**OHRQoL: Oral Health Related Quality of Life : Complete Dentures**

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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
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 patient’s 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

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESIDUAL RIDGE SHAPE</td>
<td>a. Square</td>
</tr>
<tr>
<td></td>
<td>b. Ovoid</td>
</tr>
<tr>
<td></td>
<td>c. Tapering</td>
</tr>
<tr>
<td></td>
<td>d. Square tapering</td>
</tr>
<tr>
<td>RIDGE CONDITION</td>
<td>a. Firm</td>
</tr>
<tr>
<td></td>
<td>b. Resilient</td>
</tr>
<tr>
<td></td>
<td>c. Well formed</td>
</tr>
<tr>
<td></td>
<td>d. Moderately resorbed</td>
</tr>
<tr>
<td></td>
<td>e. Severely resorbed</td>
</tr>
<tr>
<td>RIDGE RESORPTION</td>
<td>a. Atwoods class I</td>
</tr>
<tr>
<td></td>
<td>b. Atwoods class II</td>
</tr>
<tr>
<td></td>
<td>c. Atwoods class III</td>
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<td></td>
<td>d. Atwoods class IV</td>
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<td></td>
<td>e. Atwoods class V</td>
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<tr>
<td></td>
<td>f. Atwoods class VI</td>
</tr>
<tr>
<td>COMPROMISED CONDITIONS</td>
<td>a. Flabby tissue</td>
</tr>
<tr>
<td></td>
<td>b. Severely resorbed</td>
</tr>
<tr>
<td></td>
<td>c. Presence of teeth in opposing arch</td>
</tr>
<tr>
<td></td>
<td>d. Tori</td>
</tr>
<tr>
<td>COMPLETE DENTURE EVALUATION:</td>
<td></td>
</tr>
<tr>
<td>A. RETENTION</td>
<td></td>
</tr>
<tr>
<td>B. STABILITY</td>
<td></td>
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<tr>
<td>C. SUPPORT</td>
<td></td>
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<td>D. AESTHETICS</td>
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<td>E. OCCLUSION</td>
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<td>F. VDO</td>
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<td>G. MASTICATORY EFFICIENCY</td>
<td></td>
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<tr>
<td>H. DENTURE HYGIENE</td>
<td></td>
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<tr>
<td>I. ARTICULATION</td>
<td></td>
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<tr>
<td>J. PARAFUNCTION</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>OLD DENTURES</th>
<th>NEW DENTURES</th>
<th>P VALUE</th>
<th>INTERPRETATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FITu</td>
<td>7</td>
<td>23</td>
<td>&gt;0.05</td>
<td>Not significant</td>
</tr>
<tr>
<td>COMu</td>
<td>9</td>
<td>21</td>
<td>&gt;0.05</td>
<td>Not significant</td>
</tr>
<tr>
<td>FITL</td>
<td>4</td>
<td>26</td>
<td>&lt;0.05</td>
<td>Significant</td>
</tr>
<tr>
<td>COML</td>
<td>4</td>
<td>26</td>
<td>&lt;0.05</td>
<td>Significant</td>
</tr>
<tr>
<td>CHEW</td>
<td>9</td>
<td>21</td>
<td>&lt;0.01</td>
<td>Significant</td>
</tr>
<tr>
<td>APP</td>
<td>10</td>
<td>20</td>
<td>&gt;0.05</td>
<td>Not significant</td>
</tr>
<tr>
<td>SPC</td>
<td>7</td>
<td>23</td>
<td>&gt;0.05</td>
<td>Not significant</td>
</tr>
<tr>
<td>SATISFACTION</td>
<td>4</td>
<td>26</td>
<td>&lt;0.01</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Explanation of the variables used:
FITu: Patient assessment of fit of maxillary denture
COMu: Patient assessment of comfort with maxillary denture
FITL: Patient assessment of fit of mandibular denture
COML: 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

Available Online: [http://scholarsmepub.com/sjodr/](http://scholarsmepub.com/sjodr/)
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.

REFERENCES
Appendix

THE QUESTIONNAIRE FOR SUBJECTIVE ASSESSMENT OF COMPLETE DENTURES

| DEPARTMENT OF PROSTHODONTICS, CROWN AND BRIDGE |
| DARGAHI DENTAL COLLEGE AND HOSPITAL, MEJPUR |
| Please answer each question by ticking the box beside the answer you agree with: |

1. Please tick the box which describes the dentures you wear (if any) best:
   - New Dentures: made within last 3 years
   - Older Dentures: (older than 3 years)

2. Do you wear the dentures while eating?
   - Yes
   - No

3. How well does your upper denture stay in place?
   - Very well
   - Well
   - Poorly
   - Very poorly

4. How well does your lower denture stay in place?
   - Very well
   - Well
   - Poorly
   - Very poorly

5. How comfortable is your upper denture?
   - Very comfortable
   - Comfortable
   - Uncomfortable
   - Very uncomfortable

6. How comfortable is your lower denture?
   - Very comfortable
   - Comfortable
   - Uncomfortable
   - Very uncomfortable

7. How well can you chew with your dentures?
   - Very well
   - Well
   - Poorly
   - Very poorly

8. How well can you speak with your dentures?
   - Very well
   - Well
   - Poorly
   - Very poorly

9. How do you like your appearance after wearing dentures?
   - Very well
   - Well
   - Poorly
   - Very poorly

10. How satisfied are you with your dentures?
    - Very well
    - Well
    - Poorly
    - Very poorly

   **CLINICIANS ASSESSMENT**

1. REMIREEA RIDGE SHAPE
   - Square
   - Oval
   - Tapering
   - Square tapering

2. RIDGE CONDITION
   - Flat
   - Excellent
   - Well formed
   - Moderate to severe
   - Severe to extreme
4. Any compromised conditions present:
   - YES (PLEASE SPECIFY)
   - NO

5. Complete denture evaluation:
   a) Retention:  
      - good
      - adequate
      - poor
   b) Stability:  
      - good
      - adequate
      - poor
   c) Support:  
      - good
      - adequate
      - poor
   d) Aesthetics:  
      - satisfactory
      - not satisfactory
   e) Occlusion:  
      - satisfactory
      - not satisfactory
   f) VMO:  
      - adequate
      - decreased
      - increased
   g) Prosthetic efficiency:  
      - satisfactory
      - not satisfactory
   h) Denture hygiene:  
      - good
      - adequate
      - poor
   i) Articulation:  
      - satisfactory
      - not satisfactory
   j) Parafunction:  
      - present (please specify)
      - absent

6. Any modifications done in the complete dentures to overcome the compromised condition?
   - YES (PLEASE SPECIFY)
   - NO

INVESTIGATOR'S SIGNATURE

PATIENT'S SIGNATURE