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by Adam Malik

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Demography of Oral Health Status for Students and Teachers in Islamic Boarding School

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Abstract

Dental caries has been reported to be a major oral health problem worldwide and occurs most of the time. It affects all layers of the population, particularly children and substantiated the continued high prevalence. This study aims to describe dental health status of students and teachers in Islamic boarding school to prevent oral disease in early stage. This report is a descriptive observational study with cross sectional design. Subjects of this study are students and teachers in Pondok Pesantren Shohwatul Is'ad, Pangkep Regency, Indonesia. Of all the subjects, caries status and dental hygiene was measured using *Oral Hygiene Index Simplified* (OHI-S) from Greene and Vermilion and DMF-T index from WHO. After measurement, data were analyzed using SPSS 23.0 program and and presented in the graphs. Of the total 113 subjects, 105 students (74 males and 31 females) and 8 teachers (male). We found the subject aged 11-15 years showed the average score of OHI-S is in the good category (0-1.2). The highest percentage DMF-T of students showed in very low category (0-1.1). OHI-S status of teacher average in moderate category (1.3-3.0) in subject aged 20-29 years (66.9%) and 30-39 years (60%). Caries status of teachers showed very high category (40%) in subject aged 30-39 years (>6.5). Oral hygiene status of students at Pondok Pesantren Shohwatul Is'ad kec. Ma'rang Pangkep District is good with a very low caries. While the oral hygiene status of teacher still in the moderate category with a high caries status.

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Introduction

Dental and oral health conditions in Indonesia are currently very concerned.[1] Data of World Health Organization's (WHO) in 2016 emphasizes that caries has affected about 60 - 90% of schoolchildren, most caries in adults and elderly result in early permanent tooth loss.[2] Riset Kesehatan Dasar (RISKESDAS) in 2013 showed national prevalence of dental and mouth problems was 25.9%, fourteen provinces had prevalence above national rate and South Sulawesi had the highest prevalence of 36.2%.[3] Study about description of caries status of students in public schools are many,[1,4-6] but very few discuss about the description of dental and oral health status of santri in boarding school especially in South Sulawesi that the data was very few. One study can be found is conducted in Pondok Pesantren Putri Ummul Mukminin about the relationship of knowledge, attitude, and dental health behavior which total subject were women.[7]

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Santri and santriwati in Islamic boarding school are expected to have understanding of Islamic religious teachings which remind people to always maintain hygiene and purity. However, this is inversely with the data obtained from the results of research in santri MA Darunnajah who had good oral health behavior as many as 47 santri (44.8%) and poor oral health behavior was 58 students (55.2%) with an average score of 8.04.[8]

Islamic boarding school has health post. However, health care providers are not available to handle the problems of santri and teachers, especially those living at school. Dental health monitoring has never been done thoroughly to santri and teachers. These things are possible to

affect the dental and oral health of santri and teachers. Therefore, we are interested in screening oral and dental health status of students and teachers in the boarding school.

The aim of this research is to know the description of the oral health status of students and teachers at Shohwatul Is'ad Islamic boarding school in Ma'rang Sub-district, Pangkep District to increase awareness and independence of students and teachers in maintaining dental and oral health and early prevention through primary health care approach.

Materials and methods

This is descriptive observational study with cross sectional design. The research was conducted in Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district, Pangkep District on August 13th, 2017. Subjects were students and teachers of Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district, Pangkep District. Inclusion criteria were students and teachers who willing to participate in research. Measurement instruments and materials used were 70% alcohol, povidone iodine, cotton, tissue, diagnostic set, gloves, mask, small flashlight, informed concent, index assessment (DMF-T and OHIS) paper, and stationery. Dental and oral health status obtained by performing dental examination in students and teachers. The variables studied in this study were caries status and oral hygiene status. The measuring instruments were Oral Hygiene Index Simplified (OHI-S) by Greene and Vermilion and DMF-T index. OHI-S consists of Calculus Index (CI-S) and Debris Index (DI-S). OHI-S score is good = 0-1,2, medium = 1,3-3, and poor = 3,1-6. Criteria for assessment and recording DMF-T index based on WHO are D (decayed) i.e. the teeth with caries/decay that can still restored. M (missing) is missing tooth removed because of caries or carious teeth that cannot be restored and indicated for extraction. F (filling) = teeth that have been filled and filling still in good condition. DMF-T category according to WHO i.e. very low = 0,0 - 1,1, low = 1,2 - 2,6, average = 2,7 - 4,4, height = 4,5 - 6,5, very high => 6.5.11 Data analysis performed using SPSS 23.0 software. Data presented in graphs.

Results

In this study, a total sample of 105 students, consisting of 74 men and 31 women aged 11 to 15 years. The teachers who participated in the study were 8 people and all were men with age group 20-29 years and 30-39 years old.

Figure 1. shows description of the dental hygiene status of santri by age in Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district, Pangkep District. Mean of oral hygiene was good category as many as 55,6% in 11 years old, 47,2% in 12 years old, 55,2% in 13 years old, 46,4% in 14 years old and 66,7% in 15 years old. Figure 2. shows the oral hygiene status of santri by sex Women showed the highest percentage of good dental hygiene status namely 54,8%. (Figure 3) shows description of santri's dental caries status by age. The highest percentage of mean dental caries was low.

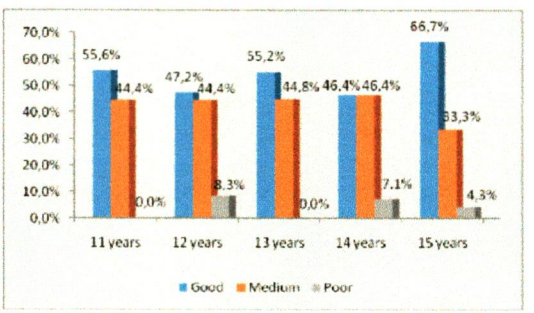

Figure 1. Oral hygiene status of santri based on age in Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district, Pangkep District

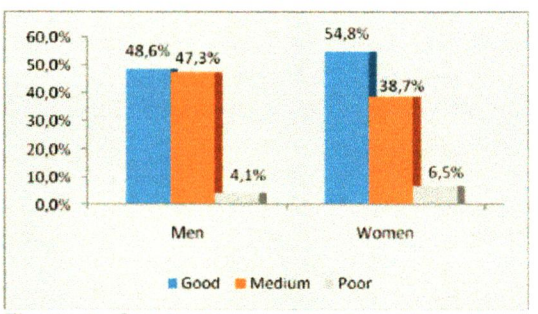

Figure 2. Oral hygiene status of santri based on gender in Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district, Pangkep District

Figure 4. shows the dental caries status of santri by gender. Men had the highest percentage with very low caries category of

47.3%. (Figure 5) shows description of oral hygiene status of teachers based on age. The highest percentage of oral hygiene status was in medium category at 20-29 years of 66.9%, age 30-39 years of 60%. (Figure 6) shows an overview of the caries status of teachers by age. The highest percentage of caries status was very high i.e. 40% in the age group 30-39 years.

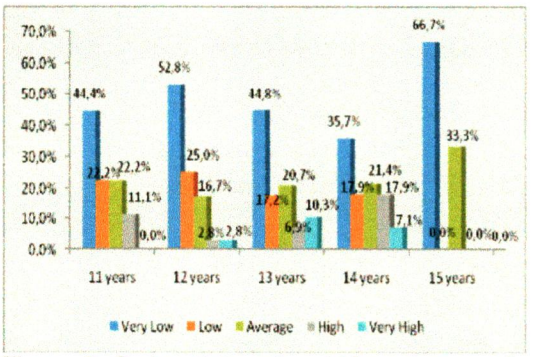

Figure 3. Caries status of santri based on age in Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district, Pangkep District.

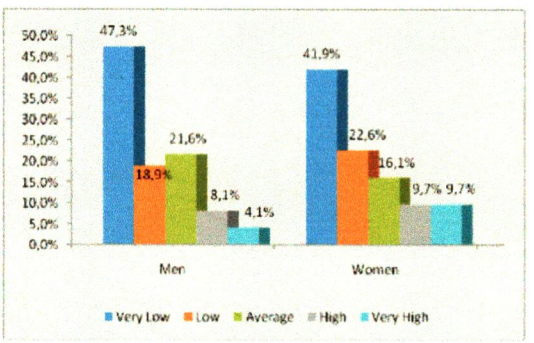

Figure 4. Caries status of santri based on gender in Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district, Pangkep District

Discussion

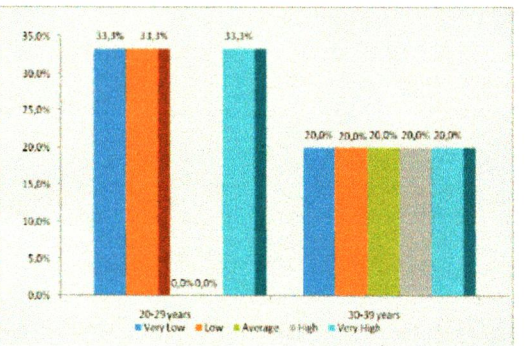

Figure 5. Oral hygiene status of teachers based on age in Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district, Pangkep District.

Discussion

In this study, the subject were 105 students and 8 teachers with characteristics grouped by age and gender. There were more male students than women. Most subjects aged 12-year-old. All teachers participated in the study were men. Based on the results, obtained that between the ages of 11-15 years had good OHI-S score (0-1.2). These results indicate that most of the students able to maintain their dental hygiene. This can be influenced by the level of knowledge and motivation in maintaining oral health. This is also proven by study on the knowledge of dental hygiene of santri in Islamic School which 43.8% santri have good knowledge, while 56,2% santri showed less knowledge about dental maintenance. This is related to santri caries status, santri who have high knowledge level having low caries risk (71.7%) compared to santri who have low knowledge which in risk having caries (47,5%).[7] These results suggest that the awareness of santri in terms of dental care is still lacking because more than 50% of santri have poor behavior.

Similar research conducted by Sihite and Jessica[7] obtained students oral hygiene status was in medium category. Oral hygiene status of medium category indicates that there are some students who have been able to maintain oral hygiene and there are students who not able maintaining oral hygiene.[9] Students who initially brush their teeth with the wrong technique, can do properly after getting counseling. This means learning process through the counseling program and training can be understood and practiced in the students' daily life. This is in accordance with

the theory of Notoadmodjo[10] states that knowledge about health will affect the behavior as a long-term outcome of health education. This is supported by Widyawati[11] mentions that dental and oral health education affect the attitude to maintain oral hygiene.

By gender, good OHI-S is more prevalent in girls than boys. This is in agreement with research conducted in Manado in high school students showed female students pay more attention to dental and oral hygiene male.[12] This result is similar with study conducted in Japan,[13] and Uganda[14] which states that the dental and oral health behavior of female students is better than men. This is due to the fact that female students have more awareness of esthetic and dental and oral hygiene maintenance to support appearance and increase their self-confidence.

The caries status of students in Ma'rang Islamic boarding school according to WHO classification was in very low category. This can be due to knowledge, attitudes, dams and caries prevention behaviors and maintain good oral hygiene santri. So that only a few santri have carious teeth. This situation is supported by the fact that their knowledge is good enough. This knowledge they get from the information available in the print media (books, magazines and newspapers), electronic media (radio, television) and also the virtual world such as websites, blogs, and others. Currently the form of information about health has been very widespread with the aim to increase public knowledge about dental and oral health.[6] Besides factors that can influence are gender, economic level of students, gender, or geographical location of the santri's home town. Study conducted in Bukittinggi, West Sumatera showed different result, caries status of the students is in low category.[9] These different results because caries epidemics in each country or region can vary. The geographical location of a region can affect caries status of the people living in a certain area. Wiratmo[15] studied caries in students aged 12-15 years living in coastal and mountains areas in Takalar district mentioned that caries status of students living in coastal areas is low compared with students living in mountains areas because drinking water in coastal areas containing a lot of fluoride.[12,15,16]

The level of knowledge greatly affects their attitudes and behaviors in maintaining oral health. As evidenced in the study conducted on Putri Ummul Mukminin Islamic boarding school which shows significant relationship between knowledge, attitude, and dental and oral health behavior on dental health status, the higher the value of knowledge, attitude, and behavior, DMF-T value become lower.[6-8,16]

In order to improve dental and oral health, WHO promotes adolescent oral hygiene needs to be improved due to high plaque accumulation in adolescence. Several studies have suggested that adolescents have higher rates of caries risk, increased risk of trauma and periodontal disease, malnutrition, desire for aesthetic demand, potentially tobacco use, alcohol and drugs, and other social and psychological disorders. Therefore, it takes effort to prevent and cope with dental and oral health problems by approaching oral health education. Oral and dental health education such as counseling is expected to change the unhealthy mindset and behavior of santri.[17-19]

Teachers have important role in preventing students' oral problems such as tooth decay, which is common in school-aged children. Teachers who have extensive knowledge of dental health can be a source of information about dental health for their students. However, based on the results of research on teachers in Ma'rang Islamic boarding school, dental hygiene status is still in the medium category and their caries level is very high. This shows that knowledge, attitudes, and behavior of teachers in maintaining oral health is still low. So that the increase of teacher's knowledge through counseling system or counseling about oral health will help teachers in teaching students about oral and dental health. Teachers can't teach a broad knowledge of oral hygiene if the teacher does not have enough knowledge for themselves. Primary Health Care approach to students or teachers can improve their independence in maintaining oral health.[20,21]

Conclusions

Oral hygiene status of students at Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district Pangkep District included good and has a very low caries status. However it is inversely related to the oral hygiene status of teachers who are still in the medium category and caries status was very high. So it needs efforts and counseling to improve knowledge and

awareness of dental and oral health at students and teachers Shohwatul Is'ad Islamic boarding school Ma'rang Sub-district Pangkep District to establish the attitude and behavior of maintaining proper dental health and encourage independence of students and teachers to detect their own dental and oral problems as an early prevention before referring to the dentist through primary health care approach.

Declaration of Interest

The authors report no conflict of interest and the article is not funded or supported by any research grant.

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