
The Relationship between Dental Health Knowledge and Adolescent Caries Status at SMA Negeri 9 Banda Aceh

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ABSTRACT

The biggest dental and oral health problem commonly encountered is caries. Caries is a universal disease that can occur in all ages, races, socio-economic and genders. One of the important factors causing caries is the lack of maintaining dental and oral hygiene. The value of dental and oral hygiene is important for each individual to know, it plays a role in efforts to prevent the occurrence of caries. The purpose of this study was to determine the Relationship between Dental Health Knowledge and Adolescent Caries Status at SMA Negeri 9 Banda Aceh. This research is analytical with a cross-sectional approach, conducted at SMA Negeri 9 Banda Aceh. The results of the study on adolescent knowledge about dental health are still in the sufficient category, with the status of dental caries in the medium category in adolescents at SMA Negeri 9 Banda Aceh, the most dental health knowledge in the sufficient category as many as 29 people (53.7%), and the status of adolescent caries the most in the moderate category as many as 23 people (42.6%). The results of statistical analysis with the Chi Square test, obtained the significance value of the relationship between dental health knowledge and caries status in adolescents with a P Value value: 0.05. Therefore, adolescents must be more active in seeking information about dental health, in order to avoid the status of caries which greatly affects dental health.

INTRODUCTION

Teeth and mouth are an investment in lifelong health. Its role is quite large in preparing eating substances before the absorption of solid nutrients of the gastrointestinal tract, in addition to psychic and social functions (Boy Candra, 2019). Dental and oral health is also an important part of general health for every individual (E.Gusti SM, 2016).

The knowledge possessed by individuals is one of the determinants that determine a person's behavior to make efforts in order to reduce the risk of the threat of health problems. People who have a high level of education will have good knowledge and attitude towards health so that it will influence behavior to live a healthy life and can maintain healthy teeth (Maulana dkk, 2016).

Dental and oral health is part of physical health that cannot be separated from one another

because it will affect the body as a whole. By having healthy teeth and mouth, some activities such as talking, eating, and socializing will not be disturbed because they avoid pain, discomfort, and shame (Juhendi Wibowo Gunawan, 2019).

The health status of teeth and mouth is generally expressed in the prevalence of dental caries and periodontal disease, this is because dental caries and periodontal disease are almost experienced by all people in the world. To assess the health status of teeth and mouth in this case dental caries is used value DMF-T (*Decay Missing filled Teeth*). (Indirawati, 2013). Measuring dental and oral hygiene is an effort to determine the state of a person's dental hygiene, and the index is used to determine the progress and deterioration of various dental hygiene of a person or group of people (Putri M,H, H.N, 2010)

Adolescence is the period of the end of childhood and the arrival of the beginning of maturity. Juveniles are broadly restricted as individuals with an age range of 10-18 years. Adolescence is also a transition period from child to adulthood or known as adolescent puberty. Adolescence occurs rapid physical, psychic, mental and tsicosocial changes also have an impact on various aspects of life, beauty and physical perfection are highly coveted for adolescents. Teenagers are dissatisfied to see the appearance of his face including his teeth when viewed less than perfectly. This dissatisfaction can put pressure on him so that he feels inferior and insecure. In growth and development, adolescents often experience health problems, one of which is dental and oral hygiene problems (Lesar Astrid M, 2015).

The maintenance of dental and oral health is often overlooked by adolescents, while during puberty adolescents are also prone to dental and oral health problems. Many bad habits of teenagers can cause damage to the teeth and mouth, these bad habits include lazy night toothbrushes, the habit of consuming sweet foods, and the habit of drinking - sugary drinks (Asep Arifin Senjaya, 2018).

Dental and oral health problems at school age are issues that should get important attention in health development. This dental and oral health problem experienced by school-age children is caused by the student's lack of knowledge, attitudes and actions regarding the maintenance of dental and oral hygiene (Panjaitan M, Anastasia, Novelina, 2018).

The most common dental and oral disease found in adolescents is dental caries. Dental caries is a disease of hard tissues of the teeth, namely enamel, dentin and cementum caused by the activity of a body in a carbohydrate that can be extracted (Listrianah, 2019). As many as 98% of the world's population has experienced dental caries. This damage can be found in all age groups ranging from children, adolescents, adults, to the elderly. In Indonesia dental caries is still the most common problem in the oral cavity (Ramadhan et al, 2016).

(Jepsen S, 2017) says that globally, 2.4 billion people have untreated dental caries on permanent teeth. Severe periodontitis is also suffered by 743 million people worldwide. The above findings impact on quality of life as well as the burden of disease on society in terms of

health care costs as well as the broader economic and social impacts.

According to Riskesdas data in 2018, there was an increase in the prevalence of caries in Indonesia, which was 72.6% in 2013 to 88.8% in 2018, for active dental caries sufferers increased from 53.2% in 2013 to 57.6% and the prevalence of root caries also tends to increase in line with the increase in age groups in 2018. Based on riskesdas data from Aceh province in 2018, it was stated that the age group of junior high school graduates / MTSN who experienced tooth decay was 48.37%.

RESEARCH METHODS

This type of research uses analytical survey research with a cross-sectional approach, data collection of independent variables (adolescent knowledge) and dependent variables (adolescent caries status) is carried out at the same time or at the same time (Swarjana, 2012). The population in this study was all students of class XI IPA SMA Negeri 9 Banda Aceh City which amounted to 114 students. The samples in this study used a simple random sampling technique, namely sampling from members of the population which was carried out randomly, where the sample taken was 54 students. And the implementation is in May 2022, the place of this research at SMA Negeri 9 Banda Aceh.

This study was conducted on May 24-25, 2022 at SMA Negeri 9 Banda Aceh, where the sample in this study was 54 respondents of class XI science. Data obtained from the results of respondents' interviews and direct examinations in the field are presented in the form of tables.

Table 1. Distribution of respondent frequency based on age in class XI students at SMA Negeri 9 Banda aceh.

NO	Age	Frequency	Percentage
1	16 years	6	11,1
2	17 years	48	88,9
Total		54	100

Based on table 1. it can be seen that the most students at SMA Negeri 9 Banda Aceh who are 17 years old are 48 respondents (88.9%)

Table 1. Distribution of respondent frequency by gender in class XI students at SMA Negeri 9 Banda aceh.

NO	Gender	Frequency	Percentage
1	Laki-Laki	40	74,1
2	Perempuan	14	25,9
Total		54	100

Based on table 2 above, it can be seen that students at SMA Negeri 9 Banda Aceh are mostly male as many as 40 respondents (74.1%) and women are 14 respondents (25.9%).

Table 2 The frequency of respondents was based on dental health knowledge in class XI students at SMA Negeri 9 Banda aceh.

NO	Dental Health Knowledge	Frequency	Persentase
1	Good	17	31,5
2	Enough	29	53,7
3	Less	8	14,8
Total		54	100

Table 3 above shows that students at SMA Negeri 9 Banda Aceh have the most dental health knowledge level in the category of sufficient as many as 29 respondents (53.7%).

Table 4 Distribution of Respondent Frequencies Based on Dental Caries Status Class XI SMA Negeri 9 Banda Aceh in 2022

No	DMF-T	Frequency	Percentage
1	Very High	5	9,3
2	High	10	18,5
3	Keep	23	42,6
4	Low	12	22,2

5	Very Low	4	7,4
Total		54	100

Table 4 above is known that of the 54 respondents who had the most dental caries status in the moderate category as many as 23 people (42.6%).

It can be seen from 54 respondents, the most dental health knowledge in the sufficient category was 29 people (53.7%), and the most adolescent caries status in the moderate category was 23 people (42.6%).The results of statistical analysis with the Chi Square test, obtained significance values (p) = 0.000 < 0.05 which means that Ho is rejected and Ha is accepted, so it can be concluded that there is a relationship of student knowledge with dental caries status.

DISCUSSION

Based on the results of the study obtained by researchers, a discussion can be made about the relationship between dental health knowledge and dental caries status in adolescents at SMA Negeri 9 Banda Aceh which has been carried out on May 19-20, 2022 with a total sample of 54 adolescents.

Based on the results of the study, it is known that the level of knowledge of adolescents in the good category is 17 respondents (31.5%), the category is sufficient 29 respondents (53.7%), the category is less than 8 respondents (14.8%). The status of dental caries in adolescents in the very high category was 5 respondents (9.3%), the high category 10 respondents (18.5%), the medium category 23 respondents (42.6%), the low category 12 respondents (22.2%), the very low category 4 respondents (7.4%). The results of statistical analysis using the Chi Square test, obtained significance values p = 0.000 < 0.05 which means that there is a statistically meaningful relationship between the level of knowledge and the status of dental caries in adolescents at SMA Negeri 9 Banda Aceh. The results of the study on adolescent knowledge about dental health are still in the poor category, with a high category of dental caries status in adolescents at SMA Negeri 9 Banda Aceh, this can be seen from the results of interviews through questionnaires with respondents. Many respondents gave answers not knowing about oral and dental health. Based on the questionnaires shared, there are still many

teenagers who do not know what dental caries is, the causes and prevention of dental caries and the consequences of dental caries if ignored. There are still many teenagers who do not know about food that is good and not good for dental health, brushing techniques such as precise movements, duration of brushing, time of visit to the dental clinic. The better the knowledge of adolescents, the smaller the occurrence of dental caries. Meanwhile, the lack of knowledge of adolescents, the greater the occurrence of dental caries in adolescents.

In line with the opinion expressed by Hidayati et al (2021) which states that there is a relationship between the level of knowledge of students with the incidence of dental caries with a value of p value = 0.000, $p < 0.05$. Caries in children can occur due to their penchant for consuming sweet and sticky foods and improper brushing habits. In addition, the diet of children who tend to eat cariogenic foods, as well as the lack of awareness in discipline in the maintenance of dental and oral hygiene causes the child's dental and oral hygiene status to be poor so that the prevalence of caries is high. Based on the results of the study, it is known that the level of knowledge of adolescents in the good category is 17 respondents (31.5%), the category is sufficient 29 respondents (53.7%), the category is less than 8 respondents (14.8%).

The status of dental caries in adolescents in the very high category was 5 respondents (9.3%), the high category 10 respondents (18.5%), the medium category 23 respondents (42.6%), the low category 12 respondents (22.2%), This research shows the level of knowledge about dental health will affect the dental health status of adolescents. The knowledge level factor has a considerable contribution in influencing the degree of dental and oral health. The level of knowledge about good dental caries is relatively low in the DMFT category. According to the author's assumption, knowledge alone is also not enough to guarantee that adolescents have low caries status, it is because adolescents do not apply the knowledge of maintaining dental health in their lives. Teenagers consider dental caries to be uninterrupted to their lives, they still remain confident even though their teeth have caries, although some teenagers may not be confident if they experience dental problems such as caries.

CONCLUSIONS AND SUGGESTIONS

Based on the results of research and discussion on the relationship between dental health knowledge and adolescent caries status at SMA Negeri 9 Banda Aceh, it can be concluded that there is a relationship between dental health knowledge and adolescent caries status at SMA Negeri 9 Banda Aceh with the results of statistical analysis using the Chi Square test, and the significance value $p = 0.000 < 0.05$. The results of this study showed that the level of dental health knowledge in adolescents at SMA Negeri 9 Banda Aceh was the most categorized as sufficient, namely 29 respondents (53.7%). The level of dental caries in adolescents at SMA Negeri 9 Banda Aceh was the most moderately categorized, namely 23 respondents (42.6%). Knowledge alone is not enough to guarantee that adolescents have low caries status, it is because adolescents do not apply knowledge of maintaining dental health in their lives, so it is hoped that adolescents will be more active in seeking information on social media about knowledge about dental health and preventing dental caries.

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