

The Relationship Between Behavior Of Dental And Oral Health Maintenance Based On Age And Gender Of Junior High School Students In Medan Denai District

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Abstract

Backgrounds: Most of Indonesian people do not realize that dental and oral health problems are caused by behavioral factors that often ignore dental and oral hygiene. This oral hygiene behavior can occur due to lack of knowledge about the importance of maintaining oral health. This study aims to determine whether there is a relationship between the age and gender of the respondents on the behavior of maintaining oral health.

Materials and Methods: The type of research is descriptive correlational research with cross sectional design. The sampling technique in this study is the proportional stratified random sampling method. The measuring instrument used is a questionnaire distributed to students of An- Nizam Private Junior High School and Hikmatul Fadhillah Private Junior High School. Chi-square test was used to analyze differences in the level of oral health maintenance behavior based on age and gender.

Result: The result showed that there was a significant relationship between behavior towards age and gender with a value ($p < 0.05$).

Conclusion: The results showed that age and gender can affect a person's behavior in maintaining dental and oral health.

Keywords: Behavior; Oral Health Maintenance; Age; Gender.

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I. Introduction

Dental and oral health is an inseparable part of general health, because dental and oral health will affect the health of other body organs. A person is said to be healthy, not only a healthy body but also a healthy mouth and teeth. Most people do not realize that dental and oral health problems can be caused by behavioral factors that often ignore oral hygiene. This behavior of ignoring oral hygiene can occur due to lack of knowledge about the importance of maintaining oral health.^{1,2,3}

The results of data from the Basic Health Research (RISKESDAS) in 2018 stated that the largest proportion of dental problems in Indonesia was tooth decay / cavities / pain, which was 45.3% and according to the Centers of Control Disease (CDC) in 2013 stated that dental caries was a chronic disease that often occurs in children aged 6-11 years (25%) and adolescents aged 12-19 (59%). The percentage represent to age group, namely at the age of 15-24 years as much as 98.5% have brushed their teeth well, but from the results of the percentage only 3.3% brushed their teeth at the right time. The average DMF-T index in 2018 for the 12-year age group is 1.9, this number is still does not get the target of the National Action Plan for Dental and Oral Health Services in 2020, because the expected DMF-T index is 1.26 in the 12-year age group year.^{2,4}

According to Blum, there are four factors that determine health, namely environmental factors, behavior, health services, and hereditary factors. Behavioral factors are the second largest factor that affects the health status of individuals or communities. Children with good behavior in maintaining oral hygiene will have a positive impact on the oral health of the person concerned. Dental and oral health is the important things in maintaining the balance of body functions. Teeth are one part of the body that serves to chew, speak and maintain the shape of the face. Due to its very important use, it is necessary to maintain dental and oral health so that the teeth can last a long time in the oral cavity. Research conducted by Hendrastuti and Ainun on students of SMP/MTs Islamic boarding schools aged 12-14 years showed that 85% of students had

good behavior about dental and oral health and only 15% of students had bad behavior. The higher percentage of good behavior in maintaining dental and oral health is because these students already have good knowledge about dental and oral health.^{5,6,7,8}

Adolescents are a healthier population group with lower mortality rates, but exposure to several risk factors begins in adolescence that can affect chronic and degenerative diseases in adulthood. During adolescence there is a process of biological, cognitive and socio-emotional changes that make adolescents more susceptible to disease and require greater attention to health issues including dental health. Dental health indicates the general state of health. Junior high school students (SMP) are on average 12 -15 years old, which is the stage of early adolescence.^{9,10}

WHO further classifies the age group which in Indonesia is a group of junior high school (SMP) students who still need guidance in healthcare, including dental health. Adolescence is a period of rapid growth and development so that it still needs guidance, for that WHO launched a Health Promoting School Approach program, including the promotion of dental health because dental disease can affect growth and development in adolescence. Dental and oral health problems in adolescents not only have an impact on mastication, but can also affect activities at school, self-confidence and social development among adolescents. Health problems in the adolescent group are more complex than in other age groups, which are related to puberty. Puberty in adolescents causes hormonal changes so that adolescents will be more susceptible to dental and oral health problems. Adolescent boys and girls have differences in physical and character. Adolescent girls pay more attention to aesthetic aspects such as beauty, cleanliness and appearance so that they pay more attention to the health of their teeth and mouth, while boys pay less attention to their beauty, cleanliness and appearance.^{7,9,11,12}

II. Material And Methods

This research is descriptive correlative with a cross sectional design and uses a measuring instrument in the form of a questionnaire. The population of this study were all students of An-Nizam Private Junior High School and Hikmatul Fadhillah Private Junior High School which amounted to 499 students. The sample inclusion criteria in this study were all students of An-Nizam and Hikmatul Fadhillah Private Junior High Schools aged 12-15 years, male and female, willing to participate in the study by filling out informed consent. The sample selection used the proportional stratified random sampling technique because the number of students in each class was not the same, so it was necessary to do an equation between the number of sample members based on each class so as to get representative results. The questionnaire consists of 15 questions to measure the behavior of respondents which consists of 12 positive questions and 3 negative questions.

Data processing was carried out using Microsoft Excel and SPSS tools, then the research results were presented in tabular form with frequency and percentage along with narration. The data analysis used in this study was the chi-square test to see whether there was a relationship between oral health maintenance behavior based on age and gender with the expected significance value (P) in this study <0.05. The research is accompanied by a research permit issued by the Faculty of Dentistry, University of North Sumatra, which is addressed to each school. The research has also received ethical approval from the Health Research Ethics Commission of the University of North Sumatra.

III. Result

The results of the research that have been carried out show that there are 122 male students and 126 female students. Based on age, it was obtained that each student aged 12 years, 13 years, 14 years, and 15 years was 62 students. (Table 1)

Table 1. Characteristics of Respondents

Variable	Quantity (n)	Persentase (%)
Gender		
- Man	122	49.2
- Female	126	50.8
Total	248	100
Age		
- 12 years	62	25
- 13 years	62	25
- 14 years	62	25
- 15 years	62	25
Total	248	100

The results showed that from 62 respondents aged 12 years, it was found that 10.5% of respondents had a good level of oral health maintenance behavior, 13.7% of respondents had an adequate level of behavior

and 0.8% of respondents had a poor dental and oral health maintenance behavior. A total of 62 respondents aged 13 years were found of which 12.1% of respondents had a good level of oral health maintenance behavior, as many as 12.5% of respondents had a moderate level of behavior and 0.4% of respondents had a poor level of oral health maintenance behavior. The number of respondents aged 14 years was 62 respondents and it was found that 13.7% of respondents had a good level of oral health maintenance behavior, 11.3% of respondents had a sufficient level of behavior and none of the respondents had a poor level of behavior. Respondents aged 15 years amounted to 62 students and there were 17.3% of respondents who had a good level of oral health maintenance behavior, 7.7% of respondents had a sufficient level of behavior and there was no poor level of dental and oral health maintenance behavior in 15 years old. The results of the statistical tests showed a p-value of 0.034 which means that there is a significant difference between the level of behavior and the age of the respondents (Table 2).

Table 2. Distribution of Frequency and Percentage of Dental and Oral Health Maintenance Behavior Levels by Age

Age	Behavior of dental and oral health								p-value
	Good		Mediocre		Poor		Total		
	n	%	n	%	n	%	n	%	
12 years	26	10.5	34	13.7	2	0.8	62	25	0.034*
13 years	30	12.1	31	12.5	1	0.4	62	25	
14 years	34	13.7	28	11.3	0	0	62	25	
15 years	43	17.3	19	7.7	0	0	62	25	
Total	133	53.6	112	45.2	3	1.2	248	100	

Description: Chi-square test on the value of Exact Sig. (2-sided); *p < 0.05 (significant)

The results showed that from 122 male respondents it was found that 22.2% of respondents had a good level of oral health maintenance behavior, as many as 25.8% of respondents had an adequate level of dental and oral health maintenance behavior and 1.2% of respondents had a poor level of oral health maintenance behavior. A total of 126 female respondents were found, of which 31.4% of respondents had a good level of oral health maintenance behavior, 19.4% of respondents had a sufficient level of oral health maintenance behavior and there were no female respondents who had a poor level of dental and oral health behavior. The results of the statistical test showed P value = 0.006 which means that there is a significant difference between the level of oral health maintenance behavior in male and female students (Table 3)

Table 3. Distribution of Frequency and Percentage of Dental and Oral Health Maintenance Behavior Levels by Gender

Gender	Behavior of dental and oral health								p-value
	Good		Mediocre		Poor		Total		
	n	%	n	%	n	%	n	%	
Man	55	22.2	64	25.8	3	1.2	122	49.2	0.006*
Female	78	31.4	48	19.4	0	0	126	50.8	
Total	133	53.6	112	45.2	3	1.2	248	100	

Description: Chi-square test on the value of Exact Sig. (2-sided); *p < 0.05 (significant)

IV. Discussion

Al-Anudinsyah et al. revealed that there are four factors that directly influence and play an important role in dental and oral health, namely the environment (physical and socio-cultural), behavior, health services and heredity. Of the four factors, knowledge and behavior directly influence and play an important role in dental and oral health. Knowledge or cognitive is a very important domain in shaping one's actions. Good knowledge, supported by a positive attitude shown will influence a person to behave as intended, in this case the behavior of maintaining dental and oral health. Behavior is a human activity that greatly affects the pattern of life they live. According to the theory of Lawrence Green, et al that human behavior is influenced by two main factors, namely behavioral factors (behavioral) and non-behavioral factors (non-behavior), then the behavior itself is determined or formed by predisposing factors which include knowledge, attitudes, beliefs, values, age and so on. The results of this study indicate that there is a significant difference (p-value 0.034) between the level of oral health maintenance behavior and the age of the respondents. The results showed that the level of behavior of children aged 12 to 15 years has a percentage that increases with age, starting from 10.5% (12 years), 12.1% (13 years), 13.7% (14 years), and 17.3% (15 years). The form of behavior in a person is very dependent on the characteristics, for example, judged by the level of age, gender, and knowledge.^{13,14,21,22}

Al-Omari and Hamasha (2005) stated that differences in age level and gender differences based on physiological characteristics and psychological behavior can lead to the possibility of

differences in dental and oral health maintenance behavior. The older a person is, the better his behavior will be. The results of this study contradict the results of research conducted by Novaria Monchildren 12-17 years at the Child Development Center (PPA) that the age variable has no statistically significant effect on dental and oral health maintenance behavior, this may be due to information on how to maintain dental and oral hygiene obtained by PPA Agape children aged 12-17 years obtained from formal school counseling and television and the possibility that children aged 12-17 years old can understand the information well received.^{15,16,23,26}

The results of statistical tests showed that there was a significant difference between the level of dental and oral health maintenance behavior in male and female students with a p-value of 0.006. Wowor quoted by Samuel, et al stated that the behavior of dental and oral health care for girls is better than boys. This is because girls are more concerned with and have a high awareness of the aesthetic value and maintenance of dental hygiene so that they will be more diligent in cleaning their teeth and mouth. Teeth that look good are very supportive of appearance and increase self-confidence for women. The results of this study are in line with those conducted by Ningsih in 2015 who examined the relationship of oral hygiene by sex, in this study the results showed that girls had very good oral hygiene compared to boys, this is presumably because girls have a tendency to maintain more dental and oral hygiene compared to boys.^{16,17,24}

The higher level of behavior of female students compared to male students is also caused by girls generally having better awareness and motivation in maintaining dental and oral hygiene. Motivation is something that encourages a person to act, it can be in the form of motivation from within (intrinsic motivation) or from outside (extrinsic motivation). Motivation from within is in the form of needs and interests, while motivation from outside is in the form of family encouragement, the environment and existing facilities. Girls have a higher interest in maintaining the cleanliness of their oral cavity, because girls feel embarrassed more quickly so they will try to always maintain the cleanliness of their oral cavity so that they can easily interact with their environment, want to always look beautiful, and want to attract attention from the opposite sex.^{18,19,27}

In contrast to the research conducted by Novaria M on children 12-17 years old at the Child Development Center (PPA), it showed that gender did not have a significant effect ($p > 0.05$) on children's behavior in maintaining oral health. This may be due to the fact that the information regarding the maintenance of dental and oral health obtained by both boys and girls is obtained from the same source, namely from the mass media (television) and counseling in formal schools. The results of this study are in line with Sharda et al in 2013 which stated that statistically gender had no significant effect on dental and oral health maintenance behavior.^{15,20,28}

V. Conclusion

There is a significant relationship between behavior of oral health maintenance and respondent characteristics such as age and gender. Children aged 15 years have a better level of behavior than children under their age because the thinking patterns and understanding of children aged 15 years are better and girls have a better level of behavior than boys because girls have a greater awareness of the importance of beauty so that they have better behavior to maintain the cleanliness of their oral cavity.

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