

RELATIONSHIP BETWEEN AGE IN PATIENTS WITH DENTAL AND ORAL HEALTH PROBLEMS WITH QUALITY OF LIFE

Claudia Michelle Darjanki¹, Sonny Perdana¹, Yunita Purwaningsih¹, Retno Palupi²

¹ Student of Periodontics Residency Program, Faculty of Dental Medicine, Universitas Airlangga, Surabaya – Indonesia

²Department of Dental Public Health, Faculty of Dental Medicine, Universitas Airlangga, Surabaya – Indonesia

Corresponding author : Retno Palupi, Department of Dental Public Health, Faculty of Dental Medicine, Universitas Airlangga, Indonesia, address: Jl. Prof. Dr. Moestopo No. 47, phone numbers : (+6231) 5030255, 5020256, facsimile numbers : (+6231) 5020256. Email: pretno7774@gmail.com.

ABSTRACT:

Background:Dental and oral health problems can have an impact on the ability to chew, bite, swallow or talk, one's appearance, smile and self-esteem, social factors such as eating or talking in front of others, pain or discomfort, which will affect the quality of life of individuals. **Purpose:**of this study was to determine whether there is a relationship between the age of patients with oral health problems with the quality of life.**Method:**This research is a descriptive type of research with 118 respondents. The questionnaire completed by the respondent which contained primary data including name, gender, age, disease history, OHIP-14 scale, and five-point scale. **Result:**Most of the study subjects were respondents who were in the young adult age group (25-44 years), with a higher quality of life score (12.04%). The average results of OHIP scores of subjects with the highest scores stated that subjects in both ages ranges felt disturbed especially in terms of mastication, ingestion, and speech functions by 11.9%. The lowest score is at the point of feeling hard to do any activity at 4.89% and feels easily offended or upset at 5.67%.**Conclusion:** The result shows a significant difference from the statistical analysis test of OHIP-14 scores according to age. Thus it can be concluded that there is a relationship between the age range in patients with oral health problems with the quality of life.

Keywords: Age;Quality of Life; Dental Health

INTRODUCTION

Dental and oral health is sometimes indeed not the top priority for some people, when in fact the dental and mouth disease has a serious impact on general health because teeth and mouth are the entry points for germs and bacteria so that it is likely to interfere with the health of other body organs (Bramma, Trelia, Menik, & Hanna, 2017; Palutturi, Rutherford, Davey, & Chu, 2014; Susilawati et al., 2018). According to Basic Health Research in 2007 and 2018 the percentage of Indonesian population who experienced problems with teeth and mouth increased from 25.9% to 57.6% and who received services from dental medical personnel by 10.2%. The proportion of teeth brushing behavior correctly by 2.8% (Kementerian Kesehatan Republik Indonesia., 2018).

Oral and dental health according to the World Health Organization (WHO) has a meaning free from chronic pain in the oral cavity and face, cancer of the oral cavity and throat, sores in the oral cavity, continental abnormalities such as cleft lip or palate, periodontal disease, tooth decay, and loss, and other diseases or disorders that affect the oral cavity (WHO, 2012). Quality of life according to the World Health Organization (WHO) is a person's perception in the context of culture and norms that are following the person's place of life and are related to the goals, expectations, standards, and care throughout his life (World Health Organization., 1997).

Dental and oral health-related to quality of life can be defined as a person's assessment of how: Functional factors, such as the ability to chew, bite, swallow or speak; Psychological factors, such as one's appearance, smile, and self-esteem; Social factors, such as eating or talking in front of others; relating to the oral cavity, as well as the experience of pain or discomfort that affects one's well-being and quality of life (Hidayatullah, Agustiani, & Setiawan, 2018; Maia, Mendes, & Normando, 2018; Pratiwi, Akbar, Abdullah, & Mareta, 2018).

There are many studies regarding the measurement of quality of life, related to oral health (Harahap & Nasution, 2018; Molek et al., 2016). One instrument that is often used to measure dental and oral health-related to quality of life is the Oral Health Impact Profile (OHIP). A high total score indicates a low quality of life and vice versa (Slade & Spencer, 1995). However, no clear relevance has been found whether there is a relationship between age range with dental and oral health disorders on quality of life (Setijanto, Bramantoro, Palupi, & Hanani, 2019). To find evidence of its relevance, this study aims to explain the prevalence and distribution of the relationship of age and sex to oral health related to the quality of life of individuals.

Growth and development in humans occur throughout life. Growth and development consist of several stages that are continuous, including a neonatal period (birth - 28 days), infants (1 month - 1 year), toddler (1-3 years), preschool (3-6 years), school-age (6- 12 years old), teenagers (12-20 years old), young adults (20-40 years old), middle adults (40-65 years old), and old or old age adults(Hamid & S., 2008).

Oral hygiene assessment can be seen from the presence or absence of organic deposits such as pellicles, alba material, food scraps, calculus, and dental plaque. The description of oral hygiene in a community can be measured using oral hygiene index-simplified (OHI-S) which is a combination of the assessment of debris index simplified (DI-S) and calculus index simplified (CI-S). In the good OHI-S criteria, the percentage for men is lower than for women(Anggraini, 2016). This shows that men have worse oral hygiene than women. Women have better oral hygiene than men because men usually pay less attention to oral hygiene when compared to women(Anggraini, 2016).

One of the oral and dental health problems that are often complained of by patients is inflammation, both in the soft and hard tissues. Inflammation of the oral tissue in the form of Recurrent Aphthous Stomatitis (RAS). Most RAS diseases strike the age group of 20-29 years, with the incidence of young adults twice as common as older adults. The quality of life of patients with SAR has quite an impact on the functional dimension and greatly affects the pain dimension(Noviana, Kintawati, & Susilawati, 2018).Aside from RAS, periodontal inflammation is a disease of the oral cavity which ranks first in the 2001 world record as the disease most often experienced by humans. Global Burden of Disease research data from 1990-2010 shows that severe periodontitis is the sixth highest prevalence (11.2%) and affects around 743 million people worldwide and has an increase in the prevalence of 57.3 percent in the period 10 years. Globally, losses due to reduced productivity due to severe periodontitis are estimated at 53.99 million US dollars per year(Wijaksana & Evan, 2019).Based on the description above, this study was to determine whether there is a relationship between the age of patients with oral health problems with the quality of life..

METHOD

Research Design

This study uses a descriptive observational research design with a cross-sectional approach. Descriptive observational research is research that explains the relationship between variables through hypothesis testing. This design has a characteristic that is done without any intervention or without giving treatment to the sample. The cross-sectional

method, meaning that the study design is carried out cross-sectionally, for a moment, at the same time and measured only once without any follow-up action on the variables concerned. This research has been stated to have obtained ethical eligibility from the Ethics Commission of the Faculty of Dental Medicine, Universitas Airlangga with certificate number 153 / HRECC.FODM / III / 2020.

Population, Data, and Variables

Data for this cross-sectional survey study were collected from the periodontia department hospital resident patients at Universitas Airlangga (age range: 25-44, and > 45 years) through questionnaires. Ethical permission was obtained from the Department of Periodontia, Faculty of Dental Medicine, Universitas Airlangga. And written consent was obtained from all participants. A total of 118 participants aged 25-44 years were included in this study. Respondents were divided into 2 groups: group 1: 25-44 years old and group 2: over 45 years old. A questionnaire is used to collect data. A validated Hindi translation of OHIP-14 was used for this study.^[8]

OHIP - 14 scale which consists of 14 points as follow: difficulty to talk, worsening taste, pain in the oral cavity, discomfort while eating, stress-related to dental problems, feeling more self-conscious, unsatisfactory diet, meal interruption, difficulty to feel relaxed, embarrassed, irritable, difficulty while doing the usual routine, not content with life and unable to function normally. The frequency of experiencing each impact over the past 12 months was reported by subjects on a five-point scale: never (Score: 0), rarely (Score: 1), sometimes (Score: 2), less frequent (Score: 3) and Frequent (Score: 4).

The OHIP-14 score collected from the questionnaire was calculated according to the following: Prevalence: Percentages of individuals who reported one or more than one item quite often or very often; Extended: The number of items reported is quite often or frequently; Severe: The total OHIP-14 score is obtained by adding up the scores for all 14 items, which may range from 0 to 56. The higher the score, the poorer the OHRQoL.

Data Collecting Method

This study uses primary data that includes name, gender, age-range, disease history, OHIP-14 scale, and a five-point scale obtained using a questionnaire tool.

The course of this research was carried out in two main stages: first, the preparatory stage; second, the implementation phase.

Statistical Analysis

The demographic profile of the study population shows a normal distribution and a homogeneous sample. Age and gender were calculated with a correlation of quality of life as $P > 0.05$. The prevalence of the relationship between the age range in patients with oral health problems and quality of life was calculated using the chi-square test. Analysis of variance (ANOVA) was also carried out.

RESULT AND DISCUSSION

The OHIP-14 score was used in this study to assess dental and oral health-related to quality of life in the specified age range and gender. The results of OHIP-14 data collection on the research subjects are as follows:

Table 1. The total OHIP score based on the OHIP-14 questionnaire

Question	Total	Percentage	Average
	(n)	(%)	
1. Difficulty in speaking	68	5,36	0,576271186
2. Worsening pain	68	5,36	0,581196581
3. Pain in oral cavity	125	9,85	1,059322034
4. Discomfort while eating	142	11,19	1,203389831
5. Feeling stressed	119	9,38	0,618644068
6. Embarrassed	73	5,75	0,881355932
7. Unsatisfactory diet	104	8,20	0,881355932
8. Meal interruption	102	8,04	0,871794872
9. Difficulty to feel relaxed	97	7,64	0,829059829
10. Self conscious	90	7,09	0,769230769
11. Irritable	72	5,67	0,605042017
12. Difficulty while doing usual routine	78	6,15	0,661016949
13. Feeling not content with life	69	5,44	0,584745763
14. Unable to function normally	62	4,89	0,525423729

118 respondents were included in this study. The sex distribution is listed in table 2, and the age range is in table 3. Data were processed with normality and homogeneity tests with results that are not homogeneous and not normally distributed $p < 0.05$.

Table 2. Age range distribution of research subjects

	Young Adults (25-44)	Adults (>45)
	Average	Average
P1	0,63	2,28
P2	0,64	2,19
P3	1,03	3,53
P4	1,17	4,00
P5	1,04	3,47

P6	0,64	2,16
P7	0,90	3,14
P8	0,89	3,08
P9	0,84	2,96
P10	0,78	2,90
P11	0,56	2,13
P12	0,69	2,37
P13	0,60	2,34
P14	0,52	1,89

Table 2 shows that most of the study subjects were respondents who belonged to the young adult age group (25-44 years), with a higher quality of life score (12.04%), meaning that the age group experienced more disruption in the quality of life, based on the OHIP table score and a five-point scale.

Table 3. Age distribution table with quality of life (P1-14 represent 14 OHIP-14 points)

Age	Total Respondents	Average Score	SD
25-44 years old	84	12,04	8,33
> 45 years old	34	10,12	9,88

The more a person ages, the more he learns from experience about maintaining dental health, complaints about toothaches, complaints of pain in the periodontal tissue, and how to overcome them. This is contrary to the results of the study, where the quality of life of young patients is higher (average score only reaches 0-1) associated with perceived disruption of the teeth and mouth. However, this can be related to increased prevalence concerning risk factors such as nutrition, systemic disease, medication, stress, and smoking(Nield-Gehrig, Willmann, & E., 2011). Nutritional deficiencies in middle and older adult patients can occur due to dietary restrictions and intake of certain nutrients affecting the homeostatic periodontal tissue in the oral cavity, which in turn is associated with mastication disorders. In older patients, it is generally the loss of many teeth that affects the mastication process(Ridwan, 2015; Wilson, G., Kornman, & S., 1996), and subsequently affects the overall function of the oral cavity and the associated reduced quality of life.

The results of the average OHIP score of the subjects with the highest scores stated that subjects in both age ranges felt troubled especially in terms of mastication, swallowing, and speech functions(Greenberg, Glick, & Ship, 2008). The disruption of masticatory function in this study was 11.9%, with the highest score (1.17 in the range of young adults and even 4 in middle and old adulthood). Discomfort when chewing food that is felt by all patients is estimated because disorders of the oral cavity generally have the characteristics of

pain so that all patients judge that feeling sick and feeling uncomfortable greatly affects the quality of life (4th point)(Darmanta, 2013; Scully, 2008).

Psychological and social dimensions are the lowest dimensions, with details of these two lowest scores is feeling difficult to do any activity 4.89%, and feeling easily offended or irritable at 5.67%, meaning the disorder perceived by the patient does not affect the psychological disability does not affect too much patient activity in social interactions. Disorders of the oral cavity can be associated with diseases that are not life-threatening and are not easily transmitted, so it is estimated to make patients not to be ashamed (10th point), tense, or stressed (point 5).

One of the etiologies that can cause mouth disorders is a hormonal factor(Nield-Gehrig et al., 2011). The hormone that is considered to play a role is the estrogen. Two days before menstruation there will be a sudden drop in estrogen. Decreased estrogen causes a decrease in blood flow so that blood supply to the periphery decreases and there is an impaired balance of cells in the oral cavity. Decreased estrogen can slow the process of keratinization so that it is susceptible to local irritation and trauma of the oral cavity(Wilson et al., 1996). Hormonal changes in women also affect periodontal tissue(Maia et al., 2018). This supports the results of research that the age range of middle and older adults has a more decreased quality of life, where hormonal factors are more decreased in middle and old adulthood. A person's age is related to life experience(Tjahja, Indirawati, Ghani, & Lannywati., 2010). Additionally, increased disturbance of the oral cavity in middle and older adulthood is associated with decreased dexterity, causing shorter self-maintenance times and decreased self-care ability(Nield-Gehrig et al., 2011).

CONCLUSION

From the research conducted on 118 research subjects, the results obtained were significantly different from the statistical analysis test of OHIP-14 scores according to age range. Thus it can be concluded that there is a relationship between the age range in patients with oral health problems with the quality of life.

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