REVIEW ARTICLE

REVIEW OF THE LITERATURE ON PATIENTS' QUALITY OF LIFE IN RELATION TO ORAL HEALTH AND REMOVABLE DENTURES

Dr. Debajyoti Datta*, Prof.(Dr.) Preeti Goel**, Prof.(Dr.) Samiran Das **
Prof.(Dr.) Sayan Majumdar **, Prof.(Dr.) Soumitra Ghosh**

ABSTRACT

OBJECTIVE: The objective of this article is to analyze the literature on the topic, look into how users' quality of life is impacted by complete dentures, removable partial dentures and pinpoint the variables that affect patient satisfaction.

METHOD: This article explores the impact of removable dentures on OHRQoL, focusing on parameters such as masticatory efficiency, speech, aesthetics, and psychosocial confidence. While well-fitting and properly designed dentures can enhance OHRQoL by improving chewing ability and restoring facial aesthetics, poorly constructed or ill-fitting dentures can lead to discomfort, reduced function, and social embarrassment, negatively impacting OHRQoL.

CONCLUSION: In many prosthetic rehabilitation cases, patients' quality of life is improved by treatment with removable dentures. Clinicians should try their best to create dentures that are stable, pleasant, aesthetically pleasing, and allow for the best possible cleanliness.

KEY WORDS

Oral health related quality of life, complete denture, removable partial denture

ABOUT THE AUTHORS

*Post Graduate Trainee, **Professor
Department of Prosthodontics and Crown & Bridge
Gurunanak Institute of Dental Sciences and Research

CORRESPONDING AUTHOR

Dr. Debajyoti Datta
Post Graduate Trainee
Department of Prosthodontics and Crown & Bridge,
Gurunanak Institute of Dental Sciences and Research
Vill: Uttar Chatra, P.O: Dakshin Chatra, PIN: 743247,
Phone no: 8910727320
e-mail : debajyotidattadj@gmail.com

INTRODUCTION

Oral health plays a pivotal role in overall health and well-being, influencing physical functions, social interactions, and psychological states. Tooth loss, a prevalent issue worldwide, significantly impairs oral health, leading to challenges in eating, speaking, and maintaining facial aesthetics. Removable dentures have long been a primary treatment modality for edentulous patients, offering an affordable and accessible means to restore oral functionality and aesthetics.[1]

While dentures provide numerous benefits, their impact on patients' oral health related quality of life (OHRQoL) has been widely debated. OHRQoL is a multifaceted concept that measures how oral health conditions affect an individual's daily life, self-esteem, and social interactions. Denture users often report improvements in functional and psychosocial domains but may also encounter challenges such as discomfort, adaptation difficulties, and maintenance requirements.[1]

This review aims to explore the existing literature on the relationship between removable dentures and OHRQoL, focusing on the benefits, limitations, and factors influencing patient satisfaction. Understanding these dynamics is crucial for optimizing denture design, improving patient outcomes, and enhancing overall quality oflife.

The impact of prosthodontic treatment on OHRQoL:[2]

1. Preservation of Oral Health :

Prosthodontic treatments can help preserve remaining teeth and surrounding oral structures by distributing biting forces evenly and preventing further dental deterioration.Dental prostheses can improve oral hygiene practices by facilitating

2. Improved Oral Function :

Prosthodontic interventions such as dental implants, dentures, crowns, and bridges can restore or replace

missing teeth, improving chewing and speech. Restoring proper occlusion and dental alignment through prosthodontic treatments can enhance bite function and alleviate discomfort during eating and speaking.

3. Enhanced Aesthetics:

Dental prostheses can improve the appearance of the smile by correcting misalignments, and restoring natural tooth contours. Prosthodontic treatments can boost self-esteem and confidence by providing patients with a more aesthetically pleasing smile.

4. Increased Comfort and Stability:

Well-fitted dentures, crowns, and bridges can enhance oral comfort and stability, reducing discomfort associated with loose or ill-fitting prostheses. Dental implants offer superior stability and durability compared to traditional removable prostheses, providing patients with a more natural and comfortable chewing experience.

5. Restoration of Facial Esthetics:

Prosthodontic interventions can address facial collapse and sagging associated with tooth loss, restoring facial proportions and improving overall facial aesthetics. Dental implants stimulate the underlying jawbone, preventing bone loss and maintaining facial contours for a more youthful appearance.

6. Psychosocial Well-being:

Restoring oral function and aesthetics through prosthodontic treatment can positively impact patients' social interactions, self-image, and quality of life. Improved oral health and confidence in one's smile can lead to enhanced social relationships, increased participation in social activities, and reduced feelings of embarrassment or self-consciousness.

Gift and Redford coined the term oral health-related quality of life (OHR.QoL) in 1992, and it is a multifaceted metric. According to Locker,[11] when discussing oral health, we focus on the individual and how oral diseases, disorders, and conditions, whether they are limited to the oral cavity or connected to other medical conditions, threaten health, well-being, and the quality of life, rather than the oral cavity itself."

These days, defining ORHQoL is a crucial component of studies assessing the results of preventative and therapeutic initiatives meant to enhance oral health. A number of metrics have been developed to evaluate the quality of life associated with dental health and most of them are questionnaires.

Some, like the General Oral Health Assessment Index (GOHAI), address the problem generally and can be applied to all patients; others, like the Child Oral Impacts on Daily Performances (Child-OIDP), are recommended for certain patient groups. The Oral Health Impact Profile (OHIP) and Oral Impacts on Daily Performances (OIDP) are two of the most widely utilized markers. There are 49 detailed questions on the OHIP questionnaire. The statements are separated into seven categories: handicap, social disability, physical disability, psychological discomfort, pain, and functional limits. Respondents are asked to select from five alternative responses---"never," "hardly ever," "occasionally,1'[11] fairly often," and "very often"---on a scale of 0 to 4 to indicate how frequently they encountered each obstacle during the reference period. Due to the lengthy questionnaire (about 15 minutes) and drawback of this kind of OHIP, a condensed (14-point) version of the indicator has also been developed. OIDP assesses how oral health issues affect everyday activities such as eating and enjoying food, speaking, clearly pronouncing words, sleeping and relaxing, exposing one's teeth without feeling self-conscious, interacting with others, smiling, and laughing.

Complete Dentures:

Loss of tooth affects the normal functional activities resulting in a range of reactions in edentulous individuals. Edentulous patients are always conscious about their general appearance. There are a large number of edentulous patients in all communities, and the trend suggests that the number in this group will continue to increase in the future. This can be explained with the increase in life expectancy rate. The most common treatment plan for the edentulous patients is the conventional complete denture. It is extensively used because it is relatively inexpensive, aesthetically acceptable and easy to clean. All normal functions can be regained within a short period of time with these conventional dentures. The success of the treatment plan of edentulous state depends mainly on the patient's opinion, as they are concerned more about their denture stability, comfort, speech, ease of removal and cleaning. It seems that the success of complete dentures as a treatment option can be related to the quality of the impressions, the bite force and the chewing capacity and efficiency as well as the patient's perception. Any removable prostheses, even at their best, have functional limitation on people . Outcome of any prosthetic treatment can be obtained either clinically or from patient satisfaction. To capture the functional and psychosocial aspects, the clinical indicators alone might not be sufficient, as they do not include the patients' perceived needs or preferences. Accessing the subjective perception is preferred in measuring the functional outcome of denture treatment, mainly because of the simplicity of the tools, low cost and lack of need for special equipment. The placement of new dentures should be

	Sub domain
Functional Limitation	Chewing difficulty
	Food entrapment
	Ill-fitting denture
Physical pain	Painful aching in mouth
	Eating conlfort
	Presence of sore spots
	Uncomfortable dentures
Psychological discomfort	Worry due dental problem
	Self-conscious due to dental problem
Physical disability	Avoiding some types of food
	Inability to eat
	Interruption to eating
Psychological disability	Upset due to dental problem
	Embarrassed due to dental problem
Social disability	Avoid going out
	Less tolerant with friends and family
	Irritable to others
Handicap	Unable to enjoy company
	Dissatisfaction with life in general

accessed by the point of view of the patient. Studies in edentulous subjects strongly support the concept of patient based measures to be more reliable than functional measures.[4]

Among the available short versions of questionnaire, the OHIP-EDENT has been deemed the most appropriate tool for the edentulous patients, as it presents a set of specific questions. The tool detects the impact of oral health on the quality of life of patients with complete denture prostheses, before and after they have received them. The OHIP-EDENT is a 19-question survey with seven subscales: functional limitation, physical pain, psychological discomfort, physical disability, psychological disability, social disability and handicap.[5]

The questionnaire gives a choice of five answers. A simple score is calculated by adding the responses to all the questions (0 = never; 1= seldom; 2 = fairly often; 3 = often; 4 = very often). It ranges from 0 to 76. The lowest scores represent a satisfactory perception of an individual's oral conditions, and therefore higher satisfaction and better quality of life.[5]

Giving out new prostheses improves patients' quality of life by restoring their sense of social integrity and wholeness, their comfort level when chewing food, and their sense of self-worth and self-image. According to majority of resea.rcbC6J, many patients find the adaptation phase particularly tough, particularly during the : tint month of use when they have the most trouble speaking and maintaining the denture. These findings highlight the need of providing the patient with thorough and unambiguous instructions for denture cleanliness as well as information about any challenges that may arise throughout the adaptation process. One of the key elements affecting the patient1s satisfaction appears to be the adequate retention of the lower full denture.

According to research by Komagamine et al.[7], when the lower denture is replaced and its retention is improved, consumers' comfort levels are considerably increased. Improper stability and retention of the mandibular denture can hinder the positive results of prosthetic treatment. According to Bae et al.(S), adequate denture retention is necessary for the patient to chew properly, which in term greatly affects their acceptance of the prosthesis. These results highlight the necessity for extra precision when taking functional impressions or when replacing or relining older complete dentures on a regular basis.

According to Albaker et al.[9], patients who have a denture in one jaw and their natural teeth in the other are often happier than those who have both mandibular and maxillary dentures, It was also shown

that the level of dissatisfaction was higher among older individuals.

Removable Partial Dentures:

Partial edentulism is the loss of one or more, but not all, of the natural teeth in a dental arch. While the global burden of severe and total tooth loss had declined significantly, partial edentulism remains prevalent and is mainly attributed to dental caries and periodontal diseases.

Many treatment modalities are available to restore the resultant loss of function and aesthetics due to partial tooth loss, ranging from removable to fixed dental prostheses and implant prostheses.

K. H. Bae et al.(2006)[10] compaired the oral health related quality of life (OHR.QoL) between older Korean adults with complete and partial removable dentures using oral health impact profile (OHJP). Bivariable analysis and multiple linear regression analysis were employed to examine the relationship between OHIP scores and the status of detachable dentures. Compared to CD users, RPD users scored higher on eight items. They were "tense," "unable to brush teeth," "less tolerant to family members,1' "food catching,[11] "sensitive teeth," "toothache," "tense," "breath stale," and[11] irritable with others." Compared to CD users, RPD users may have greater scores for functional limitation, physical pain, and psychological discomfort. Although it wasn't statistically significant, RPD users tended to have somewhat higher OHIP-49 scores than CD users. The current study's results verify that RPD and CD users do not generally differ in their OHRQoL. However, RPD users may encounter issues with the OHIP items and subscales.

M. Inukai et al. (2008)[11] examined the association between denture quality and OHR.QoL in individuals wearing removable partial dentures (RPDs). The study results demonstrated that denture quality was substantially associated with OHIP-J49 summary scores. Better denture quality was related to better OHR.QoL status, and this finding was independent of age, gender, or number of missing teeth.

The study participants were 245 consecutive patients (mean age: 63.3 ± 8.7 yrs) at a university-based prosthodontic clinic who wore RPDs for more than one month. RPD quality and OHRQoL were determined by means of a 100-mm visual analog scale (VAS) and the 49-item Oral Health hnpact Profile-Japanese version (OHIPJ49), respectively. Linear regression analysis between RPD quality and OHR.QoL revealed that a 10-mm VAS increase in RPD quality rating was related to -2.8 OHIP-J49 units (95% confidence interval: -4.5 to -1.1, p = 0.001), which represents an improvement in OHRQoL. The results suggest that RPD quality influences individuals' OHRQoL to a clinically significant extent.

Based on the limited evidence available, this review found that RPD rehabilitation appear to improve OHRQoL in the short term up to 6 months, with a very low level of certainty. The long-term effect of RPD treatment on OHRQoL after 12 months is inconclusive.

CONCLUSION

In many prosthetic rehabilitation cases, patients' quality of life is improved by treatment with detachable dentures. Clinicians should try their best to create dentures that are stable, pleasant, aesthetically pleasing, and allow for the best possible cleanliness. The research included in this review concludes that patients should be informed of potential difficulties during the adaptation phase and given all the information they require regarding denture care and oral hygiene. For dentists, patient care is essential throughout the whole prosthetic treatment process, not just in the initial months following denture delivery. Patients who have never worn a detachable item previously should receive special attention. Both partial and full dentures that are removable are no substitute for natural teeth; but they can provide a predictable and efficient prosthetic rehabilitation approach that benefits the patient and the physician.

REFERENCES

1. Van Waas M.A.: The influence of clinical variables on patients' satisfaction with complete dentures. Journal of Prosthetic Dentistry. 1990, 63, 307-310.

2. Selvamani Y, Singh P. Socioeconomic patterns of underweight and its association with self-rated health, cognition and quality of life among older adults in India. The Public Library of Science. 2018 Mar 7;13(3):e0193979.

3. Kolciuk: L, Godlewski T. Oral health-related quality of life of patients using removable dentures-review of literature. Dental and Medical Problems. 2015 Jul;52(2):222-6.

4. Da Rosa TG, Reginato VF, Maroli A, dos Santos MB, Sanchez-Ayala A, Bacchi A. Evaluation of the quality of life of mono or bimaxillary edentulous individuals seeking care in the public health system. Revista Brasileira de Odontologia. 2017;74(4):279-282.

5. Allen I F, Locker D. A Modified Short Version of the Oral Health Impact Profile for Assessing Health-Related Quality of Life in Edentulous Adults. International Journal of Prosthodontics. 2002; 15: 446-450.

6. Topic J, Poljak-Guberina R, Periic-K.irSic s, Kovacic I, Petricevic N, Popovac A, Celebic A. Adaptation to New Dentures and 5 Years of Clinical Use: A Comparison between Complete Denture and

Mini-implant Mandibular Overdenture Patients based on Oral Health-Related Quality of Life (OHRQoL) and Orofacial Esthetics. Acta Stomatologica Croatica. 2022 Jun 1;56(2).

7. Komagamine Y., Kanazawa M., Kayba Y., Sato Y., Minakuchi S., Sasaki Y.: Association between self-assessment of complete dentures and oral health-related quality oflife. Journal of Oral Rehabilitation. 2012, 39, 847-857.

8. Bae K.H., Kim C., Paik D.I., Kim J.B.:A comparison of oral health-related quality of life between partial and removable denture-wearing older adults in Korea. Journal of Oral Rehabilitation. 2006, 33, 317-322.

9. Albaker A.M.: The oral health-related quality of life in edentulous patients treated with conventional complete dentures. Gerodontology. 2013, 30, 61-66.

10. Bae KH, Kim C, Paik DI, Kim JB. A comparison of oral health related quality of life between complete and partial removable denture-wearing older adults in Korea. Journal of Oral Rehabilitation. 2006 May;33(5):3l7-322.

11. Inukai M, Baba K. John MT, Igarashi Y. Does removable partial denture quality affect individuals' oral health? Journal of dental research. 2008 Aug; 87(8): 736-739.