



Differences in Oral Health-Related Quality of Life (OHRQoL) by Adolescent Characteristics

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ARTICLE INFORMATION	ABSTRACT
<p><i>Article History:</i> <i>Received: March 25, 2023</i> <i>Revised: May 28, 2023</i> <i>Published: May 31, 2023</i></p>	<p>Adolescents are involved in one of the vulnerable groups to have dental and oral health problems, including dental caries and gum disease. If such problems are not treated well, they can interfere with the welfare of adolescents, which can further impact the overall quality of life of adolescents in everyday life. This study aims to determine differences in OHRQoL by gender, age, and grade among adolescents at Islamic schools in Banjarmasin City. This was an analytical study with cross sectional design. A total of 170 study subjects participated in this study. The study variables were collected online via google form. The results of the Independent t-test showed that there was a difference in OHRQoL by gender (p-value of $0.016 \leq \alpha 0.05$). On the other hand, the results of the One Way Anova test showed no difference in OHRQoL by age (p-value of $0.684 > \alpha 0.05$) and grade (p-value of $0.746 > \alpha 0.05$). In conclusion, OHRQoL by gender was found to be better in males than females. However, there was no difference in OHRQoL by age and grade. Promotive and preventive efforts need to be performed so that adolescents can improve maintenance of dental and oral health, and can manage are complaints regarding the oral cavity immediately.</p>
<p>Keywords: Gender Age Grade OHRQoL</p>	

INTRODUCTION

Adolescence is a period of transition from childhood to adulthood. The period of adolescent life begins when the individual is 10 years old and ends when the individual is 19 years old. Many changes occur in adolescents, including changes in attitude, way of thinking, biological, cognitive and socio-emotional changer which make adolescents more susceptible to disease. Therefore, adolescents need specific care regarding health issues, including dental and oral health (Haleem, Siddiqui, & Khan, 2012; Haslinda, Ernalina, & Wahyuni, 2017).

Adolescents are involved in one of the vulnerable groups to have dental and oral health problems. Dental and oral health problems that are often experienced by adolescents include dental caries and gum disease (DiClemente, Hansen, & Ponton, 2013). The results of the 2018 Basic Health Research showed that Indonesian people in the age group of 15-24 years had a 38.1% proportion of cavities, 14.6% of swollen gums, and 19% of bleeding gums. In addition, the cavities and swollen gums problems are more common in male than female adolescents (Ministry of Health of the Republic of Indonesia, 2018). Such finding indicated that there were still quite a lot of Indonesian adolescents who experienced dental and oral problems.

South Kalimantan Province has a relatively high proportion of dental and oral health problems, wherein the age group 15-24 years had a proportion of dental caries by 45.15%, swollen gums by 15.63%, and bleeding gums by 17.34% (Ministry of Health of the Republic of Indonesia, 2018). Dental and oral problems needs specific care. If such problems are not treated well, they can interfere with the welfare of adolescents, which can further impact the overall quality of life of adolescents in everyday life physically, psychologically and socially (Barnes, 2015; DiClemente, Hansen, & Ponton, 2013).

Oral Health-Related Quality of Life (OHRQoL) is described by Locker and Allen (2007) as the individual's perceived impact of the condition of the oral cavity on overall life function and well-being. The impact varies for each individual depending on the severity of the dental and oral disease that is being experienced (Malele-Kolisa, Yengopal, Igumbor, Nqcoo, & Ralephenya, 2019). Differences in the impact of OHRQoL can be influenced by factors regarding individual characteristics, including gender, age, education, culture, socio-economic, grade and so on (Motallebnejad, Mehdizadeh, Najafi, & Sayyadi, 2015). This study aims to determine differences in OHRQoL among adolescents by gender, age, and grade at Islamic schools.

METHOD

This was quantitative with a cross-sectional study. The population in the study involved 238 senior high school students at Islamic Schools in Banjarmasin City, South Kalimantan. The subjects were selected using a purposive sampling technique with the inclusion criteria of students aged 15-18 years when the study was conducted, while the exclusion criteria was adolescents who were not willing to participate in the study. The sample size in this study was 170 adolescents.

The study data related to subject characteristics and the Indonesian version of the Oral Health Impact Profile 14 (OHIP-14) questionnaire to assess Oral Health-Related Quality of Life (OHRQoL) were collected via the google form link which was distributed to subjects through the teacher/homeroom teacher at the schools as the study sites. The OHIP-14 questionnaire consists of 14 questions with answers in the form of a Likert scale that can be interpreted as "never" (score 0), "almost never" (score 1), "sometimes" (score 2), "quite often" (score 3), and "very often" (score 4). The total OHIP-14 score is in the range 0 - 56, the lower the OHIP-14 score indicates a better OHRQoL, and vice versa (Slade et al., 2005).

Study data were analyzed using Independent T-Test and One Way Anova. This study has previously obtained a letter regarding ethical eligibility from the Research Ethics Commission of the Faculty of Dentistry, Gadjah Mada University number No.00510/KKEP/FKG-UGM/EC/2020.

RESULTS AND DISCUSSION

Table 1. Descriptive statistics of subjects' characteristics and OHRQoL (N=170).

Variable	n (%)	Mean \pm SD
Gender		
Male	70 (41.2)	1.59 \pm 0.484
Female	100 (58.8)	
Age		
15 years	43 (25.3)	16.19 \pm 0.904
16 years	62 (36.5)	
17 years	54 (31.8)	
18 years	11 (6.5)	
Grade		
X	48 (28.2)	11.08 \pm 0.799
XI	61 (35.9)	
XII	61 (35.9)	
OHRQoL (OHIP-14)	170 (100)	23.36 \pm 10.481
Functional limitation	170 (100)	2.62 \pm 1.758
Physical pain	170 (100)	3.00 \pm 1.840
Psychological discomfort	170 (100)	4.21 \pm 1.934
Physical disability	170 (100)	3.91 \pm 1.989
Psychological disability	170 (100)	3.58 \pm 1.966
Social disability	170 (100)	3.00 \pm 1.958
Handicap	170 (100)	3.05 \pm 1.955

Table 1 shows the results of the descriptive statistics of the study subjects and OHRQoL for each OHIP-14 dimension. In this study, it was found that the majority of study subjects were female (58.8%), aged 16 years (36.5%), and students in Grades XI (35.9%) and XII (35.9%).

Table 2. Results of bivariate analysis through independent t-test.

Variable	OHRQoL	
	p-value	t
Gender	0.016	- 2.430

Table 3. Results of bivariate analysis through One Way Anova test.

Variable	OHRQoL	
	p-value	F
Age	0.684	0.449
Grade	0.746	0.294

Table 2 shows the results of the bivariate analysis between the characteristics of the respondents and OHRQoL. The results of the Independent t-test showed that there was a significant difference in OHRQoL between male and female adolescents with a p-value of $0.016 \leq \alpha 0.05$ and a t value of -2.430. It can be seen that male adolescents had a lower average OHIP-14 score compared to female adolescents. Such finding indicated that male adolescents had a better OHRQoL than female adolescents. Whereas in table 3, the results of the One Way Anova test showed no significant differences in OHRQoL between adolescents aged 15, 16, 17, and 18 years (p-value of $0.684 > \alpha 0.05$), and between adolescents in Grades X, XI, and XII (p-value of $0.746 > \alpha 0.05$).

This study showed that there was a difference in OHRQoL between male and female adolescents, wherein male adolescents had a better OHRQoL than female adolescents. Such finding is supported by a study conducted by Marya (2020) and Thirunavukkarasu et al. (2022) which found that there was a difference in OHRQoL by gender. Thirunavukkarasu et al. (2022) further revealed that unhealthy lifestyles, such as frequent consumption of chocolate and candy, smoking, and neglecting routine dental checks, were associated with unfavorable

individual OHRQoL. Marya et al. (2020) also explained that OHRQoL was found to be better among male adolescents, even though male and female adolescents had similar clinical conditions. Women will usually be more sensitive to the symptoms of the disease than men. A study conducted by Pauli et al. (2020) added that there were more negative impacts on OHRQoL among women, especially those with severe malocclusion, experiencing dental trauma, and dental caries. According to Seirawan et al. (2012), if dental and oral health problems are ignored, they will interfere with children's daily activities in carrying out their activities at school.

The current study showed that there was no difference in OHRQoL between adolescents aged 15, 16, 17, and 18 years. Such finding is not in line with previous study which showed that there was a difference in OHRQoL between groups with different age ranges, namely the 5-6, 12, and 15 years (Karki et al., 2019). However, such finding is in line with a study conducted by Eid et al. (2020) which revealed a difference in OHRQoL between groups of children aged 12, 13, and 14 years. The current study also showed that there was no difference in OHRQoL between Grades X, XI, and XII students. Such finding is not in line with a study conducted by Krisdapong et al. (2013) which showed that adolescents with lower grade levels would usually have dental and oral diseases that had not been treated or managed, so that OHRQoL in children with lower grades would indicate poor performance.

No differences in the age and Grade variables were possibly due to no significant gap between each group of adolescents in Grades X, XI, and XII, with an age range of 15-18 years. Therefore, the perceived OHRQoL was not much different. Fatimah et al. (2021) argues that the characteristics of adolescents that were equally represented from the research subject groups could cause no difference in OHRQoL. Furthermore, according to Locker & Miller (1994) in Settineri et al. (2017), individuals at a younger age usually had fewer oral and dental health problems, but even so, these dental health problems would still affect an individual's OHRQoL in everyday life.

OHRQoL is an assessment of oral health which is one of the links and an important predictor of the general health status of the community (Alhajj et al., 2019). Personal and environmental characteristics can affect individual OHRQoL through psychosocial dimensions both directly and indirectly (Schuch, dos Santos Costa, Torriani, Demarco, & Goettems, 2015). Therefore, it is necessary to carry out promotive and preventive efforts to improve dental and oral health maintenance, so as to minimize the incidence of dental and oral diseases experienced by adolescents in the future. If in the future adolescents feel complaints in their oral cavity, it is expected that they can immediately consult such problem with dental and oral health workers for immediate treatment. This study did not include a clinical examination of the condition of the oral cavity of adolescents, so that future researchers who wish to conduct a similar study are expected to be able to add an examination of the condition of the oral cavity of the respondents to reveal the possibility of types of dental health problems that contribute greatly to OHRQoL.

CONCLUSION

OHRQoL by gender was found to have a significant difference, where male adolescent had a lower mean OHIP-14 score. Such finding indicated that male adolescent had a better OHRQoL than female adolescents. However, there was no significant difference in OHRQoL of adolescents both by age group and grade. OHRQoL is generally influenced by dental and oral diseases that individuals have or are currently suffering from, although in this study not all variables in the characteristics of adolescents showed a significant difference. Promotive and preventive efforts need to be performed so that adolescents can improve maintenance of dental and oral health, and can manage are complaints regarding the oral cavity immediately in the future. Furthermore, future study is expected to observe the condition of the oral cavity among adolescents, so that researchers can reveal the possible types of dental health problems that contribute greatly to OHRQoL.

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