ORAL HEALTH RELATED QUALITY OF LIFE OF GERIATRICS PATIENTS IN PESHAWAR

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ABSTRACT

The aim of this study was to evaluate oral health related quality of life (OHRQoL) and its association with DMFT(Decayed, Missed and Filled Teeth) and types of prosthesis in geriatric patients seen at the above named hospital . This cross sectional study was conducted at medical OPD of KTH Peshawar from October 2019 to December 2019 by using Non-probability consecutive sampling method of 411 geriatric patients .All the participants were approached as per inclusion and exclusion criteria, after obtaining the written informed consent all the patients had an oral examination by single examiner followed by an interview through a validated questionnaire This questionnaire consists of demographics after this OHRQoL were assessed through OHIP-14 scale ,having Likert scoring, with higher scores indicating poor oral health related quality of life (lower OHRQoL) and vice versa. In OHIP-14 scale cut-off values for 'good oral health (OH)' with OHIP-14 score <9.33 (SD ± 6.5) and 'poor OH' ≥11.0 (SD ± 6.9).The mean OHIP-14 score of the present study was 62.35± 10.94,(range 0-56), which is much higher than the cutoff value for poor OHRQoL 'poor OH' ≥11.0 (SD ± 6.9). The mean DMFT calculated in the present study was 33.33 SD 8.34. There was weak positive association between DMFT and OHIP score. There was also association between types of prosthesis and OHIP score.Oral health related quality of life was good in participants having fixed partial denture and poor in participants having complete denture. This study found poor OHRQoL in geriatric patients seen at KTH .DMFT and Type of prosthesis had association with OHRQoL.

Key words: *Geriatric patients, Oral Health Related Quality of Life, Oral Health Impact profile.*

INTRODUCTION

Health is stated to be multi-dimensional so this concept of wellbeing includes physical functioning, emotional and social wellbeing.[1]Subjective wellbeing is the person's evaluations of quality of life.[2.]Wellbeing can be assessed by measuring improvement in quality of life related to health care.[3]

The degree up to which a person can benefit the essential opportunities of life is called quality of life, oral and dental quality of life can be defined as a measurement of multi-dimensional effects of oral functions on patient well-being which is called oral health related quality of life.[4]

Over the past 20 years many researchers developed specific instruments for measurement of oral health and its impact on individual's quality of life.[5]Among these the Oral Health Impact Profile (OHIP-14) is one of the most useful and widely used because it has demonstrable psychometric properties. The first original version of OHIP-14 include 49 items based on theoretical model developed by (WHO) World Health Organization and used by Locker [4]but it was too long therefore shorter version of 14 item version called an OHIP-14 was developed by Slade.It is 14 items questionnaire designed to measure self-reported functional limitation, discomfort and disability attributed to oral conditions.[6]

There is paucity of local studies on the topic of OHRQoL measurement in geriatrics. The findings of developed countries may not be applicable to the population of this province due to changes in environmental and cultural conditions.

Objective of the study was to investigate oral health related quality of life in geriatric patients who visited Khyber Teaching Hospital. The specific objectives were

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to study associations between oral health related quality of life and DMFT of the participants as well as types of prosthesis

MATERIAL AND METHODS

This study was done to assess Oral health related quality of life in geriatric population. It was a Cross sectional study. Data were collected in the Medical OPD of Khyber Teaching Hospital; duration was 3 months (Oct, 2019 to Dec, 2019). Sample size was calculated using WHO sample size calculator, taking population proportion of 50%, margin of error 0.05 and power of study 80% the calculated sample size was 385,while 400 participants were included in this study .Sampling technique was Non probability consecutive.

Inclusion Criteria

All elderly individuals > 60 years of age who came to Medical OPD of Khyber Teaching Hospital for diagnosis or treatment of their medical problems .Data were collected after their consent on written informed consent form.

Exclusion criteria

Among all elderly individuals > 60 years of age, individuals seeking treatment or diagnosis for acute medical problems including blood disorders, physically and mentally handicapped patients were excluded.

The study protocol was approved by the ethical committee. After the ethical approval from KCD and administrative permission from KTH patients were approached as per inclusion and exclusion criteria. After the written informed consent patients gone through an oral examination for recording of dentition status, prosthesis status and overall visual oral hygiene status. This examination was done by using wooden disposable spatula and handy torch light. The oral examination was done by the principal investigator. After the oral examination all the individuals were interviewed face to face by the principal investigator using questionnaire having demographics which were age, gender,marital status,comorbidity, socioeconomic status,smoking status, education level and for oral health related quality of life measurement OHIP-14 having Likert scale was used.

OHIP-14 measures the impact of oral and dental problems and covers physical, psychological and social dimensions of daily living.It is divided into seven dimensions, each with two items in each domain.These seven domains are functional limitation,physical pain,psychological discomfort,physical disability,psychological disability,social disability and handicap.This modified version has demonstrated consistency,responsiveness to change and adequate cross-cultural reliability.The responses are scored on a five point Likert scale, from never to very often.

Total OHIP-14 scores were calculated using the additive scoring method devised by Robinson et al. The scores possible on the OHIP-14 range from 0 to 56, with higher scores indicating poor oral health (lower OHRQoL) and vice versa. Roumani et al. illustrate OHIP-14 cut-off values for 'good oral health (OH)' with OHIP-14 score <9.33 (SD±6.5) and 'poor OH' ≥11.0 (SD±6.9).

Data were entered and analysis performed using IBM SPSS ver.21. CI intervals was 95% and alpha value was 5%.Analysis included descriptive statistics which was expressed in tables, charts, diagrams and in inferential statistics t- test was performed to compare mean OHIP score between two groups and Anova to compare mean OHIP score in between more than two groups.

RESULTS

A total of 411 elderly participants were included, demographics are shown in table.1

Mean OHIP Score(range 0-56) of this study was calculated as 62.35 SD ± 10.940 (Table .2) which is much higher than threshold for poor oral health, i.e. OHIP-14 score >11 SD ±6.5,by applying one sample t-test, the t-value was greater 91.23 p value .000 thus showing greater difference between mean score of this study and standard value which is 11.

Measuring the Oral health related of life of the participants in the present study using the OHIP-14 questionnaire, that majority were reported as "quite often" having had problems in the last one year on 10 of 14 items. There were relatively fewer participants who reported that they "Sometimes" had problems of disturbed concentration Table .3.

Mean DMFT calculated in this study was 22.33 S.D 8.34.

There was week positive association between OHIP score and DMFT score of the participants Pearson Correlation r = .268[**]sig (two tailed) .000.Fig 1.

OHRQoL was found good in patients with fixed partial denture followed by No prosthesis, removable partial denture, mixed prosthesis and complete denture. Fig 2.

DISCUSSION

The study reveals that oral health related quality of life of the participants reported was poor. OHIP is grounded on Locker's conceptual model for measuring the oral health outcomes. Mean OHIP score in the present study was 62.35 SD ± 10.940 which is much higher

TABLE 1: DEMOGRAPHICS

Demographics characteristics	Attributes	Frequency (n)	(%)
Age	60 – 70	250	60.8%
	70 – 8	161	39.2%
Gender	Male	256	62.3
	Female	155	37.7
Address	Rural	188	45.7
	Urban	223	54.3
Marital Status	Single	37	9.0
	Married	205	49.9
	Widowed	166	40.4
	Divorced	3	0.7
Comorbidity	Diabetes	63	15.3
	Heart patient	68	16.5
	Hypertension	64	15.6
	Arthritis	25	6.1
	TB	0.63	15.3
	Asthma	128	31.1
Education Level	Illiterate	183	44.5
	Primary	124	30.2
	SSC	64	15.6
	HSSC	27	6.6
	Bachelors & above	13	3.2
Oral Hygiene status	Good	53	12.9
	Fair	83	20.2
	Poor	275	66.9
Edentulous status	Patients with no teeth	241	58.63
	Patients with teeth	173	42.1
DMFT	Acceptable(<3)	15	3.6
	Average(4-6)	42	10.2
	Poor(>10)	354	86.2
Types of prosthesis	No prosthesis	34	8.3
	RPD	41	10.0
	CD	240	58.4
	FPD	50	12.2
	Mixed	46	11.2

TABLE 2: ONE-SAMPLE STATISTICS

	N	Mean	Std. Deviation	Std. Error Mean	Sig(2-tailed)
OHIP score of the applicant	409	62.35	10.940	.541	.000

TABLE 3: DISTRIBUTION OF THE RESPONSES TO OHIP-14

OHIP items ranging from 0 (never) 1 (seldom) 2 (sometimes) 3 (quite often) 4 (very often)

Description of items — **Distribution of responses (%) n**

Items	Questions	0	1	2	3	4	Mean	S.E.
Functional Limitations								
OH – 1	Chewing difficulty	(5.4) 22	(10.5) 43	(25.1)103	48.9(201)	10.2(42)	2.48	0.49
OH – 2	Bad breath	(7.8) 32	(13.1) 54	(20.4) 84	(51.6) 212	(7.1) 29	2.37	0.052
Physical Pain								
OH – 3	Discomfort eating	(3.2) 13	(10.7) 44	(23.4) 96	(53.8) 22	(19) 37	2.55	0.045
OH – 4	Ulcers	(4.6) 19	(11.7) 48	(11.4) 47	(60.6) 249	(11.7) 48	2.63	0.048
Psychological Discomfort								
OH – 5	Food getting stuck	(5.4) 22	(5.6) 23	(32.8) 135	(45.3) 186	(10.9) 45	2.51	0.047
OH – 6	Feeling shy	(2.2) 9	(9.7) 40	(17.5) 72	(59.6) 245	(80.9) 45	2.67	0.043
Physical Disability								
OH – 7	Avoid eating	(5.4) 22	(8.8) 36	(27.5) 113	(47.2) 194	(11.2) 46	2.50	0.049
OH – 8	Avoid smiling	(7.5) 31	(0.7) 44	(28.7) 118	(42.6) 175	(10.5) 43	2.38	0.052
Psychological Disability								
OH – 9	Disturbed sleep	(8.3) 34	(12.2) 50	(27.3) 112	(41.6) 171	(10.5) 43	2.35	0.054
OH – 10	Disturbed concentration	(3.9) 16	(9.7) 40	(40.1) 165	(36.0) 148	(10.2) 42	2.39	0.046
Social Disability								
OH – 11	Avoid going out	(8.6) 27	(31.6) 130	(41.6) 171	(10.2) 42	(10) 44	1.85	0.051
OH – 12	Less confident	(5.1) 21	(10) 41	(26.3) 108	(49.1) 202	(19.5) 39	2.48	0.048
Handicap								
OH – 13	Daily activities affected	(5.1) 21	(10.9) 45	(43.1) 177	(32.4) 133	(8.5) 35	2.28	0.047
OH – 14	Increase expenditure on dental problems	(7.3) 30	(9.0) 37	(15.1) 62	(57.9) 236	(11.1) 46	2.57	0.052

TABLE.4: COMPARISON OF TYPE OF PROSTHESIS WITH MEAN OHIP SCORE OF APPLICANTS

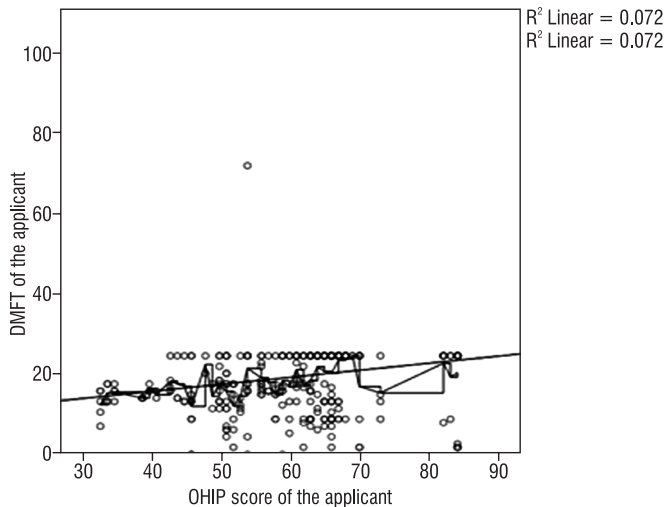|				OHIP score of the applicant		
	N	Mean	Std. Deviation	95% CI for Mean		P value
				Lower Bound	Upper Bound	
No prosthesis	34	55.21	11.767	51.10	59.31	P<.005
RPD	41	56.17	14.115	51.72	60.63	
CD	240	66.80	8.089	65.77	67.83	
FPD	50	52.44	11.141	49.27	55.61	
Mixed	46	59.70	7.432	57.49	61.90	
Total	411	62.24	11.046	61.17	63.31	

Fig 1: Correlation between DMFT and OHIP score of the applicants
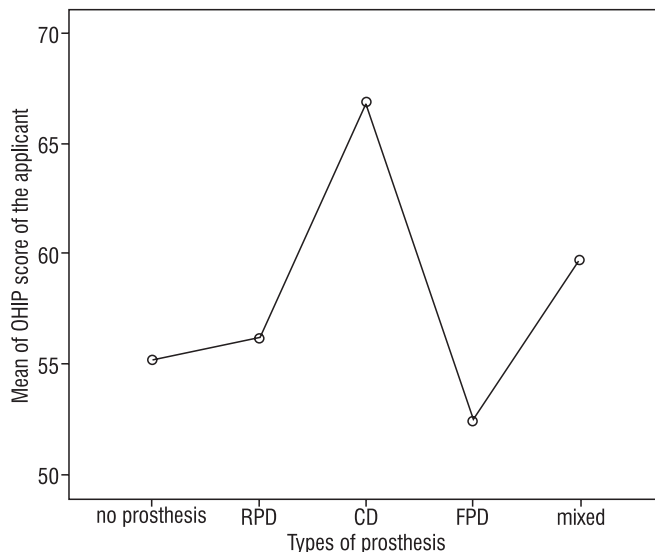

Fig 2: Comparison of type of prosthesis and mean OHIP score of the applicants

than threshold for poor oral health i.e. OHIP-14 score >11 SD ±6.5, thus showing greater difference between mean score of this study and standard value which is 11, which means oral health related quality of life of the participants was found bad. Similar findings were found in the study done by M.A leghari[7] in Karachi in 2017 and found prevalence of OHIP-14 among participants was 76%. Warsi et al.[8] also carried out study in Karachi in 2018, OHIP score of that study was 23.38± 10.47, i.e. oral health related quality of life was also poor while the findings of Kim et all[9] contradicts the findings of the present study in which mean OHIP-score was 10.66±10.7 which is in the range of good oral health related quality of life, another study done by young et all [10]in 2009 in Korean elders showed OHIP score of 7,

which was also in the range of good oral health related quality of life.

The mean DMFT calculated in the present study was 33.33 SD 8.34, but it was unknown that it has effect on the individual daily life. There was weak positive association between DMFT and OHIP score of the participants (r= .268). Those participants who had higher DMFT score had high OHIP score i.e. poor oral health related quality of life.Dahl[11]found that there was association between number of teeth and oral health related quality of life. Similar association was found by Acharya and co-workers[12,] they reported that experience of dental caries i.e. DMFT was associated with OHIP-14 score.

The findings of this study was in agreement with the study of Anukai et all[13,] in 2010 where dentition status and chewing ability was substantially correlated (Pearson coefficient 0.46,95% CI(-0.52 to -0.38) indicates that better dentition status i.e. chewing ability was associated with better OHRQoL (R^2=0.21 p<0.0001). Kim etall[9] in their study in 2009 also found that state of dentition i.e. number of teeth or DMFT was associated with OHIP-score ,as individuals having higher number of healthy teeth or low DMFT had lower mean OHIP score.

Association was found between types of prosthesis and OHIP score. Oral health related quality of life .It was good in participants having fixed partial denture and oral health related quality of life was poor in participants having complete denture while study done by Renzgiulio Bassetti[14] shows contradictory results. In that study oral health related quality of life was poor in patients with RPD then those with FPD and good in patients wearing complete dentures.

Other studies done on oral health related quality of life compared OHRQoL with some comorbidity, while the present study provided base line Data of OHRQoL in elderly people.

Limitations

The present study was carried out in the hospital setting, future research can be done for finding actual Oral health related quality of life in community based research.

Recommendations

Oral health has impact on general health and also on quality of life. There is lack of awareness about oral health related quality of life in geriatrics. Government should make policies to Include Oral health in general health programs and improve oral health related quality of in geriatrics.

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1   **Shazia Makhdoom:**   Wrote article.
2   **Liaquat Ali Malik:**   Over all compiling of the manuscript.
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