



The Effect of Complete Dentures on the Quality of Life of Edentulous Patients

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Abstract

Background: This study was conducted to assess The Effect of Complete Dentures on the Quality of Life of Edentulous Patients.

Material and methods: A total of 100 patients who were entirely edentulous and between the ages of 40 and 50 were chosen. There were 19 questions on a standardized questionnaire that were based on the degree of satisfaction with dentures and the ability to chew in the functional limitation (FL), psychological discomfort (D1), psychological disability (D2), and social impairment (D3) domains. All of the questions were graded on a scale of 2, 1, or 0 depending on levels of satisfaction (satisfied, somewhat satisfied, and not satisfied), while levels of masticatory capacity were utilized rarely, occasionally, and frequently. Based on the patients' post-treatment happiness with their brand-new maxillary/mandibular complete dentures, questions regarding denture satisfaction were posed.

Results:In this study, based on gender, among the 100 selected patients, 31% were male patients and 69% were female. 75% of the subjects had systemic disease while 25% did not

have any. It was discovered that among subjects having systemic disease, 60 patients were psychologically satisfied with the denture. Whereas, among the subjects without systemic disease, 10 out of 25 subjects were satisfied with the complete denture.

Conclusion: In terms of psychological and social comfort, patients with a systemic disease were more accepting of and satisfied with complete denture treatment than were those with a non-systemic disease, whereas patients with a non-systemic disease were more satisfied with its functionality.

Keywords: complete denture, quality of life, edentulous, questionnaire

Introduction

Improved quality of life (QoL), together with a decline in mortality rates, has led to the growth of the elderly population worldwide. Several studies have failed to show strong correlations between either patient satisfaction with their dentures and their quality or denture satisfaction and the quality of the denture-supporting tissues [1-3]. Despite a global decrease in the edentulous rate, with great numbers of people reaching an advanced age, the number of patients without teeth continues to be high [4-5]. In India, being a developing country and having a huge population, there is a lack of awareness and management of the edentulous state and the rehabilitation of edentulous patients with complete dentures [6].

The removable denture prosthesis (RDP) must be able to restore the chewing function, aesthetics and phonetics to compensate partial edentulism [7]. Considering the biomechanics involved allows the specialist to design a removable partial denture prosthesis by establishing and maintaining lift, stabilization and retention termed the Housset triad. With these imperatives taken into account, and depending on the number of teeth lost and the type of edentulous areas bounded by remaining teeth or without posterior tooth support, the constraints on the prosthesis will be different and functional rehabilitation altered. One such method is by measuring food bolus granulometry before swallowing, associated with analysis of the kinematic parameters developed to distinguish patients with normal mastication from those with badly impaired mastication [8]. Impaired chewing function leads to raise of food bolus particle size, measured by the median particle size of the food bolus at swallowing. It has been revealed that adults with impaired mastication could be distinguished from those with normal function if the median particle size of the bolus that they produced, when chewing raw carrot reached a cut-off value of 4 mm, called the masticatory normative indicator (MNI) [9].

This study was conducted to assess The Effect of Complete Dentures on the Quality of Life of Edentulous Patients

Material and methods

The study included a total of 100 completely edentulous patients who met the study's inclusion criteria, which included not having any oral health issues in the past, wearing dentures for the first time, and having a Class I completely edentulous state as defined by the American College of Prosthodontics. The university granted ethical clearance, and subjects willingly agreed to participate in the study. The participants were divided into groups according to sex and the presence or absence of systemic disease. They ranged in age from 40 to 50 years. Two to three months after finishing their treatment, the patients were questioned. To reduce unpredictability, a single interviewer conducted each and every interview.

In the fields of functional restriction (FL), psychological discomfort (D1), psychological disability (D2), and social disability (D3), a standardized questionnaire with 19 questions was given to the participants. All of the questions were graded on a scale of 2, 1, or 0 depending on levels of satisfaction (satisfied, somewhat satisfied, and not satisfied), while levels of masticatory capacity were utilized rarely, occasionally, and frequently. Based on the patients' post-treatment happiness with their brand-new maxillary/mandibular complete dentures, questions regarding denture satisfaction were posed. SPSS software was used for the statistical analysis. The student t-test was used to determine the significance of the percentage error between the two groups, and the degree of significance was indicated by the p-value.

Results

Table 1: Gender-wise distribution of subjects.

Gender	Number of subjects	Percentage
Males	31	31%
Females	69	69%
Total	100	100%

Based on gender, among the 100 selected patients, 31% were male patients and 69% were female.

Table 2: prevalence of systemic diseases among subjects

Systemic disease	Number of subjects	Percentage
Present	75	75%
Absent	25	25%
Total	100	100%

75% of the subjects had systemic disease while 25% did not have any.

It was discovered that among subjects having systemic disease, 60 patients were psychologically satisfied with the denture. Whereas, among the subjects without systemic disease, 10 out of 25 subjects were satisfied with the complete denture.

On postoperative assessment, both male and female edentulous patients were functionally well-satisfied on wearing the prosthesis. Though there was no statistical difference between male and female patients, it was observed that the distribution of samples was 26 and 58 for males and females regarding functionality of denture.

Based on masticatory ability, both male and female edentulous patients had improved functional ability on mastication with a prosthesis. Though there was no statistical difference between male and female patients, it was observed that the distribution of samples was 29 and 55 for males and females regarding masticatory ability.

Discussion

Rehabilitation of the edentulous patients has always been a challenge. Edentulism, which has both functional and psychosocial consequences, can be corrected with the placement of removable dentures [10]. The success of this treatment modality might be affected not only by the patients' acceptance of his new dentures, but by his ability to use them which depends to a great extent on the quality of those dentures [11]. Accordingly, the success of conventional complete denture therapy might be affected by several factors such as patients' age, personality, previous denture wearing experience, expectations, aesthetics, residual ridge form and anatomy, denture quality, the method of its construction, dentist experience, and dentist-patient relations [12,13].

Among the factors that might affect patients' acceptance of their new dentures is the dentists' experience. Several clinicians and patients believe that the success of dental treatments could be affected by the dentist experience; however, the results on this issue are inconclusive. While Evans et al. reported no significant correlation between the treatment outcomes and the

experience of the surgeon [14], Gueders and Geerts found that the operator experience has a significant influence on microleakage in class V composite restorations [15].

In this study, based on gender, among the 100 selected patients, 31% were male patients and 69% were female. 75% of the subjects had systemic disease while 25% did not have any. It was discovered that among subjects having systemic disease, 60 patients were psychologically satisfied with the denture. Whereas, among the subjects without systemic disease, 10 out of 25 subjects were satisfied with the complete denture. On postoperative assessment, both male and female edentulous patients were functionally well-satisfied on wearing the prosthesis. Though there was no statistical difference between male and female patients, it was observed that the distribution of samples was 26 and 58 for males and females regarding functionality of denture. Based on masticatory ability, both male and female edentulous patients had improved functional ability on mastication with a prosthesis. Though there was no statistical difference between male and female patients, it was observed that the distribution of samples was 29 and 55 for males and females regarding masticatory ability.

Kumari et al [16] assessed the role of complete dentures in improving the chewing efficiency of edentulous patients. Eighty-two complete denture wearers of age group 40-75 years of both genders were enrolled in the study. The chewing efficiency of denture was determined by VMM machine. Patients were provided with the self-administered questionnaire and were advised to answer. Out of 82 patients, there were 42 (51.2%) males and 40 (48.8%) females. The mean \pm SD particle size was found to be 0.12 ± 0.07 mm in males and 0.13 ± 0.06 mm in females. A non-significant difference was observed ($P > 0.05$). The mean \pm SD satisfaction level value was 1.28 ± 0.07 . There was improved chewing efficiency with the complete denture, and the patient satisfaction level was high among patients.

Oweis et al [17] compared patient satisfaction with complete dentures provided by fourth and fifth year dental students and prosthodontists with a minimum of 5 years' experience at the University of Jordan Hospital 8 weeks after insertion. Questionnaires were distributed to a total of 60 completely edentulous patients who received complete maxillary and mandibular dentures. Besides demographic questions, the questionnaire included questions that probed the patient's satisfaction with his maxillary and mandibular dentures in general using two types of scales. Results indicated that dentist experience does not affect patients' satisfaction with their complete dentures. Our results also indicated that patients who had previous dentures could adapt more easily and were generally more satisfied with their newly inserted

dentures especially with regard to their chewing ability and comfort with their mandibular dentures. Gender also influenced patient satisfaction with complete dentures especially the part related to psychological and social disability.

Conclusion: In terms of psychological and social comfort, patients with a systemic disease were more accepting of and satisfied with complete denture treatment than were those with a non-systemic disease, whereas patients with a non-systemic disease were more satisfied with its functionality.

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