

PREVALENCE OF POST INSERTION COMPLAINTS IN REMOVABLE PARTIAL DENTURE PATIENTS

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ABSTRACT

The objective of this study was to determine the frequency of complaints in patients wearing removable partial dentures reporting at Armed Forces Institute of Dentistry Pakistan. The study included One hundred patients (60 males and 40 females) wearing removable partial dentures for at least 6 months. Details of age, gender, medical history and denture history were obtained. Patients post insertion complaints were recorded. The collected data was statistically analyzed using SPSS v17. The results were estimated statistically at a significance level of $P < .05$. It was found that 55% of the subjects had complaint of their dentures being loose; 40% complained of ulceration around or under their appliances; 35% of patients had problem of pain and discomfort; 25% reported that they had low masticatory efficacy. 28% of the patients had problems in speech. 10% patients complained of debonded artificial teeth.

Pain and soreness, difficulty in mastication and speech, loss of retention, ulcerations and debonding / fracture of artificial teeth are the main post insertion complications in RPD patients. Proper RPD design and patient compliance can help overcome these challenges.

Key Words: Edentulism, Removable partial denture.

INTRODUCTION

The masticatory system is a functional unit composed of the teeth, their supporting structures, the jaws, the temporomandibular joints and the muscles.¹ Dental caries and periodontitis are the main etiological factors of loss of teeth in the world.⁴ Tooth loss affects speech, function and esthetics.² It adversely affects the overall quality of life.³

Modern dentistry prefers to preserve the natural teeth leading to an increase in number of partial dentate patients and gradual decline in complete edentulism.⁷ Many treatment modalities are available for replacing missing teeth; removable partial dentures, fixed partial dentures or dental implants. Each modality is a possible treatment option and has its own advantages and disadvantages.⁵ The treatment of choice has largely been implant-supported/retained prosthesis and adhesive

bridgework to restore limited bounded saddles, especially in the aesthetic zone. However, Removable partial dentures still remain a cost-effective way of managing the edentulous saddle, especially if the saddle area is particularly large.⁶

Removable Partial Dentures are a versatile, cost effective and reversible treatment method for partially dentate patients at a wide range of age group.⁸ However, these dentures can be associated with various complications such as pain and discomfort, loss of retention, soreness and ulceration, loss of artificial teeth and fracture of denture base/artificial teeth.⁹

This clinical study was designed to collect information about the various complications associated with removable partial dentures such as Looseness of denture, pain and soreness, difficulty in speech and mastication, the debonding of artificial teeth, and to evaluate their possible relation with several properties of the dentures and type of prostheses.

METHODOLOGY

A retrospective study was conducted in the department of Prosthodontics, Armed Forces Institute of Dentistry Rawalpindi from Mar 2014 to Mar 2015. Patients who had worn removable partial dentures

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for at least 6 months were the minimum criterion for selection. A verbal and written consent was obtained from each patient. There were 60 men and 40 women in the study. Having mean age of 45.5 years ranging from 40 to 50 years. Detailed medical and dental history was obtained. The patients were treated by the same prosthodontist during the course of treatment. Treatment plan and sequencing was maintained in record files. The patients' opinion about the suitability of their dentures was recorded at the time of examination.

Following prosthodontic complaints were recorded as present or not present:

- 1 Loss of retention
- 2 Deboned/fractured artificial teeth
- 3 Denture ulceration
- 4 Fracture in the denture base
- 5 Difficulty in mastication
- 6 Fractured retaining clasps
- 7 Difficulty in speech
- 8 Pain and soreness

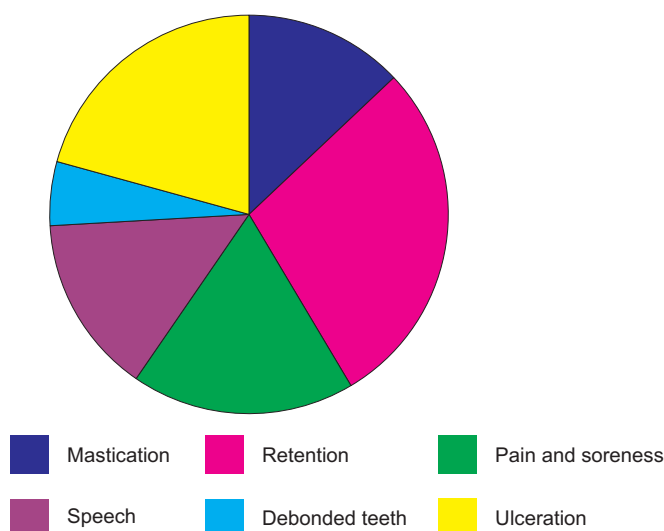
These post insertion complaints were tabulated onto a standardized data sheet. SPSS Version 17 was used to analyze the data. Descriptive statistics were used to describe the data. Chi-square test evaluated differences between acrylic and cast partial denture groups. The level of statistical significance chosen was $p = 0.05$.

RESULTS

The results showed that many patients had multiple complaints while all of the participants having at least one complaint; It was found that 55% of the subjects had complaint of their dentures being loose; 40% complained of ulceration around or under their appliances; 35% of patients had complaint of problems relating to pain and soreness; 25% reported that they had difficulty in mastication. 28% of the patients had problems in speech. 10% patients complained of debonded artificial teeth. Patients having cast partial dentures presented with less complaints than acrylic removable partial dentures.

DISCUSSION

Although being widely used for the rehabilitation of partially dentate patients, conventional removable partial dentures are not an ideal treatment option. In Pakistan, there is limited available data that describes the success and complication rates as well as patient satisfaction levels of removable prostheses. However there are studies regarding prognosis of the abutment teeth,^{10,11} periodontal status of the remaining teeth¹² or the comparison of the influence of different denture



types on patient satisfaction and patients' quality of life.¹³ Increased dissatisfaction of the patients with removal dentures owes to lack of retention and stability, especially of the mandibular dentures, due to continuous residual bone resorption leading to inferior masticatory efficacy.¹⁴ These factors combined with impairment of patients' ability to communicate and the consequential pain may result in dissatisfaction.^{15,16,17}

The looseness of dentures was most common complaint among RPD patients in this study. This led to the need for replacing these dentures. Additionally, dissatisfaction of patients related to function such as poor masticatory ability was a result of loss of retention. Ulceration, the second major post insertion complaint might also be related to the poor retention of the dentures and overextended flanges. Subsequently, patients reported inferior masticatory and speech ability. The low chewing ability may be the reason of the sore spots in buccal surfaces of the maxillary tuberosities, buccal and lingual surfaces of mandibular crest because of instability or frenulum impingements. The difficulty in speech may be due to the overextension of the upper dentures onto the soft palate which generally results in speech difficulties.

The present study found that need partial denture patients can also suffer from debonded or fractured artificial teeth that might be due to an occlusal disharmony with the presence of a wrong centric relation occlusion. The artificial teeth may have encountered unequal forces and therefore been broken.

This study cannot be considered as a representative of the complete population of the region in general as it was conducted in one of the largest dental institutes in Pakistan, only targeting serving, retired armed forces personnel and their families. The results of this study can be helpful in improved clinical application of RPD design principles for optimal patient care.

CONCLUSION

Partially dentate patients wearing removable partial dentures most frequently had the complaint of Loss of retention, pain and soreness, difficulty on mastication with their dentures. Patient's age, gender had no significant relationship with the type or number of complaints.

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