth. Another study by Sigalingging (2019) regarding the relationship of knowledge of oral and dental hygiene with the incidence of dental caries found that children's knowledge was lacking (41.3%) with the incidence of caries (65.1%).

Dental caries or cavities are damage that occurs in the hard tissues of the teeth due to bacterial activity in plaque (Tarigan, 2013). Dental caries in children ranks first as a chronic disease in school-age children. In general, the cause of dental caries in children is triggered by several interrelated factors (Norfai, 2017).

The factors that cause caries in school-age children are generally children who like to eat and drink according to their wishes so they have a high risk. Another opinion says because children too often consume foods that contain high sugar such as chocolate, candy, and biscuits. Low socioeconomic factors can also result in consuming a lot of cariogenic foods, coupled with a lack of awareness in brushing teeth so that it will add risk factors that will have a bad impact on dental health status (Sita Aulia Agustin, 2018).

Based on this, the researcher argues that students' dental caries status is influenced by various factors such as respondents' lack of knowledge about the dangers of dental caries, negative attitudes that do not want to keep their teeth healthy, habits that are always carried out at school, namely the habit of eating sweet foods and the frequency of brushing. teeth regularly, at least twice a day. The role of parents is very important to always remind their children, teach their children, provide dental hygiene facilities to their children such as brushing teeth, toothpaste, controlling their children's teeth by bringing the doctor regularly, namely every six months to check their children's dental health to avoid dental caries / cavities (Norfai, 2017)(Sita Aulia Agustin, 2018).

3. The relationship between knowledge of oral health and the incidence of dental caries in third grade students at Elementary School Linggabudi

Based on the results of the study in the table, it shows that there is a relationship between knowledge of oral health and the incidence of dental caries in students at Elementary School Linggabudi. This proves that the alternative hypothesis is accepted with a p value of 0.035 <

0.05 so that knowledge of oral health is associated with the incidence of dental caries. So the higher the level of knowledge of dental and oral health, the lower the number of dental caries.

According to Rahtiyanti (2018), revealing that a person's dental and oral health status is influenced by how high his knowledge of dental and oral health is, research conducted by Norfai (2017) states that there is a relationship between knowledge and the incidence of dental caries at Elementary School Darul Mu'min with p value = 0.014, Sigalingging (2019) regarding the relationship of knowledge of oral and dental hygiene with the incidence of dental caries, it was found that children's lack of knowledge (41.3%) and the incidence of caries (65.1%), besides Betrix (2016) research on the relationship of knowledge Regarding dental and oral health with the incidence of dental caries, there was a significant relationship with p value = 0.002.

The high prevalence of dental caries can be caused by children not applying oral health knowledge in their daily dental health behavior or maybe after eating chocolate or the like they don't brush their teeth. Dental caries that is not treated properly can cause pain, swelling containing pus, tooth loss and even death. Knowledge of children in maintaining dental and oral health is very important to maintain oral hygiene and prevent caries. The role of parents and teachers is very much needed in educating and fostering children to maintain their dental health (Rizki Safira Talobo, 2016) (Hidyat, 2016).

One of the efforts to prevent and overcome dental health problems is through a dental health education approach. Dental health education delivered to a person or community is expected to be able to change behavior and gain knowledge of individual or community dental health from unhealthy behavior to healthy behavior. These behavioral and knowledge factors have a significant contribution in addition to environmental factors in influencing the degree of public health (Azhari Ramadhan, 2016).

Knowledge of dental health is assessed from several assessor components such as the correct way and time to brush teeth, the causes of cavities and how many months to check your teeth with health services. Based on the results of the research above, related to the theory of the Self Care nursing model proposed by Dorothea Orem, suggests that humans basically have the ability to care for themselves which is called Self Care Agency. Self Care Agency can change at any time which is influenced by predisposing factors, one of which is knowledge. When children have less knowledge about maintaining dental and oral health, the ability to take care of their dental health will also decrease. As a nurse, you should be able to provide a Supportive-Educational System by providing health education about dental and oral health for children. It aims to increase children's knowledge in the implementation of self-care for dental and oral health.

The researcher believes that the knowledge of dental and oral health students is quite significant in causing the incidence of dental caries. The lack of knowledge will certainly be more to experience dental caries, on the contrary that students who have good knowledge will certainly reduce of experiencing dental caries.

CONCLUSIONS AND SUGGESTIONS

Conclusion

1. More than half of respondents in the category of sufficient knowledge as many as 38 respondents (52.8%)
2. Most of the respondents had dental caries as many as 60 respondents (83.3%)

3. There is a relationship between knowledge of oral health and the incidence of dental caries in third grade students at Elementary School Linggabudi with p value = 0.035 < = 0.05

Suggestion

The suggestions that researchers can give from the results of research and discussions that have been carried out are:

1. **Theoretical**
   The results of this study are expected to be developed in nursing science, especially pediatric nursing and can be used as reference material for further research, especially those related to dental and oral health.
2. **Practitioner**
   a. For Educational Institutions
      It is suggested that educational institutions can improve educational programs to schools by students or nursing lecturers when doing field or community practice and community service programs by lecturers and students as an effort to prevent dental caries.
   b. For Research Places
      The results of this study are expected to be taken into consideration for teachers in schools to carry out preventive efforts such as making health education programs in the form of weekly counseling to students and their parents as well as installing posters related to dental and oral health.
   c. For Parents
      It is hoped that they will always accompany their children in maintaining healthy teeth, such as making it a habit for children to brush their teeth twice a day in the morning after breakfast and at night before going to bed. In addition, parents should always check their children's teeth every 6 months, even if they are not having a toothache, so that if there is an abnormality/dental caries, it can be immediately identified and treated/treated.
   d. For Next Researchers
      For further research, it is expected to be able to manage the research time, examine more sources and references so that the results obtained are more effective. It is hoped that the research will be expanded so as to obtain more complete information about the factors associated with the incidence of dental caries.

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