

## Original Research Article

**OHRQoL: Oral Health Related Quality of Life : Complete Dentures**Dr. Aakanksha Sharda<sup>1</sup>, Dr. Artika Sharma<sup>2</sup>, Dr. Avantika Negi<sup>3</sup><sup>1</sup>Ex Post-graduate student, Department of Prosthodontics, Crown and Bridge, Darshan Dental College and Hospital, Udaipur, Rajasthan, India.<sup>2</sup>Post graduate student, Department of Periodontology and Implantology, D.J.College of Dental Sciences and Research, Modinagar, Uttar Pradesh, India.<sup>3</sup>Post graduate student, department of periodontics, Bhojia dental college, Baddi, Himachal Pradesh, India.**\*Corresponding Author:**

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**Abstract:** When assessing the outcomes of dental treatment, it is important to consider the clinicians as well as the patients' point of view. The dentist must attempt to restore, most often elderly patient with mental/physical and/or financial difficulties, to an acceptable level of esthetics and function. The purpose of the study was to evaluate the development of oral health-related quality of life (OHRQoL) in patients with modified complete dentures and the association between OHRQoL and overall patient satisfaction. The study population consisted of 30 patients with severely resorbed ridges, who wore modified complete dentures fabricated within a span of 1-3 years and were recalled for follow-up. The modifications were done in the impression techniques, jaw relations, teeth arrangement, fabrication of the complete dentures; according to the clinical condition of the patients. Patients were requested to complete a questionnaire that was designed to show a semi quantitative degree of satisfaction with their dentures (subjective evaluation). The oral condition and denture quality was assessed clinically by an experienced clinician (objective evaluation). After evaluating the questionnaires, the improvement in the quality of life of the patients, including mastication, esthetics etc; from the patients' perspective as well as the clinician's perspective was judged. Statistical analyses were carried out and correlations assessed using the Pearson chi-square test. A significant impact was noted on chewing, fit and comfort of the mandibular denture ( $p < 0.01$ ) as well as patient's overall satisfaction with the modified dentures ( $p < 0.05$ ). However, no significant results were found while analysing the fit and comfort of the maxillary denture, speech and esthetics of the dentures ( $p > 0.05$ ). The analyses of these results provide evidence for improved quality of life of patients with modified complete dentures. Significant improvements were recorded in almost all domains.

**Keywords:** quality of life, patient satisfaction, oral-health, modified complete dentures

**INTRODUCTION**

Complete dentures are the most common form of prosthetic rehabilitation for edentulism [1]. Effect of new, well-fitting esthetic, functional complete dentures on a patient's social life, sense of well being, and quality of life is often dramatic [2]. On post-insertion visits, we might note new hairstyles, make-up, new job, a change in dress and/or personality change. Changes such as these justifiably make clinicians proud of their work and skills. However, correlations between putative factors influencing complete denture satisfaction have been generally weak and often statistically nonsignificant. Literature lacks consensus as to psychologic and patient personality influences on denture satisfaction.

The term quality of life (QoL) references the general well-being of individuals and societies. The term

is used in a wide range of contexts, including the fields of international development, healthcare, and politics. It should not be confused with the concept of standard of living, which is based primarily on income. Standard indicators of the quality of life include not only wealth and employment but also the built environment, physical and mental health, education, recreation and leisure time and social belonging [3]. Improvement of oral health and quality of life is the main goal of contemporary dentistry and has been considered as an important part of patient's well-being. Eliminating oral pain and the problems connected to chewing and speech, as well as the improvement of aesthetics contributes to the improvement of oral health.

According to WHO, QoL is defined as a subjective, phenomenological, multidimensional construct based on individual's internal frame of

reference .Oral health related quality of life (OHRQoL) has been considered as an outcome measure to assess consequences of edentulism and available treatment options [4].

An important aspect of patient care involves an “appreciation of quality of life”, a subjective assessment of what each patient values most. Such an assessment requires detailed, sometimes intimate knowledge of the patient, which usually is obtained only through deliberate unhurried and often repeated conversations [5].

Therefore, the purpose of this study was to evaluate (1) the development of oral health-related quality of life (OHRQoL) in patients with complete dentures and (2) the association between OHRQoL and patient satisfaction.

## METHODOLOGY

### Study design

This cross-sectional study was conducted on Edentulous patients with severely resorbed ridges, who reported to Department of Prosthodontics, Crown and Bridge within a span of 1-3 years (from 2010-2013) and were not satisfied with their existing dentures and wanted a new set of dentures to be made. Patients were requested to complete a questionnaire (Appendix) that was designed to show a semi quantitative degree of satisfaction with their present dentures (subjective evaluation). The oral condition and denture quality was assessed clinically by an experienced clinician (Table 1) (objective evaluation). After this, according to the clinician’s assessment of the patients’ condition, a new set of dentures was fabricated as in few cases implant placement and implant-supported prosthesis was not the treatment of choice, whereas others could not afford the cost of the treatment. The modifications were done in the impression techniques, jaw relations, teeth arrangement, fabrication of the complete dentures.

In cases where patients had flabby/ redundant/ hyperplastic tissues in either or both the edentulous arches, the modification was done in the impression procedures for making final impressions. The technique which was followed was Osborne’s technique [6]. In cases with a severely resorbed mandibular ridge, a neutral zone technique was followed. The neutral zone was recorded with impression compound attached to a record base after a tentative jaw relation and teeth arrangement was done according to the indices obtained from the neutral zone rim [7]. In cases where the maxillary and mandibular ridges were severely resorbed, such that there was a large interridge distance

making it challenging to fabricate a complete denture; a hollow denture technique was followed [8]. This helped in reducing the weight of the prosthesis and enhancing the retention. In certain cases, the patients had teeth intact in either of the arches and a single denture had to be constructed for the opposing edentulous arch. In these patients, cast metal dentures were fabricated owing to the history of frequent denture teeth/denture fractures due to the high occlusal forces from the opposing intact dentition.

The patients were then recalled, and on the follow up visits, again requested to fill up the questionnaire (Fig 1,2,3) to show their degree of satisfaction with their new set of dentures. The oral condition and the new denture quality was assessed again clinically by an experienced clinician (Table 1).

In this way, for each patient, a pre-treatment and a post-treatment level of satisfaction with the prosthesis whether conventional or modified, along with the clinical evaluation was done.

The data was statistically analysed and correlations assessed using the Pearson chi-square test.

Clinical assessment of the oral condition and denture quality was done by the clinician according to the following parameters and the treatment plan was then decided.

## RESULTS

A significant impact was noted on chewing, fit and comfort of the modified mandibular denture ( $p < 0.01$ ) as well as patient’s overall satisfaction with the modified conventional dentures ( $p < 0.05$ ). (Table 2)

However, no significant results were found while analysing the fit and comfort of the maxillary denture, speech and esthetics of the new/ modified conventional dentures ( $p > 0.05$ )

Generally, all the patients were satisfied with the maxillary denture received during their treatment. A higher rate of dissatisfaction was recorded for the mandibular denture (36%) than the maxillary denture (10%). It is a clinically known fact that the lower denture is more problematic and this has been verified by Carlsson *et al.* [10]. These results were in correlation with Yoshida *et al.* [11] who agreed that patients who were satisfied with their mandibular dentures had a greater overall satisfaction with their complete dentures [8].

**Table 1: Factors Considered in Objective/Clinicians Assessment of Complete Dentures**

PARAMETER	QUALITY
RESIDUAL RIDGE SHAPE	a. Square b. Ovoid c. Tapering d. Square tapering
RIDGE CONDITION	a. Firm b. Resilient c. Well formed d. Moderately resorbed e. Severely resorbed
RIDGE RESORPTION	a. Atwoods class I b. Atwoods class II c. Atwoods class III d. Atwoods class IV e. Atwoods class V f. Atwoods class VI
COMPROMISED CONDITIONS	a. Flabby tissue b. Severely resorbed c. Presence of teeth in opposing arch d. Tori
COMPLETE DENTURE EVALUATION: A. RETENTION B. STABILITY C. SUPPORT D. AESTHETICS E. OCCLUSION F. VDO G. MASTICATORY EFFICIENCY H. DENTURE HYGIENE I. ARTICULATION J. PARAFUNCTION	Good/adequate/ poor  Satisfactory/ not satisfactory  Increased/ decreased Good/adequate/ poor Satisfactory/ not satisfactory  Present/ absent

**Table 2 : Pearson's Analysis for Patients Satisfied with the Old and New Dentures**

VARIABLE	OLD DENTURES	NEW DENTURES	P VALUE	INTERPRETATION
FIT <sub>u</sub>	7	23	>0.05	Not significant
COM <sub>u</sub>	9	21	>0.05	Not significant
FIT <sub>L</sub>	4	26	<0.05	significant
COM <sub>L</sub>	4	26	<0.05	significant
CHEW	9	21	<0.01	significant
APP	10	20	>0.05	Not significant
SPC	7	23	>0.05	Not significant
SATISFACTION	4	26	<0.01	significant

Explanation of the variables used:

FIT<sub>u</sub>: Patient assessment of fit of maxillary denture

COM<sub>u</sub>: Patient assessment of comfort with maxillary denture

FIT<sub>L</sub>: Patient assessment of fit of mandibular denture

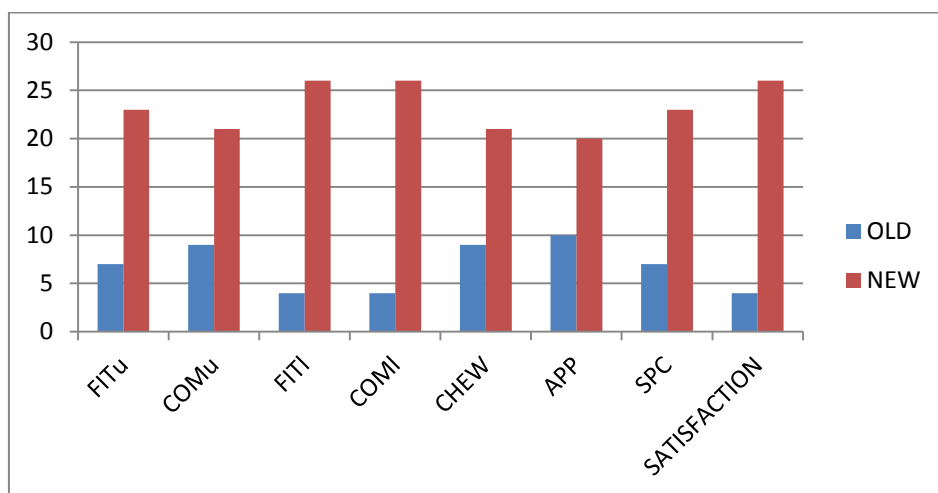
COM<sub>L</sub>: Patient assessment of comfort with mandibular denture

CHEW: Patient assessment of chewing with complete dentures

APP: Patient assessment of appearance with complete dentures

SPC: Patient assessment of speech with complete dentures

SATISFACTION: patient assessment of overall satisfaction with complete dentures



**Fig-1: Comparison of Patients Satisfied with Old and New Dentures**

## DISCUSSION

As expected, most patients had fewer complaints with the retention and comfort of the maxillary dentures than with the mandibular dentures; the maxillary residual ridges were better shaped, less resorbed and less resilient than the mandibular ridges. The modified conventional dentures yielded better results in almost all aspects of patients' satisfaction and improvement of quality of life [9].

It has been found that subjects with considerable tooth loss and without recourse to dentures was an important predictor of OHRQoL and associated with a reduced quality of life.

## CONCLUSION

The analyses of these results provide evidence for the following:

- Modified complete dentures do improve the quality of life of patients. Significant improvements were recorded in almost all domains.
- Results emphasise the importance of follow-up of patients during the period of adaptation

## CLINICAL IMPLICATIONS:

- Importance of providing patients' with high quality dentures should be self-evident
- A clinician should spend more time counselling the edentulous patients prior to and during denture construction.
- Recognise the important role played in improving a patient's quality of life aside from just manufacturing a complete denture for functional purposes.

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**Appendix**  
**THE QUESTIONNAIRE FOR SUBJECTIVE ASSESSMENT OF COMPLETE DENTURES**

DEPARTMENT OF PROSTHODONTICS, CROWN AND BRIDGE  
 DARSHAN DENTAL COLLEGE and HOSPITAL, Udaipur

Please answer each question by ticking the box beside the answer you agree with most:

कृपया अपने अनुसार हर प्रश्न का उत्तर सही मनु खाने से अधिक {✓} करें:

1. Please tick the box which describes the dentures you wear (if any) best  
 आप कौसी कितने समय से पहनते हैं?

New dentures (made within last 1 year)  
 एक साल के भीतर की

Older Dentures (older than 1 year)  
 एक साल से पुरानी

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2. Do you wear the dentures while eating?  
 क्या आप खाना खाते हुए कौसी पहनते हैं?

YES हाँ

NO नही

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3. How well does your upper denture stay in place?  
 आपकी ऊपर की कौसी कितने अच्छे से बैठती है?

Very well बहुत अच्छी     well अच्छी     poorly बुरी     very poorly बहुत बुरी

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4. How well does your lower denture stay in place?  
 आपकी नीचे की कौसी कितने अच्छे से बैठती है?

Very well बहुत अच्छी     well अच्छी     poorly बुरी     very poorly बहुत बुरी

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5. How comfortable is your upper denture?  
 आपकी ऊपर की कौसी कितनी आरामदायक है?

Very comfortable बहुत आरामदायक     comfortable आरामदायक     uncomfortable कष्टदायक     very uncomfortable बहुत कष्टदायक

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6. How comfortable is your lower denture?  
 आपकी छतर की कौसी कितनी आरामदायक है?

Very comfortable बहुत आरामदायक     comfortable आरामदायक     uncomfortable कष्टदायक     very uncomfortable बहुत कष्टदायक

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7. How well can you chew with your dentures?  
 आप अपनी कौसी से कितने अच्छे से खाना खा सकते हैं?

Very well बहुत अच्छा     well अच्छा     poorly बुरा     very poorly बहुत बुरा

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8. How well can you speak with your dentures?  
 आप अपने कौसी पढ़ कर कितने अच्छे से बात कर सकते हैं?

Very well बहुत अच्छा     well अच्छा     poorly बुरा     very poorly बहुत बुरा

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9. How well do you like your appearance after wearing dentures?  
 कौसी पहने के बाद आप कैसी दिखते हैं?

Very well बहुत अच्छा     well अच्छा     poor बुरा     very poor बहुत बुरा

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10. How satisfied are you with your dentures?  
 आप अपने कौसी से कितने सन्तुष्ट हैं?

Very well बहुत अच्छा     well अच्छा     poor बुरा     very poor बहुत बुरा

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**CLINICIANS ASSESSMENT**

1. RESIDUAL RIDGE SHAPE

Square     ovoid     tapering     square tapering

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2. RIDGE CONDITION

Firm     resilient

Well formed     moderately resorbed     severely resorbed

<input type="checkbox"/> Atwoods class I <input type="checkbox"/> Atwoods class II <input type="checkbox"/> Atwoods class III <input type="checkbox"/> Atwoods class IV <input type="checkbox"/> Atwoods class V <input type="checkbox"/> Atwoods class VI
4. Any compromised conditions present: <input type="checkbox"/> YES (PLEASE SPECIFY) <input type="checkbox"/> NO
5. Complete denture evaluation a) Retention: <input type="checkbox"/> good <input type="checkbox"/> adequate <input type="checkbox"/> poor b) Stability : <input type="checkbox"/> good <input type="checkbox"/> adequate <input type="checkbox"/> poor c) Support : <input type="checkbox"/> good <input type="checkbox"/> adequate <input type="checkbox"/> poor d) Aesthetics: <input type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory e) Occlusion : <input type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory f) VDO : <input type="checkbox"/> adequate <input type="checkbox"/> decreased <input type="checkbox"/> increased g) Masticatory efficiency : <input type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory h) Denture hygiene : <input type="checkbox"/> good <input type="checkbox"/> adequate <input type="checkbox"/> poor i) Articulation : <input type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory j) Parafunctions: <input type="checkbox"/> present (please specify) <input type="checkbox"/> absent
6. Any modifications done in the complete dentures to overcome the compromised condition? <input type="checkbox"/> YES (PLEASE SPECIFY) <input type="checkbox"/> NO

INVESTIGATOR'S SIGNATURE

PATIENT'S SIGNATURE