

ORAL HEALTH-RELATED QUALITY OF LIFE IN PROSTHODONTIC PATIENTS OF SARDAR BEGUM DENTAL COLLEGE PESHAWAR

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Abstract

Objective: To assess the oral health-related quality of life in prosthodontic patients of Sardar Begum Dental College Peshawar.

Materials & Methods: A self-reporting OHIP-14 questionnaire was given to a convenience sample of 286 patients aged 14 to 80 years. A cross-sectional survey was carried out for four months. The inclusion criterion was patients with missing tooth/teeth in need of replacement with prosthesis. The exclusion criterion was patients with no tooth/teeth missing and mentally handicapped or terminally ill patients. Data analysis was done using SPSS version 19.

Results: The score was assessed from a minimum of 1 to a maximum of 70. Oral health-related quality of life is better with the patient having a low score. The minimum score achieved was 14, and the maximum score achieved was 64. According to results 75% of patients think that they had no problem in pronouncing different words, 74% of patients had no problems with sense of taste, 65% of patients complained of no interruption of meals and 70% of patients had no problems in doing their jobs due to problem in teeth, mouth or dentures. Most patients consider that problem of mastication can be solved with fixed as compared to the removable prosthesis.

Conclusion: Most of the patients with problems in teeth, mouth, or dentures did not affect the quality of life and relaxed, having no embarrassment in the presence of problems in teeth, mouth, or dentures. The patient considers the fixed prosthesis more helpful in resolving problems with esthetics and mastication.

Keywords: Oral health-related Quality of life, Oral health impact profile, Prosthodontic management, Fixed or removable partial denture.

INTRODUCTION

Oral health-related quality of life (OHRQOL) came into being in the 1980s to measure the patient-based outcomes in oral health.¹ OHRQOL is defined as person's assessment of how pain, func-

tional, psychological, discomfort or social life affect his/her well-being in the context of oral health and is often considered as an idea of multi-dimensional context.² Dentist in their daily practice treat different prosthodontic cases and are mainly satisfied with their treatment. Nevertheless, the dentist is unaware of the patients feeling and experience with wearing of the constructed denture. The patient perception and awareness of their oral health status are significant in the field of prosthodontics.³ There is also a vast discrepancy in the evaluation of an individual. As in

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some patients, the absence of teeth does not affect the psychological and social status while the others are affected a lot in their daily living.¹ It is imperative to do a subjective assessment of oral health to flourish oral health-related quality of life measurements. The most significantly used psychometrically tested instrument is the oral health impact profile (OHIP).⁴ The OHIP assesses three conceptual areas (physical, psychological, and social) that measure the individual awareness of the impacts produced by oral problems in general health.⁵ The OHIP-49 questionnaire is widely used to observe changes in OHRQOL, but this instrument has a short version OHIP-14 that is much easier to use.¹ OHIP-14 has well documented psychometric characteristics but less responsive than OHIP-49.¹ Although in this study, we used the OHIP-14 questionnaire to observe the changes in OHRQOL.

The restoration of teeth with implant-supported dentures has considerably improved the quality of life. The quality of patient life is affected by tooth loss but is improved considerably with prosthetic substitution.¹ In older people tooth loss is one of the common dental problems. It could have a measurable impact on the daily living of older people. The quality of life has been related to denture status. The people who wear had a higher oral health-related quality of life scores than those who do not wear dentures.⁶ Quality of life can be defined as “a combination of life conditions and satisfaction with these life conditions weighted by scales of personal values, aspirations, or expectations”.⁶ Utmost clinical studies are mostly concentrated on OHRQOL conclusions after the prosthodontic management with partial or complete removable dentures.¹ A beneficial effect has been exerting on OHRQOL with the replacement of missing teeth, particularly with fixed partial dentures. This is because of inappropriate design and manufacture of removable and complete denture.⁴ OHRQOL is a primary patient engrossed endpoint to be studied while reviewing the effect of modification in the oral cavity and assessing skilled negotiations.⁷ In the last two spans, OHIP has grown as an intense method in the judgment of OHRQOL.⁷ Recent demographic changes in the world population, particularly increasing life expectancy is essential to consider by health care personnel. They must prepare themselves for increasing dental care needs of this increasingly aged society. Therefore, determining

the requirements are of fundamental importance in health care infrastructure planning, so is the case in the field of prosthodontics. From this aspect, it is necessary to evaluate the patient’s problem, needs, and expectations, which may be different across the populations based on cultural and racial differences.⁸

The oral health status of a patient can change from prime health to worsen state with the loss of teeth and reaching to edentulous state. It is further worsened with advancing age, medical complications, and alveolar ridge resorption.⁸ The contemporary study helps in ruling out the patient self-perception concerning their oral health before the prosthodontic management with fixed or partial removable dentures.

MATERIALS AND METHODS

Advance Research and Ethical Committee of Sardar Begum Dental College, Gandhara University approved this cross-sectional descriptive study under approval number GU/2017/3268-78. The sample size for the study was 286 calculated through sample size calculator⁹ using the expected prevalence in the population of 23.5% at a 95% confidence interval. In order to assess the oral health and quality of life, the OHIP-14 questionnaire was administered to a total number of 286 participants. Participants were partially dentate patients attending the prosthodontic department of Sardar Begum Dental College Gandhara University. This cross-sectional survey was carried out for four months (June-September, 2018). The inclusion criterion of the study was patients with missing tooth/teeth in need of replacement with a prosthesis. The exclusion criterion was patients with no tooth/teeth missing and mentally handicapped or terminally ill patients. A convenience sample of patients aged 14 to 80 years were selected. The participants fulfilled the OHIP-14 questionnaire once before the prosthodontic treatment.

According to the adequate epidemiological design, we used the questionnaire and interview method. This instrument consisted of 16 questions with 14 questions being divided into five subscales: 1=Never, 2=Hardly ever, 3=Occasionally, 4=Fairly often and 5=Very often. However, the two questions were related to the location of missing teeth and the type of prosthesis considered by the patient to help resolve the problem of the patient.

The data collection sheets were rectified after being checked for mistakes and errors. The data was typed into a computer, and analysis was done using the SPSS version 19.0. Oral health-related quality of life is better if the score is lower. However, the higher the score, lower is the self-evaluated oral health-re-

lated quality of life. The subjects answered questions in which they evaluated how frequent an oral health problem could occur before prosthodontics treatment with fixed prosthesis or removable dentures.

RESULTS

A total of 286 patients were included in the study. The score was assessed from a minimum of 1 to a maximum of 70. The minimum score achieved was 14, and the maximum score achieved was 64 with a standard deviation of 10.708. The patients with no problem were placed in the range of score of 1-20; patients with the mild problem were placed in the range of score of 21-30, patients with the moderate problem were placed in the range of score of 31-45 and patients with the severe problem were placed in the range of score of 46-70. The results of all these scores are shown in table 1. For simplification of results, the patient’s responses such as never with

Table 1: Groups based on the score for oral health-related quality of life

Groups with score achieved a range	Frequency	Percent
No Problem Group: Score achieved between 1-20	25	8.7
Mild Problem Group: Score achieved between 21-30	104	36.4
Moderate Problem Group: Score achieved between 31-45	108	37.8
Severe Problem Group: Score achieved between 46-70	49	17.1
Total	286	100

Table 2: Percentage of patient’s response to questions 1-8

Question Number	Participants Response	Age Groups (Years)				Total (286)	P-Value
		14-30	31-47	48-63	68-80		
1. Have you got trouble in pronouncing words because of problems your teeth, mouth or dentures	Never	63 (29%)	77 (36%)	58 (27%)	18 (08%)	216 (75%)	0.011
	Occasionally	6 (16%)	16 (42%)	11 (29%)	5 (13%)	38 (14%)	
	Often	3 (10%)	10 (31%)	13 (40%)	6 (19%)	32 (11%)	
2. Have you felt sense of taste worsened with problems of your teeth, mouth or dentures	Never	50 (23%)	84 (40%)	58 (27%)	22 (10%)	214 (74%)	0.110
	Occasionally	14 (30%)	14 (30%)	13 (28%)	5 (11%)	46 (16%)	
	Often	8 (31%)	5 (19%)	11 (42%)	2 (08%)	26 (10%)	
3. Have you had painful aching in your mouth	Never	27 (28%)	28 (29%)	28 (29%)	14 (14%)	97 (34%)	0.272
	Occasionally	28 (22%)	55 (44%)	32 (25%)	11 (09%)	126 (44%)	
	Often	17 (27%)	20 (32%)	22 (35%)	4 (06%)	63 (22%)	
4. Have you found uncomfortable to eat any food because of problems with your teeth, mouth or dentures	Never	31 (35%)	29 (33%)	21 (23%)	07 (09%)	88 (31%)	0.061
	Occasionally	19 (22%)	31 (37%)	23 (28%)	11 (13%)	84 (29%)	
	Often	22 (19%)	43 (38%)	38 (33%)	11 (10%)	114 (40%)	
5. Have you been self conscious because of your teeth, mouth or dentures	Never	36 (33%)	32 (30%)	29 (27%)	10 (10%)	107 (37%)	0.175
	Occasionally	17 (19%)	32 (35%)	30 (33%)	11 (12%)	90 (31%)	
	Often	19 (21%)	39 (44%)	23 (26%)	8 (09%)	89 (32%)	
6. Have you felt tense because of problems with your teeth, mouth or dentures	Never	38 (27%)	41 (29%)	45 (32%)	17 (12%)	141 (49%)	0.060
	Occasionally	17 (27%)	28 (44%)	13 (21%)	5 (08%)	63 (22%)	
	Often	17 (21%)	34 (41%)	24 (29%)	7 (09%)	82 (29%)	
7. Has your diet been unsatisfactory because of problems with your teeth, mouth or dentures	Never	35 (32%)	34 (31%)	30 (28%)	10 (09%)	109 (38%)	0.331
	Occasionally	19 (21%)	37 (42%)	25 (28%)	8 (09%)	89 (31%)	
	Often	18 (20%)	32 (36%)	27 (31%)	11 (13%)	88 (30%)	
8. Have you had to interrupt meals because of problems with your teeth, mouth or dentures	Never	42 (26%)	50 (31%)	53 (33%)	17 (10%)	162 (57%)	0.414
	Occasionally	18 (28%)	28 (43%)	14 (21%)	5 (08%)	65 (23%)	
	Often	12 (20%)	25 (43%)	15 (25%)	7 (12%)	59 (20%)	

Table 3: Percentage of patient’s response to questions 9-14

Question Number	Participants Response	Age Groups (Years)				Total	P-Value
		14-30	31-47	48-63	68-80		
9. Have you found it difficult to relax because of problems with your teeth, mouth or dentures	Never	37 (29%)	41 (32%)	32 (25%)	17 (14%)	127 (45%)	0.607
	Occasionally	19 (20%)	37 (38%)	32 (33%)	8 (08%)	96 (33%)	
	Often	16 (25%)	25 (40%)	18 (29%)	4 (06%)	63 (22%)	
10. Have you been a bit embarrassed because of problems with your teeth, mouth or dentures	Never	43 (28%)	46 (31%)	45 (30%)	16 (11%)	150 (52%)	0.542
	Occasionally	14 (20%)	32 (45%)	17 (24%)	8 (11%)	71 (25%)	
	Often	15 (23%)	25 (38%)	20 (31%)	5 (08%)	65 (23%)	
11. Have you been a bit irritable with other people because of problems with your teeth, mouth or dentures	Never	46 (27%)	50 (30%)	53 (31%)	19 (12%)	168 (59%)	0.001
	Occasionally	15 (32%)	18 (39%)	7 (15%)	6 (13%)	46 (16%)	
	Often	11 (15%)	35 (49%)	22 (30%)	4 (06%)	72 (25%)	
12. Have you had difficulties doing your routine jobs because of problems with your teeth, mouth or dentures	Never	51 (26%)	67 (33%)	59 (29%)	24 (12%)	200 (70%)	0.815
	Occasionally	15 (25%)	26 (44%)	14 (24%)	4 (07%)	59 (20%)	
	Often	6 (22%)	10 (37%)	9 (33%)	2 (08%)	27 (10%)	
13. Have you felt that life, in general, was less satisfying because of problems with your teeth, mouth or dentures	Never	29 (30%)	30 (31%)	29 (30%)	8 (09%)	96 (20%)	0.263
	Occasionally	26 (20%)	52 (39%)	41 (31%)	13 (10%)	132 (20%)	
	Often	17 (29%)	21 (36%)	12 (21%)	8 (14%)	58 (20%)	
14. Have you been totally unable to function because of problems with your teeth, mouth or dentures	Never	57 (26%)	79 (36%)	64 (29%)	21 (09%)	221 (77%)	0.404
	Occasionally	11 (23%)	19 (40%)	10 (22%)	7 (15%)	47 (16%)	
	Often	4 (22%)	5 (28%)	8 (44%)	1 (06%)	18 (07%)	

hardly ever and reasonably often with very often has been merged for showing the relative frequencies. All the results are shown in table 2 and table 3. According to results majority of patients think that they had no problem in pronouncing different words, no problems with a sense of taste, no interruption of meals and no problems in doing their jobs due to the problem in teeth, mouth or dentures.

Regarding the location of missing teeth, it was found that 43% of patients have missing teeth in both anterior and posterior segments, 36% have missing teeth in posterior segments, 14% have missing teeth in the anterior segment, and 6% of them were found to be completely edentulous. Results also showed that 80% of patients, regardless of age factor, consider that their problem of mastication can be solved with

DISCUSSION

The principal objective of this cross-sectional survey was to assess the oral health-related quality of life in prosthodontic patients who attended the prosthodontic department of Sardar Begum Dental College and Hospital Gandhara University Peshawar. The results showed that more than one-third

of the subjects with all types of dental status had experienced one or more oral impacts that affected their daily life.

Oral disease remarkably affects the social and psychological aspect of a patient. The present study shows that quality of life can be improved after prosthodontic management. Majority of the patients were more pleased with their appearance, function, social infirmity, psychological infirmity, anxiety, and physical infirmity. However, most of them thought that if they were treated with a fixed prosthesis, they would be more pleasing than being treated with removable partial dentures or complete dentures.

The intensity evaluation explains how severe the impacts of oral symptoms were on their daily lives. While the occurrence of the oral impacts was quite low, many reported their impacts as being from moderate to severe. This outcome proposes a strong need to arbitrate to report oral health issues of the older people, because they may be unlikely to pursue treatment for somewhat they think is reasonable.

The results of our study were in contrast to some other studies^{12, 13} in a way that about 80% of patients perception was that fixed prosthesis would solve the

mastication and esthetic problems more remarkably as compared to the removable prosthesis. The reason might be the difference in timings for perception recording; we have interviewed the patients before proceeding for the prosthesis. However, the perception changes when recorded after the use of any prosthesis, whether it is removable or fixed. Several studies have been done to show that the delivery of dentures has improved the oral health quality of life of older people⁷ as the wearing of denture improves the chewing ability and enhanced function of oral health.³ As in this study, 30% of the aged patient said that often their diet has been unsatisfactory due to problems in teeth, mouth, or dentures. So a good quality complete denture can improve the chewing ability of patients.⁹ In another study, it has been reported that people receiving new dentures has remarkably improved the quality of life.¹⁰ Problems with chewing and eating dominated the first month after prosthodontic treatment with full removable dentures. These problems were followed by the problems in pronunciation of some sounds. Although samples from this study were not symbolic of the whole population, so it is not directly applicable to associate present outcomes to other studies.

The effect of oral diseases and interferences from the patient's perception, i.e., their appraisal of oral health status and oral health-related quality of life (OHRQoL) presents a very important social-dental indicator.¹¹ As in our study, it has been found that in the total sample population, 31% of patients are occasionally and 32% of patients are frequently self-conscious due to problems in their teeth, mouth or dentures. This characteristic is exceptionally substantial in the elderly population, in which edentulism is at rising and needs a comprehensive oral health thought.¹²

In the community of African-American population, patients were found happier in their edentulous state with a prosthesis than they were in their previous dentate condition. However, in contrast, the majority of patients in our study found to be relaxed, having no embarrassment in the presence of problems in teeth, mouth, or dentures. The results showed that variations among different population groups in the same society must be taken into account while planning health care delivery systems.¹⁴ Location of tooth loss is also vital for patients and affects the quality of patient's life.¹³ Based on the

systematic review and meta-analysis, Gerritsen *et al.* concluded that there is a rather strong indication that tooth loss is related with impairment of oral health-related quality of life (OHRQoL), as location and distribution of tooth loss can affect the severity of the impairment.¹³ In our study, it was found that most of the patient came with missing teeth in both anterior and posterior segments. So the quality of life (QOL) is affected with tooth loss as it can cause functional impairment regarding esthetics and mastication, depending on the location of tooth loss. Regarding the location of missing teeth, the presence of anterior spacing has more impact on OHRQoL than missing posterior tooth.¹⁵

CONCLUSION

Most of the patients with problems in teeth, mouth, or dentures had no difficulties in pronouncing different words, sense of taste, and no interruption of meals. Patients also were relaxed and felt no embarrassment in the presence of problems in teeth, mouth, or dentures. The teeth were mostly missing in both anterior and posterior segments, and patiently considers the fixed prosthesis more helpful in resolving problems with esthetics and mastication.

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