

Problems Encountered by Complete-Denture-Wearing Patients

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ABSTRACT

Objective: To evaluate the problems encountered by patients wearing newly made complete dentures.

Study Design: A Cross Sectional Survey

Place and Duration of Study: This study was conducted at the Department of Prosthodontics at Liaquat College of Medicine and Dentistry, Karachi from January 2018 to June 2018.

Materials and Methods: A total 95 patients were required according to the sample size calculated by Raosoft calculator. All newly complete denture wearing patients were selected by consecutively sampling method. Patient records were checked for their ages, gender, medical history, and associated debilitating conditions that they might be suffering from. Statistical analysis of all the data was performed using SPSS version 21.

Results: A total of 95 patients, 52 were females and 43 were males. The age ranged from 60 to 80 with the average age being 72 + 8 years. The results show that women complain more about dentures than men. The most prevalent issues included sore spots and ulcers in the mandible (60%) and maxilla (29.4%) regions, generalized discomfort (55.7%), and denture instability (55.7%). Esthetic concerns such as fullness under the nose (40%), speech problems (33.6%), and functional interference during swallowing/chewing (41%) were also reported.

Conclusion: The study findings highlight the need for improved denture design and fitting techniques to enhance patient satisfaction and reduce discomfort among denture wearers, particularly in the female population.

Key Words: Complete denture, insertion problems, post insertion complaints, elderly

Citation of article: Raja IM, Khan MA, Munnawar ul Haque, Ahmed T, Rehman A, Khan N. Problems Encountered by Complete-Denture-Wearing Patients. Med Forum 2023;34(7):162-165. doi:10.60110/medforum.340738.

INTRODUCTION

People in their lifetime lose teeth for a wide variety of reasons. Dental literature up till now confirms that majority of teeth lost are due to dental caries and periodontal problems¹. Other reasons include traumatic injuries resulting from accidents and violent sports, malignancies, tumors, cysts, and radiation therapy².

Over time, with age, losing teeth leads to other disastrous outcomes in the patient's oral cavity, including the most severe ridge resorption and chewing insufficiency which can lead to low self-esteem and health problems due to dietary imbalances and disturbed nutritional intake.

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Received: February, 2023

Accepted: April, 2023

Printed: July, 2023

With the oncoming years, prevalence of edentulism has seen a gradually steady increase in Pakistan and basically around the world. With increasing age, people have the increasing desire to make their natural teeth work, so when they get something that isn't firmly anchored to the bone and immovable as the natural teeth are in their old age, a certain kind of hate and prejudice develops against it. As the expectancy to live all the way to old age is increasing and life expectancy rates are high, the battle against edentulism is eventually lost and the need for dentures becomes a necessity³.

Numerous studies have shown that the main problems faced with complete denture-wearing patients include looseness of dentures and failed stability, retention problems, ulceration of the oral mucosa, traumatic ulcers and hyperplasia, generalized pain and clattering teeth. Decreased biting force and a delicate risk to atrophying of masticatory muscles is inevitable as well with the loss of teeth and ensuing edentulism for many years^{3,4}. Edentulism in the European countries between the ages of 65 to 74 years was 12.8% in Italy, 69.6% in Iceland⁵. Prevalence of edentulism in Pakistan involves 4.1% of the total population with an estimated increase to 9.3% by 2030⁶.

The rationale of this study was to identify the problems encountered by patients wearing newly-made complete dentures, and with that to enhance and enlighten

dentists and prosthodontists to especially cater to these problems with proper clinical work on their part to address these issues so that they don't occur. The objective of this study was to evaluate the problems encountered by patients wearing newly made complete dentures.

MATERIALS AND METHODS

A Cross Sectional Survey was conducted in Department of Prosthodontics at Liaquat College of Medicine and Dentistry, Karachi during January 2018 to June 2018. Ethical approval was obtained from Institutional Review Board (IRB) Liaquat College of Medicine & Dentistry, Karachi. A total 95 patients were required according to the sample size calculated by Raosoft calculator ⁴. After the dentures were completed in the hospital, the patients were selected by convenient sampling at review visit. The all newly completed denture patients who agreed to participate in the study were included in the study. In this study patients with Oral Sub-mucous Fibrosis (OSMF), dysfunction, neurological diseases, psychological deficits and patients with extreme ridge were excluded. Interviewers used questionnaires to collect data. The questionnaire was managed by the researcher and then filled with all relevant information. A written informed consent was taken from all subjects before start of study and the confidentiality of all information was ensured. Patient records were checked for their ages, gender, medical history, and associated debilitating conditions that they might be suffering from. Statistical analysis of all the data was performed using SPSS version 21.

RESULTS

This study investigates the various issues related to soft tissue, function, aesthetics, and phonetics encountered by patients wearing complete dentures. There were a total of 95 patients, out of which, 52 were females and 43 were males. The ages ranged from 60 to 80 with the average age being 72 + 8 years. The results show that women complain more about dentures than men.

Table 1 presents the problems associated with soft tissue in patients wearing complete dentures. Among the respondents, a significant number reported experiencing sore spots or ulcers, with 57(60%) of them indicating such discomfort in the mandible region and 28(29.4%) in the maxilla region. Generalized discomfort was also a common issue, affecting 53(55.7%) of the participants. However, comparatively fewer patients reported a burning sensation 9(9.4%) or tongue and cheek biting 13(13.6%). Complaints of excessive salivation were relatively infrequent, accounting for only 5(5.2%) of the cases. Gagging and vomiting were reported by 19(20%) of the patients, indicating a considerable problem that needs attention.

Table 1 focuses on issues related to denture function. Instability emerged as a prominent concern, affecting

72(77.7%) of the participants. Within this category, the looseness of the mandibular denture was particularly prevalent, affecting 53(55.7%) of the respondents, while the maxillary denture's looseness was reported by 20(19%). Another functional problem reported was interference during swallowing or chewing, affecting 39(41%) of the patients, potentially impacting their ability to eat comfortably and adequately.

Table 1 explores problems associated with esthetics and phonetics. In terms of appearance and esthetics, patients commonly reported experiencing fullness under the nose 38 (40%), a depressed philtrum 27 (28.4%), and an excessive exposure of teeth 26 (27.3%). Moreover, a significant number of participants 9 (10%) expressed dissatisfaction with the artificial appearance of their dentures. In terms of phonetics, 32(33.6%) of the respondents reported language or speech problems, which could have a considerable impact on their communication and overall confidence.

The findings from this study provide valuable insights into the challenges faced by patients wearing complete dentures. The prevalence of sore spots, discomfort, and functional issues highlights the importance of proper denture fitting and design. Additionally, the reported esthetic and phonetic problems underscore the need for better denture aesthetics and speech-related interventions. By addressing these issues, dental professionals can improve the overall quality of life for denture-wearing patients and enhance their satisfaction with this essential dental prosthetic. Further research and advancements in denture technology can pave the way for more comfortable, functional, and aesthetically pleasing complete dentures in the future.

Table No. 1: Problems Related to Soft Tissue, Functions & Esthetics & Phonetics in Patients Wearing Complete Denture (n=95)

Soft Tissue	(n %)
Sore spots/Ulcers - mandible	57(60)
Sore spots/Ulcers - maxilla	28(29.4)
Generalized discomfort	53(55.7)
Burning sensation	9(9.4)
Tongue and cheek biting	13(13.6)
Excessive salivation	5(5.2)
Gagging/Vomiting	19(20)
Functions	
Instability	
Looseness of mandibular denture	53(55.7)
Looseness of maxillary denture	19(20)
Interference	
When swallowing/chewing	39(41)
Esthetics & Phonetics	
Appearance/Esthetic	
Fullness under nose	38(40)
Depressed philtrum	27(28.4)
Too much of the teeth are exposed	26(27.3)
Artificial appearance	9(10)
Language /Speech Problem	32(33.6)

DISCUSSION

With a projected increase of edentulism in the elderly population and the growing realization that tooth loss is in fact a real and growing problem in the old age groups, the need for complete dentures is on the rise and, along with that, the problems associated with it as well. Problems needing to be addressed include retention and stability of the dentures, the finish of the denture, how well it helps with mastication, and esthetic need that they address too⁷. While delivering a complete denture to a patient, care must be taken that not only the operator's objectives have to be met, patient satisfaction has to be the top-most priority and meeting the demands and needs of the patient to a certain level is highly recommended.

The need for the denture to look good first and foremost is on the top for any patient, which means esthetics have a positive impact on the patient's psyche and they are generally satisfied with dentures that improve on their looks⁷. The most common complaints encountered in this study were generalized discomfort and lingering pain, retentive problems, masticatory difficulties, looseness of the dentures, problems with phonation, and esthetic insufficiencies with respect to colour and size of teeth.

Along with proper fabrication and prompt delivery of dentures to patients, care must also be taken to have adequately spaced follow-ups, addressing the problems patients have with their dentures, how properly the operator has evaluated and taught the patient with regards to taking care of their dentures, and whether the patients are following those instructions or not^{8,9}. Most of the edentulous patients wearing complete denture over the age of 65 years that is relatively being worn for more than ten years result in approximately 44-63% mucosal changes in their patients' oral cavities³.

The levels of patient satisfaction in this study was evaluated with the help of a questionnaire designed to ask and evaluate problems related to feeling pain, esthetics, speech and phonation, problems particularly related to lower denture including food accumulation, retention, and denture fit. It is also important to evaluate the psychological state and mental health of patients before any other thing because even if the denture may be clinically and technically deemed fit, it still might get a cold shoulder from the patient because of difficulty adapting to it at all costs. Thus, the dentist also must improve on and modify the expectations and wants of the patient with regards to the complete dentures being supplied to them in the hopes of better treatment outcomes¹⁰. Khan et al found that the patient satisfaction according to the Visual Analog Scale (VAS) was; Esthetics: 72.5%, Chewing Ability: 50% and Phonetics: 90%.¹¹

Sometimes, continuous "adjustment appointments" are seen with patients who have a certain amount of

difficulty adjusting to their newly fabricated complete dentures. As evaluated by an author, it was concluded that continuous dissatisfaction with the dentures can be correlated to denture construction faults and mucosal conditions within the patient's oral cavity before the dentures were delivered. Furthermore, the oral health related quality of life significantly improves with newly made complete dentures, their functionality after esthetics are the most important criterion for success in the patient's point of view. Jabeen reported 75% of patients faced pain and discomfort. 65% reported difficulty in eating. Looseness of denture was reported by 58%. 35% experienced difficulty in speech, complaints regarding food accumulation under and around the prosthesis were reported by 17%.¹³

At most, continuous adjustments can turn out to be tedious for the patient if the complaint isn't being met by the dental operator / prosthodontist. To accurately diagnose the problem and address it consequently results in overall improvement in success of the prosthesis with the patient's perception and expectations¹⁴⁻¹⁶.

CONCLUSION

In conclusion, this research study found that female patients reported more complaints regarding dentures compared to male patients. The most common adaptation problems were related to pain during insertion and removal, loose lower dentures, and difficulties during swallowing or chewing. Discomfort was mainly associated with ulcers and vomiting. Sore spots and ulcers were more prevalent in mandibular dentures, with the lingual sulcus being the most affected area. These findings highlight the need for improved denture design and fitting techniques to enhance patient satisfaction and reduce discomfort among denture wearers, particularly in the female population.

Author's Contribution:

Concept & Design of Study:	Irum Munir Raja, Muhammad Athar Khan Munnawar ul Haque, Tauseef Ahmed, Amna Rehman
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Conflict of Interest: The study has no conflict of interest to declare by any author.

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