

# Assessment Of Satisfaction Of Removable Complete And Partial Denture Wearers In Institutionalized Patient Of Kanpur City, India: An Original Research Study

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## Abstract

**Background:** Loss of the teeth impairs the functioning of mastication, chewing, aesthetics and replacement by means of fixed or removable prosthesis adds on to the confidence provides aesthetics and restores the function of mastication. Restoration of the proper function, mastication, speech, and aesthetics by removable prosthesis is the prime concern and challenging situation for any clinician and achieving these goals is necessary for the success of prosthodontic treatment. The present study was planned to assess the satisfaction of the partial and complete denture wearers.

**Materials & Methods:** A cross-sectional study included assessment of 100 denture wearing patients either partial or complete with the purpose of evaluating the impact of these dentures on the functional, biological, psychological, and social health of the patients. The quantification of these parameters was accomplished by using Oral Health Impact Profile (OHIP) questionnaire. A five-point Likert scale with five categories was allotted to each question. The feedback/observations were collected and summarized. Statistical assessment of all the results was performed by an SPSS software version 18.0.

**Results:** Of the 100 denture wearing patients, 28.7 percent cases were partial denture wearers and 71.3 percent were complete denture wearers. Sixty-eight subjects of the 71.3 percent complete denture wearers were using their denture whereas only twenty-one subjects of the 28.7 percent partial denture wearers were using their dentures. Various problems were found to be associated with partial removable denture wearers when compared to the subjects wearing complete removable dentures.

**Conclusion:** Patients had a better satisfaction for complete dentures over partial removable dentures.

**Keywords:** partial denture, complete denture, quality, satisfaction

## Introduction

Loss of the teeth impairs the functioning of mastication, chewing, and aesthetics. The prevalence of edentulism increases with aging or more in elderly people. Preventive dentistry protects the teeth from future decay, albeit the demand for prosthodontic treatment is increasing at a rapid phase in developed countries especially among geriatric population.<sup>1-3</sup> In the decades ahead, the ratio of elderly population over 65 years of age, is expected to rise up to 50 percent of the total global population.<sup>4</sup> There are significant population of edentulous patients even in areas of the world, subjected to high standards of dental healthcare.<sup>5</sup> Aesthetic and functional impairment by tooth loss are being restored by means of artificial dental prosthesis. Over the years, there has been significant improvement in the techniques of fabrication of complete or partial removable dentures; however, in relation to the psychological impact of the patient receiving artificial dental prosthesis, only a small-scale emphasis has been laid. Post complete denture treatment, intellectual factors play an important role in predicting the satisfaction of the patients.<sup>6</sup> The other contributing factors include masticatory efficiency and fervent speech for the success of a prosthetic treatment.<sup>7</sup> The current study was planned to assess the satisfaction of the complete and partial removable denture patients delivered in a tertiary health care center.

## Materials and Methods

The current cross-sectional study was conducted by the Department of Prosthodontics (Rama Dental College, Hospital & Research center, Kanpur, Uttar Pradesh). The study quantified hundred complete and partial removable denture wearing patients from September 2021 to October 2022 with the purpose of assessing the impact of these dentures on the functional, biological, psychological, and social health of the patients. Ethical approval from the institutional ethical committee and a written consent was obtained after explaining in detail to the entire research protocol. Inclusion criteria for the current study were:

- Patients who have received partial and complete removable dentures.
- Patients more than 50 years of age.
- Patients without history of any other systemic or chronic illness.
- Patients without any known drug allergy.

A questionnaire was framed using Oral Health Impact Profile (OHIP) consisting of fourteen questions for the assessment. OHIP consisted of questions and topics related to the functional limitation, psycho-social discomfort, any form of disability related to physical fitness, psychological stress and/or pain related to use of these dentures. Following categories were allotted to the each of the question based on the five-point Likert scale:8

- Category 0 : Never
- Category 1: Almost Never
- Category 2 : Sometimes
- Category 3 : Almost always
- Category 4 : Always

All the observations were collected, summarized, and statistically assessed by SPSS software version 18.0. One-way Anova, t-tests, Chi-square test and multivariate regression curves were used for the assessment of the level of significance with Bonferroni correction.

## Results

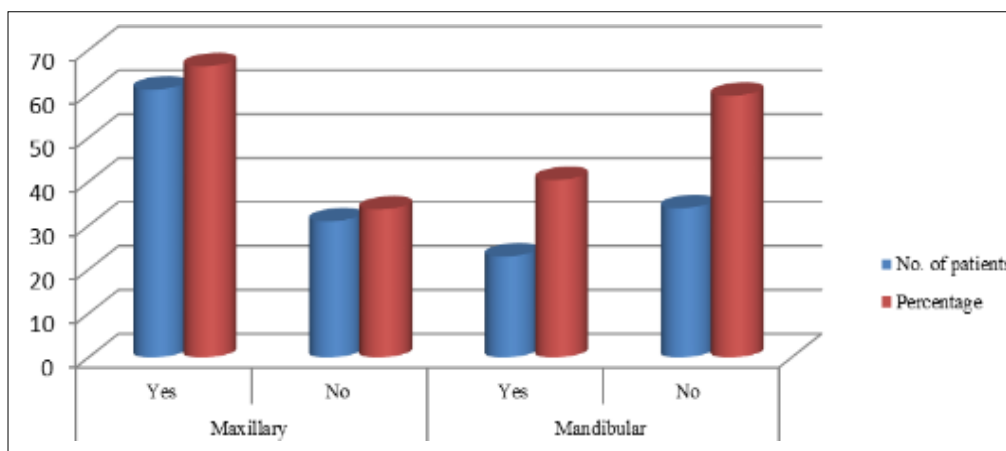
A total of 100 denture cases were included in the current study. Out of the hundred partial and complete removable denture wearers, seventy-two were complete denture cases while twenty-eight were partial removable denture cases (Fig 1). Problems were found to be consistent with partial denture wearers in comparison to the subjects wearing complete removable dentures (Table1).

**Table 1 :** Study characteristics of the subjects wearing dentures

Parameters		Complete denture(n)	Partial denture(n)
Trouble in pronouncing of the words	Never	49	19
	Almost never	5	2
	Sometimes	9	3
	Almost always	4	4
	Always	1	2
Feeling of worsening of sense of taste	Never	56	21
	Almost never	4	2
	Sometimes	3	4
	Almost always	2	1
	Always	2	4
Feeling of painful aching in mouth	Never	48	8
	Almost never	13	3
	Sometimes	4	8
	Almost always	0	7
	Always	1	6
Feeling uncomfortable while eating foods	Never	47	8
	Almost never	7	3
	Sometimes	6	4
	Almost always	3	5
	Always	3	7
Feeling self-conscious	Never	50	8
	Almost never	2	3
	Sometimes	5	7
	Almost always	7	9
	Always	2	6
Feeling of tense	Never	56	7
	Almost never	4	6
	Sometimes	5	4
	Almost always	4	3
	Always	2	4

Unsatisfactory diet	Never	54	13
	Almost never	5	2
	Sometimes	4	3
	Almost always	4	6
	Always	6	6

**Graph1: Study characteristics of the subjects wearing dentures**



## Discussion

Complete or partial edentulism influences the well-being of an individual. The health-related quality of life (QHRQoL) could also be adversely affected using removable dentures. No specific and definite approach has been developed so far, that could assess the exact effect of conventional complete dentures on the OHRQoL.<sup>9-11</sup> The current study assessed the satisfaction of the partial and complete removable denture wearers in a tertiary health care center. In the current study, an observation was made that the complete denture cases influenced the quality of life of the subjects to a minimal level when compared to the partial denture (Table 1). Alfadda SA had randomly assessed thirty-three edentulous patients to establish a relationship between different complete denture parameters and patient's satisfaction. The study comprising of three independent investigators and seven clinical criteria for evaluating the dentures, validated the denture satisfaction using Pearson product-moment correlation. The study reported that majority of the subjects were either "reasonably satisfied" or "very satisfied" by their denture. The most important criteria determining the satisfaction of the patient was the presence of mandibular denture.<sup>12</sup> Fenlon MR et al. had investigated the quality of newly fabricated dentures and their correlation with satisfaction of the denture wearers after two years. The study had recruited 417 patients for a two-year study and assessed the quality of denture and level of satisfaction by means of a questionnaire, sent twice to all the subjects. Initially, the assessment was done after three months of denture insertion, followed by a second assessment after two years of wearing the denture. The authors concluded that in determination of patient satisfaction, clinical quality of the denture was not an important factor.<sup>13</sup> Celebić A et al., evaluated the factors associated with the satisfaction of the patients wearing complete dentures. A total of 222 complete denture wearers were analyzed using a questionnaire. The questionnaire was divided into three parts; both the dentist and the patients filled the questionnaire form separately. The answers to the questionnaire were based on the scale of 1 to 5 score with score 1 for dissatisfaction and score 5 for excellence. The authors had concluded that educational qualification, self-perception, and socio-economic status of the patients were the different factors related to satisfaction of the patients.<sup>14</sup> Veronez FC et al., evaluated the satisfaction of the patients wearing complete dentures delivered by the public health care network, by conducting a survey using 14-questionnaire profile that evaluated the social status, physical pain, and psychological disability of the patients. A total of 247 complete denture patients with more than 50 years of age were evaluated. The study had concluded that for minimizing the damage caused on the patient's health, proper denture follow-up protocols should be formulated and the quality of life of the patients were affected minimally by the maxillary complete dentures.<sup>8</sup> Ellis JS et al., evaluated the level of satisfaction of the patients and oral health-related impacts on the quality of life of the subjects who had undergone prosthetic rehabilitation by complete dentures. They analyzed 40 patients between the age group of 55 years and 85 years. A 100-mm visual analogue scale was used for rating the satisfaction level of the patients before the starting of the treatment and after 30 days of the delivery of the newly formed denture. An Oral Health-Related Impacts on Quality-of-Life questionnaire (OHIP-20) was framed and used for the assessment the quality of life of the patients. Similar satisfaction was observed in both the groups of the patients. In relation to the functional limitation and physical and psychological disability, a significant improvement was observed in the OHIP domains of both the study groups. The study had also concluded that an overall improvement in the oral health related quality of life occurred with the provision of new dentures.<sup>15</sup> Awad MA et al., had compared the satisfaction levels and quality of life related to their oral health of elderly patients receiving mandibular two-implant

over-dentures and conventional complete dentures. A total of 60 edentulous patients were divided randomly into two study groups. One group consisted of patients receiving maxillary and mandibular conventional dentures while the other group included patients who had received overdenture supported by two implants and ball retainers. Patient satisfaction levels were assessed twice. Primarily prior to the starting of the treatment and secondarily, 2 months after the denture delivery. A significantly better results were reported in patients treated with mandibular two-implant overdentures when compared to the general satisfaction of the patients, assessed two months after the delivery of the denture. The study thereby concluded that better functional performance and quality of life related to oral health occurs in patients receiving mandibular two-implant overdentures.<sup>16</sup> Hundal et al., had compared the removable partial dentures made of two different materials. Campbell SD et al., had seen that design, materials, ease of repair, patient education, and follow-up for RPD treatment all had a significant impact on treatment success. Almost 40% of patients no longer use their RPD within 5 years because of factors such as sociodemographics, pain and esthetics.<sup>20</sup> Within the limitations of the current study, it has been inferred that the quality of the life of patients receiving complete or partially removable denture prosthesis was minimally affected by the complete denture. However, research on RPD based treatment outcome is lacking, removable partial dentures do have a significant role on the self-consciousness of the patients. Further studies are required for further exploring various follow-up steps that could be taken for improving the quality of life of patients receiving complete and partial removable dental prosthesis.

## Conclusion

Within the limitations of the current study, authors concluded that all the studied patients had a better satisfaction for complete removable dentures as compared to the partial removable dentures. However, other long term and further studies are required with larger sample size.

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