



Assessment of Satisfaction of Complete Denture Wearers in Institutionalized Patient of Kanpur City, India: An Original Research Study

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Abstract

Background: Teeth loss impairs both function and aesthetics and restoration of these functions by means of artificial dental prosthesis forms the primary concern of a prosthodontist. Mastication and speech rehabilitation builds up the psychological confidence, necessary for the success of prosthodontic treatment. The present study was planned to assess the gratification of the complete denture wearers in a tertiary health care unit. **Materials & Methods:** A cross-sectional study included assessment of 80 denture wearing patients with the purpose of evaluating the impact of these dentures on the 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 80 denture wearing patients, 38.7 percent cases were mandibular denture wearers and 61.3 percent were maxillary denture wearers. Sixty-one subjects of the 61.3 percent maxillary denture wearers were using their denture whereas only twenty-three subjects of the 38.7 percent mandibular wearers were using their dentures. Vehement problems were found to be associated with mandibular denture wearers when compared to the subjects wearing maxillary complete dentures. **Conclusion:** Patients had a better gratification for maxillary dentures over mandibular dentures.

Keywords: complete denture, quality, satisfaction

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Introduction

The prevalence of edentulism among subjects older than 65 years of age are reported to be 58, 41 and 46 percent respectively as per the data given by the World Health Organization (WHO) Global Oral Data Bank, in Canada, Finland and United Kingdom. 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.¹⁻³ 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.⁴ There are significant population of edentulous patients even in areas of the world, subjected to high standards of dental health

Materials & 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 eighty complete denture wearing patients from November 2021 to November 2022 with the purpose of assessing the impact of these dentures on the 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 the entire research protocol. Inclusion criteria for the current study were:

- Patients who have received upper and/or lower complete dentures,
- Patients more than 50 years of age,
- Patients without history of any other systemic illness,
- Patients without any known drug allergy

A questionnaire was framed using Oral Health Impact Profile (OHIP) consisting of fourteen questions for the assessment.

care.⁵ 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 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.⁶ The other contributing factors include masticatory efficiency and fervent speech for the success of a prosthetic treatment.⁷ The current study was planned to assess the satisfaction of the complete denture wearers delivered in a tertiary health care center.

OHIP consisted of questions and topics related to the functional limitation, psychosocial 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 80 denture cases were included in the current study. Out of the eighty complete denture wearers, sixty-two were maxillary complete denture cases while eighteen were mandibular complete denture cases (Fig 1). Problems were found to be consistent with mandibular denture wearers in comparison to the subjects wearing maxillary complete dentures (Table 1).

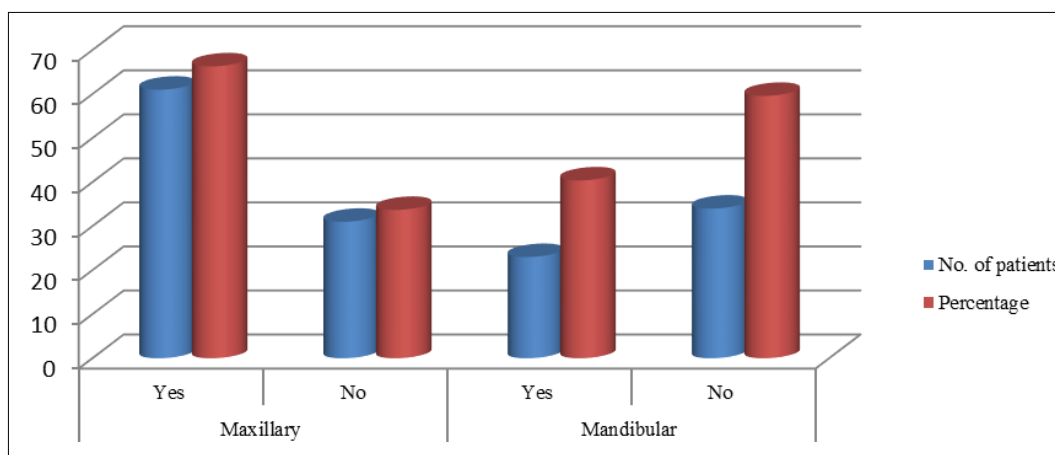
Table 1: Study characteristics of the subjects wearing dentures

	Parameters	Maxillary denture (n)	Mandibular denture (n)
Trouble in pronouncing of the words	Never	44	17
	Almost never	2	2
	Sometimes	8	1
	Almost always	3	2
	Always	0	1
Feeling of worsening of sense of taste	Never	50	18
	Almost never	2	2
	Sometimes	3	3
	Almost always	2	0
	Always	0	0
Feeling of painful aching in mouth	Never	44	9
	Almost never	9	3
	Sometimes	3	5
	Almost always	0	4
	Always	0	3
Feeling uncomfortable while eating foods	Never	42	12
	Almost never	5	3
	Sometimes	4	2
	Almost always	4	1
	Always	2	5
Feeling self-conscious	Never	45	13
	Almost never	1	3
	Sometimes	5	3
	Almost always	5	1
	Always	1	3
Feeling of tense	Never	51	10
	Almost never	3	3
	Sometimes	4	2
	Almost always	3	1
	Always	2	1



Unsatisfactory diet	Never	50	10
	Almost never	2	0
	Sometimes	2	0
	Almost always	2	5
	Always	5	4

Graph 1: Study characteristics of the subjects wearing dentures



Discussion

Presence and absence of complete edentulism influences the well-being of an individual. The health-related quality of life (QHRQoL) could also be adversely affected using complete dentures. No specific and definite approach has been developed so far, that could assess the exact effect of conventional complete dentures on the OHRQoL.⁹⁻¹¹ The current study assessed the satisfaction of the complete denture wearers in a tertiary health care center. In the current study, an observation was made that the upper denture cases influenced the quality of life of the subjects to a minimal level when compared to the mandibular denture (Table 1). Trouble in pronunciation of words was more pronounced with mandibular dentures than in comparison to the maxillary

denture (Table 1). The results were consistent with the results obtained by Veronez FC et al. who had observed similar findings in their study.⁸ Alfadda SA had randomly assessed thirty-three edentulous patients to establish a relationship between different complete denture parameters and patients' 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.¹² 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.¹³ 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.¹⁴ 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.⁸ 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 underwent 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.¹⁵ 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.¹⁶ Within the limitations of the current study, it has been inferred that the quality of the life of patients receiving complete denture prosthesis was minimally affected by the maxillary denture. However, mandibular 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 dental prosthesis.

Conclusion

Within the limitations of the current study, authors concluded that all the studied patients had a better gratification for maxillary dentures over mandibular dentures. However, other long term studies with larger sample size needs to be conducted in future.

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