ORAL HEALTH-RELATED QUALITY OF LIFE (OHRQOL) AMONG PATIENTS VISITING A PRIVATE DENTAL TEACHING HOSPITAL IN KARACHI, PAKISTAN

[1]MOHAMMAD ALI LEGHARI, [2]FATIMA ABID, [3]ZARAH SUBHAN, [4]FIZZA TARIQ, [5]MIRZA ADEEL ANWER, [6]MALIK MUHAMMAD SAQIB

ABSTRACT

The loss of teeth interrupts the mastication, causes difficulty in speaking, affects the facial appearance, and also has negative social and psychological impact and also affects the oral health related quality of life (OHRQoL). The objective of this research was to analyze the relation between tooth loss and its impact on OHRQoL by using the Ohip-14 instrument among the patients visiting the Out Patient Department (OPD) of Prosthodontics department of a private dental college in Karachi, Pakistan. Cross-sectional research was conducted with the enrolment period starting from May 2017 to October 2017. A self-structured questionnaire was employed to measure demographic data along with Ohip-14 to measure OHRQoL. The prevalence of OHIP-14 among the study participants was 76 %. There was a statistically significant positive relationship between the variable age and the OHIP-14 score. The study suggested that there was a mild association between ohip-14 score with the variable age and tooth loss. Brushing twice a day had low ohip-14 mean score with low impact on OHRQoL.

Keywords: *Age, loss of teeth, OHIP-14, Impact on oral cavity.*

This article may be cited as: Leghari MA, Abid F, Subhan Z, Tariq F, Anwar MA, Saqib MM. Oral health-related quality of life (OHRQOL) among patients visiting a private dental teaching hospital in Karachi, Pakistan. Pak Oral Dent J 2020; 40(2):76-79.

INTRODUCTION

Most common causes of tooth loss are gingival recession leading to periodontal problems and dental caries.[1] Major functions of the teeth in oral cavity include provision of esthetics, assisting speech and performing mastication. The loss of teeth interrupts the mastication, causes difficulty in speaking, affects the facial appearance, and also has negative social and psychological impact[2] and also affects the oral health related quality of life (OHRQoL).[3]

World Health Organization defines the quality of life as "*individual's perceptions of their position in life in the context of culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns*".[4] The person's oral health has substantial consequence on health related quality of life.[5] The dimensions of OHRQoL are oral health, function, environment, social/emotional and treatment expectations.[6] These dimension are formed from the consequences and the treatment plan for the oral diseases, all the outcomes occurred from oral diseases have an impact on individuals normal functioning which is considered as the important part of the overall health.[7] These repercussions are used to assess the impact of the oral diseases and conditions on the normal living of an individual.[8] The most suitable approach for collecting the data for measuring the impact of oral health on quality of life is by using questionnaire instrument and Oral health impact profile-14 (Ohip-14) is considered as an appropriate questionnaire for measuring the OHRQoL.[9,10]

Previous studies and systematic reviews have shown that tooth loss is the foremost factor that is consistently associated with OHRQOL other than age, gender, and social factors.[6,11,12,13]

The objective of this research was to analyze the relation between tooth loss and its impact on OHRQoL

[1] Dr Mohammad Ali Leghari, BDS, MSPH, Assistant Professor, Community Dentistry, Baqai Dental College, Baqai Medical University. Near Toll Plaza, Super Highway Karachi. **For Correspondence:** Email: dralileghari@gmail.com. Cell: 03212141488

[2] Dr Fatima Abid, BDS, Demonstrator Physiology, Baqai Dental College

[3] Dr Zarah Subhan, BDS, Demonstrator Oral pathology. Baqai Dental College

[4] Dr Fizza Tariq, BDS, Demonstrator Physiology, Baqai Dental College

[5] Dr Mirza Adeel Anwer, BDS, Demonstrator Prosthodontics, Baqai Dental College

[6] Dr Malik Muhammad Saqib, Administrator, Baqai Dental College

Received for Publication: Dec 5, 2019
Revision: Dec 30, 2019
Approved: Jan 3, 2020

by using the Ohip-14 instrument among the patients visiting the Out Patient Department (OPD) of Prosthodontics department of a private dental college in Karachi, Pakistan.

METHODOLOGY

Cross-sectional research was conducted with the enrolment period starting from May 2017 to October 2017 and individuals visiting for dental treatment in a private dental teaching hospital in Karachi were selected. The inclusion criteria was; patients with more than one missing teeth, patients with edentulous arch, and age was above 19 years. Both male and female patients were included and the study comprised of 188 participants by using convenience sampling technique.

A self-structured questionnaire was employed to measure demographic data along with Ohip-14 to measure OHRQoL, which is the shorter version of the OHIP-49 was used for data collection. Ohip-14 was comprised of fourteen question that is comprised of seven domains to assess OHRQoL of an individual. The dimensions were "functional limitation" like trouble pronouncing words, worsened taste; "physical pain" like ache in the mouth, discomfort eating food; "psychological discomfort" like feeling self-conscious or feeling tense; "physical disability" like interrupted meals or poor diet; "psychological disability" like difficulty in relaxing, embarrassment; "social disability" like irritability, difficulty in doing usual jobs; handicap", life less satisfying, inability to function.[14]

Each question in Ohip-14 consists of five scale item which was recorded as; 0 = never; 1 = hardly ever; 2 = occasionally; 3 = fairly often; 4 = very often. Each question was summed to produce an overall score that ranged from 0 to 56and the higher scores indicated poor health related quality of life.

The interview was conducted in which the coauthors of the research asked the questions in native language i.e. Urdu and then recorded the responses in the questionnaire. This approach was taken due to the lack of understanding of English language by the patients. Examination of the oral cavity was carried out to measure the status of missed teeth which was recorded on a dental chart according to World Health Organization standards.[15]

Pilot study was conducted by the examiners to check their understanding and reliability of the questionnaire. Verbal Consent was taken prior to the research from each study participants. Ethical approval was obtained prior to the survey conduction and the objective of the research was explained to the study participants.

The data was entered into Statistical Package for Social Science (SPSS, Version 21) for statistical analysis. Means, standard deviations, median and range were assessed of continuous variables; age and OHIP-14. Coefficient correlation was performed for measuring the association between the ohip-14 and the missing teeth. T test was used for measuring the difference of ohip-14 between the variables.

RESULTS

The mean age of the patients was 46.21 (SD ±15), the age range was 19-80. There were 119 (63.3%) males and 69 (36.7%) were females. The prevalence of OHIP-14 among the study participants was 76 %. There was a statistically significant positive relationship between the variable age and the OHIP-14 score presented in table 1. The mean differences of age, marital status, frequency of brushing, self-perceived oral health, self-perceived general health and OHIP-14 are presented in table 2.

Mean, standard deviation, median and range of OHIP-14 was 18.9 (11.53), 19 and 0-4 respectively.

DISCUSSION

The study assessed the OHRQoL by using the OHIP-14 among the patients visiting dental teaching hospital. In this research the mean ohip-14 of the participant was 18.9. A previous study was done in three different cities of Pakistan and the mean ohip-14 was 23.38.[16] Another study in Peshawar, Pakistan, reported that the mean ohip-14 was 12.84.[17] This study showed the positive significant association of the outcome variable ohip-14 with the risk factors like age and tooth loss. Data showed that ohip-14 score increased with the increase of the age and as the number of teeth decreased in the oral cavity, ohip-14 score also increased. These result of Ohip-14 and age association was concurrent to the studies done among the participants of Brazil and China.[18,19] It has been reported earlier that tooth loss has a negative impact on OHRQoL.[20] Another previous clinical review reported that tooth loss has negative impact in OHRQol.[21] Another previously performed research demonstrated unclear relationship between the ohip-14 and tooth loss variables.[22]

In our study there is a significant difference of mean ohip-14 score and tooth brushing frequency, 25.5% study participants brushed twice a day with lower ohip-14 score. It has been found that inadequate

TABLE 1: RELATIONSHIP BETWEEN THE VARIABLES TOOTH LOSS, AGE AND THE OHIP-14 SCORE

Pearson Correlation	Ohip-14	p-value
Age	0.239	<0.01
Tooth loss	0.310	<o.01

TABLE 2: DIFFERENCES OF MEAN OF OHIP-14 SCORE WITH VARIABLES.

Variables	N=188 %	OHIP_14 Mean SD	P-value
Age group			
19-24	17 (9)	11.00 (11.37)	<0.01
25-44	60 (31)	16.25 (11.21)	
45-64	87 (46.3)	21.87 (10.95)	
65-84	24 (12.8)	20.41 (10.83)	
Frequency of brushing			0.037
Once a day	90 (47.9)	18.71 (11.21)	
Twice a day	48 (25.5)	16.06 (11.93)	
Don't brush	50 (26.6)	22.00 (11.13)	
Self-perceived oral health			
Excellent	19 (10.1)	20.63 (11.52)	<0.01
very good	79 (42)	15.10 (9.91)	
good	38 (20.2)	19.76 (12.41)	
Fair	41 (21.8)	22.68 (11.64)	
poor	11 (5.9)	26.27 (11.14)	

brushing leads to negative impact on OHRQoL.[23] Results of self-perceived oral health assessment among the participants were significantly different, participants who assessed their oral health poor had higher mean score of ohip-14. This was similar to previous results where the self-perceived poor oral health had high impact on OHRQoL.[24]

There were several limitations to the study like no causal association was established due to the cross sectional design of the study, and presence of small sample size in this study. Convenience sampling method used for selection of study participants could lead to selection bias in the research.

CONCLUSION

The results of our study suggested that there was a mild association between ohip-14 score with the variable age and tooth loss. Brushing twice a day had low ohip-14 mean score with low impact on Oral health related quality of life.

REFERENCES

1 Sreenivasan PK, Prasad KVV, Javali SB. Oral health practices and prevalence of dental plaque and gingivitis among Indian adults. Clin Exp Dent Res. 2016; 2(1):6–17. doi:10.1002/cre2.15

2 Rukh SL,Shah SN, Gul R. causes and pattern of permanent tooth extraction with frequency and type of replacement. Pak Oral & Dental J 2017:37(1);110-13.

3 Batista MJ, Lawrence HP, de Sousa Mda L. Impact of tooth loss related to number and position on oral health quality of life among adults. Health Qual Life Outcomes. 2014; 12:165. doi:10.1186/s12955-014-0165-5

4 WHOQoL (1995). The world health organization quality of life assessment (whoqol): position paper from the world health organization. Soc sci med 41:1403-1409.

5 Motallebnejad M, Mehdizadeh S, Najafi N, Sayyadi F.the evaluation of oral health-related factors on the quality of life of the elderly in babol. Contemp Clin Dent. 2015 Jul-Sep; 6(3):313-7. Doi: 10.4103/0976-237X.161867.

6 Sischo L, Broder H. Oral health-related quality of life: what, why, how, and future implications. J Dent Res. 2011; 90(11):1264-70.

7 Rodakowska E, Mierzyńska K, Bagińska J, Jamiołkowski J. Quality of life measured by ohip-14 and Gohai in elderly people from bialystok, north-east Poland. BMC Oral Health. 2014 Aug 20; 14:106. Doi: 10.1186/1472-6831-14-106.

8 Vitti RP, Oliveira ARBde, Sinhoreti MAC, Barakat LF, Ucheonye I J. Oral Health Impact Profile (OHIP-14) and its association with dental treatment needs of adolescents in a rural Nigerian community. Brazilian Journal of Oral Sciences 2017:15(3; 215-20.

9 Jain M, Kaira LS, Sikka G, et al. How do age and tooth loss affect oral health impacts and quality of life? A study comparing two state samples of Gujarat and Rajasthan. J Dent (Tehran). 2012; 9(2):135–44.

10 Locker D, Quiñonez C: To what extend do oral disorders compromise the quality of life? Community Dent Oral Epidemiol 2011, 39:3–11.

11 Umniyati, H., Surachmin, A., & Ambarsati, G.The relationship between anterior tooth loss and quality of life among elderly in Posbindu, Bojongnangka, Kelapa Dua Sub-District, Tangerang, Jakarta-Indonesia. Bali Med J 2018:7(3); 626-30.

12 Saintrain MV[1], de Souza EH. Impact of Tooth Loss on Quality of Life. Gerodontology. 2012; 29(2):e632-6. Doi: 10.1111/j.1741-2358.2011.00535.

13 Yang SE, Park YG, Han K, Kim SY.Association between dental pain and tooth loss with health-related quality of life: the Korea national health and nutrition examination survey A population-based cohort study. Medicine (Baltimore). 2016 Aug; 95(35):e4707. doi: 10.1097/MD.0000000000004707

14 Slade GD. The oral health impact profile. In: slade Gd, ed. Mea-

suring oral health and quality of life. Chapel Hill: university of North Carolina, dental ecology; 1997. P.93-104.

15 World Health Organization. Oral Health Surveys: Basic Methods, 5th ed.; World Health Organization: Geneva, Switzerland, 2013; ISBN 978-92-4-154864-9.

16 Warsi, I., Younus, A., Rasheed, A. et al. Oral health-related quality of life in patients with upper gastrointestinal and hepatic disorders in Pakistan: validation of the Oral Health Impact Profile-14 in the Urdu language. BDJ 2018:4, 17036. doi:10.1038/s41405-018-0002-8

17 Javed O, Bernabe Eduardo. Oral impacts on quality of life in adults patients with class I, II and III malocclusion. Oral health prev dent 2016;14:27-32

18 Maia CdVR, Mendes FM, Normando D. The impact of oral health on quality of life of urban and riverine populations of the Amazon: A multilevel analysis. PLoS ONE 2018: 13(11): e0208096. https://doi.org/10.1371/journal.pone.0208096

19 Zhang Q, Witter DJ, Gerritsen AE, et al. Functional dental status and oral health-related quality of life in an over 40 years old Chinese population. Clin Oral Invest. 2013; 17(6):1471–80.

20 Lawrence HP, Thomson WM, Broadbent JM, Poulton R. Oral health-related quality of life in a birth cohort of 32-year olds. Community Dent Oral Epidemiol. 2008;36:305–16

21 Haag DG, Peres KG, Balasubramanian M, et al. Oral conditions and health-related quality of life: a systematic review. J Dent Res. 2017;96(8):864–74.

22 Angelika Lantto, Robert Lundqvist, Inger Wårdh .Quality of life related to tooth loss and prosthetic replacements among persons with dependency and functional limitations, Acta Odontologica Scandinavica, 2019. DOI: 10.1080/00016357.2019.1668054

23 Yamane-Takeuchi M, Ekuni D, Mizutani S, Kataoka K, Taniguchi-Tabata A, Azuma T, Furuta M, Tomofuji T, Iwasaki Y, Morita M. Associations among oral health-related quality of life, subjective symptoms, clinical status, and self-rated oral health in Japanese university students: a cross-sectional study. BMC Oral Health. 2016; 16:127.

24 Montero-Martín J, Bravo-Pérez M, Albaladejo-Martinez A, Hernandez-Martin LA, Rosel-Gallardo EM. Validation the oral health impact profile (OHIP-14sp) for adults in Spain. Med Oral Patol Oral Cir Bucal. 2009; 14(1):44-50.

CONTRIBUTIONS BY AUTHORS

1 **Muhammad Ali Leghari, Fatima Abid:** Principal Author, Manuscript Writing .
2 **Fatima Abid, Mirza Adeel Anwer, Zarah Subhan, Fizza Tariq:** Project Co-Supervisor.
3 **Muhammad Ali Leghari, Zarah Subhan:** Project Co-Supervisor, OCT.
4 **Muhammad Ali Leghari, Fizza Tariq:** Project Supervisor, XMT.
5 **Muhammad Ali Leghari, Malik Muhammad Saqib:** Critical revision