

Clinical Performance of Removable Partial and Complete Dentures at a Speciality Dental Clinic, Hyderabad: A Retrospective Study.

Md Sirajur Rahman¹

¹Dental Surgeon, Prosthodontist, Neodent Dental Hospital, Formerly Assistant Professor of Prosthodontics, GDC&H, Hyderabad.

Received: December 2016

Accepted: December 2016

Copyright: © the author(s), publisher. Annals of International Medical and Dental Research (AIMDR) is an Official Publication of "Society for Health Care & Research Development". It is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Patients wearing removable partial and complete dentures report to the dentists with one or other complaints like loss of retention, missing teeth etc. **Aims and Objectives:** To evaluate the complications occurring in patients with removable partial and complete dentures. **Methods:** 75 patients wearing removable partial and complete dentures have been included in the study. The patients included were treated at Neodent Dental Hospital, Hyderabad, Telangana State and visited hospital with complications from January 2015 to December 2015. The complications reported by the patients were recorded. The data collected was analyzed statistically for number and percentage using EPI-Info statistical software version 6. **Results:** Out of 75 patients, 45 were females and 30 were males. 50 patients were with removable partial dentures and 25 with removable complete dentures. The most common complication with which patients reported back to the dental clinic was loss of retention (54) followed by ulceration (42). **Conclusion:** Factors like proper design, accurate vertical dimension should be followed while making removable dentures to avoid complications like loss of retention, ulceration etc, so that denture survival period can be enhanced.

Keywords: Centric relation, Complete denture, Partial denture, Vertical dimension, Ulcer.

INTRODUCTION

After dental caries and periodontal diseases, edentulism (either partial or complete) is the third commonest cause for which patients visit a dentist.^[1] If the lost teeth are not replaced, it may result in problems like masticatory deficiency, speech problems, psychological stress, loss of facial support, esthetics etc. Missing teeth can be replaced by either removable or fixed prosthesis. Removable prosthesis may be partial or complete dentures. Fixed prosthesis may be bridges and implants. Even though fixed prosthesis should be preferred whenever possible, but due to the fact that removable dentures are easy to prepare, require shorter time of preparation and economic, the later are still in wide usage.^[2, 3]

might be due to dentist or dental technician fault of improper design and preparation or due to the fault of patients not following instructions properly like removal of dentures during night times etc. The main problems that patients encounter after insertion of the removable dentures are loss of retention, ulcers, denture stomatitis, loss of artificial teeth, epulis fissuratum, fractured denture base etc.^[4-6]

Failure of dentures will affect oral health and in turn the quality of life. There are only few studies reported evaluating complications after treatment with removable dentures.^[7-10] The aim of our study was to evaluate the complications occurring with removable partial and complete dentures among patients who visited Neodent Dental Hospital, Hyderabad, Telangana State

Name & Address of Corresponding Author

Dr Md Sirajur Rahman,
Dental Surgeon, Prosthodontist,
Neodent Dental Hospital,
Formerly Assistant Professor of Prosthodontics,
GDC&H, Hyderabad.

Denture survival is time period between the insertion of denture and the time when patient comes to dentist with any complaint. Complications related to the removable dentures

MATERIALS AND METHODS

75 patients (45 females and 30 males) wearing removable dentures have been included in the study. The patients included were treated at Neodent Dental Hospital, Hyderabad, Telangana State and visited hospital with complications from January 2015 to December 2015. Detailed data of the subjects like age, gender, period of edentulism,

age of the present dentures, presence of prosthetic complications were recorded.

We included patients who wore removable dentures for at least 3 years duration. Vertical dimension, centric relation and centric occlusion overlapping was determined for all the subjects. The following complications were recorded as present or not

1. Loss of retention
2. Existence of any denture irritation or ulceration
3. Existence of any debonded/fractured artificial teeth
4. Existence of any fracture in the denture base
5. Existence of epulis fissuratum

The data collected was analyzed statistically for number and percentage using EPI-Info statistical software version 6.

RESULTS

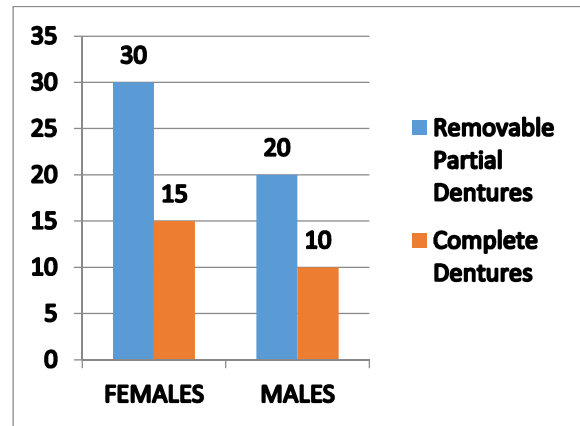
45 (60 %) of the patients were females and 30 (40 %) were males. 50 (66.67 %) patients were having removable partial dentures and 25 (33.33 %) with removable complete dentures [Table1, Graph 1].

The most common complication with which patients reported back to the dental clinic was loss of retention (54) followed by ulceration (42), debonded artificial teeth (21) [Figure 1], fractured denture base (12) [Figure 2] and epulis fissuratum (5). [Table 2, Graph 2]. We found that most of the patients had 2 to 3 complications.

We found that patients with CD had more complications than RPD. Arch wise comparisons showed that loss of retention was more in the dentures of lower jaw, whereas ulcerations, debonded artificial teeth, fractured denture base and epulis fissuratum was more in upper dentures.

Table 1: Distribution of Patients According To the Type of Denture and Gender.

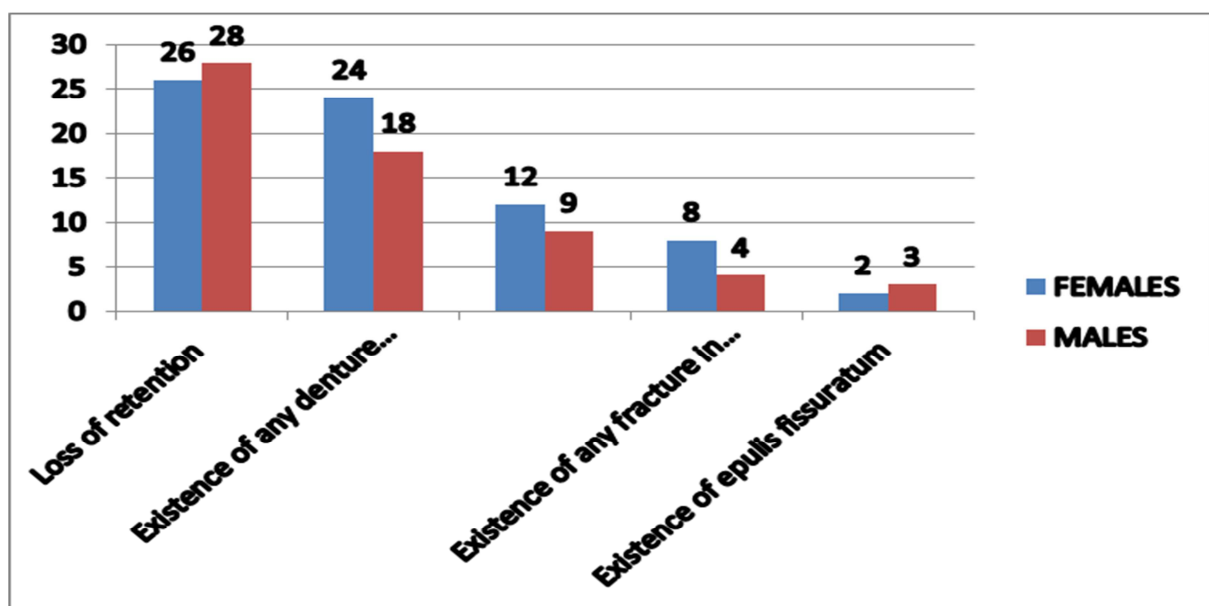
| Type of Denture | Females | Males | Total |
|----------------------------|---------|-------|-------|
| Removable Partial Dentures | 30 | 20 | 50 |
| Complete Dentures | 15 | 10 | 25 |
| Total | 45 | 30 | 75 |



Graph 1: Distribution of Patients According To the Type of Denture and Gender.

Table 2: Complications reported by the patients.

| COMPLICATION | FEMALES | MALES | TOTAL |
|--|---------|-------|-------|
| Loss of retention | 26 | 28 | 54 |
| Existence of any denture irritation or ulceration | 24 | 18 | 42 |
| Existence of any debonded/fractured artificial teeth | 12 | 9 | 21 |
| Existence of any fracture in the denture base | 8 | 4 | 12 |
| Existence of epulis fissuratum | 2 | 3 | 5 |



Graph 2: Complications reported by the patients.

DISCUSSION

According to the World Health Organization (WHO), the prevalence of edentulous patients older than 65 years is 58% in Canada (1993), 36% in Finland and 46% in the United Kingdom. The incidence of edentulism has been in decline recently, but still poses a major problem to patients. The problems faced by edentulism is impaired function, esthetics and speech and is restored most of the time with prosthesis.^[1] Most of the studies conducted on removable dentures have mainly concentrated on the abutment teeth or alveolar ridge, but very few studies concentrated on the complications with usage of these dentures.^[7-10] These complications can also act as prognostic indicators for removable dentures.^[5]



Figure 1: Distribution of Patients According To the Type of Denture and Gender.

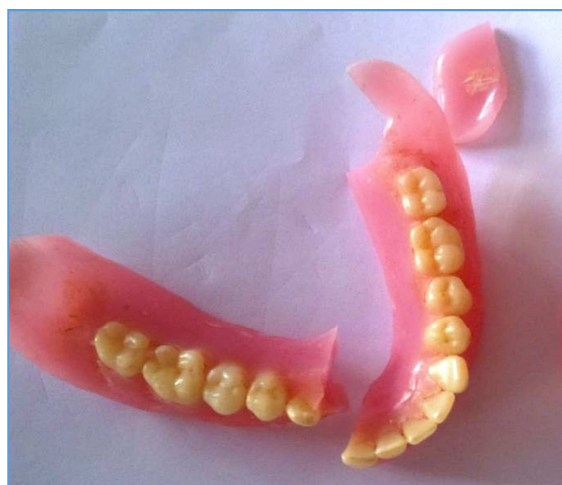


Figure 2: Fractured denture.

We carried our study to find out the various complications for which patients wearing removable partial and complete dentures report to dentists. We found that 45 (60 %) of the patients were females and 30 (40 %) were males. This female preponderance is similar to the findings of Fenlon MR, Sherriff M and Suominen Taipale et al.^[5, 12] This might be due to the fact that females in rural India neglect their health and depend on the male members of the family to take them to dentists for treatment, whereas males are not

dependent on any one and can easily visit dentist for treatment.

Various denture associated complications have been reported in literature. But there are insufficient research studies carried out with factors like vertical dimension, centric relation, and loss of the artificial teeth. We found that loss of stability and retention as the chief complaint as reported by previous studies.^[11] To avoid these complications we suggest accurate adaptation of denture base, setting artificial teeth in the right position, and establishing correct centric relation and vertical dimension.^[10-12]

We found that ulceration to be the second most common complication, seen in 42 (56 %) patients. Our findings are similar to that of Bilhan H who found ulceration in 47 of 99 patients (47.5 %).^[4, 7, 8] Hence, the quality of the prosthetic treatment will affect oral health.

This clinical study was designed to collect information about the various complications such as fracture of denture base or other components, the need for relining, the need for repair of artificial teeth, and to evaluate their possible relation with denture type and several properties of the dentures. More such studies in different centers with higher number of cases should be carried out to find out the commonest complications after removable denture insertion.

CONCLUSION

We found that loss of retention and ulceration as chief causes for patients with removable dentures visiting dentist for repair. Perfect model planning and skilful preparation should minimize these complications, thereby increasing the denture survival time.

REFERENCES

1. Dorner S, Zeman F, Koller M, Lang R, Handel G, Behr M. Clinical performance of complete dentures: a retrospective study. *Int J Prosthodont.* 2010;23(5):410-7.
2. Mehmood Hussain, Abdur Rehman, M Sohail Memon, Waqas Tanveer, Moin Khan. Awareness Of Different Treatment Options For Missing Teeth In Patient Visited At Hamdard University Dental Hospital. *Pakistan Oral & Dental Journal* 2015;35 (2):320-322.
3. Abdurahiman VT, Abdul Khader M, Sanju John Jolly. Frequency of partial edentulism and awareness to restore the same: a cross sectional study in the age group of 18-25 years among Kerala student population. *J Indian Prosthodont Soc* 2013; 13: 46-65.
4. Bilhan H, Erdogan O, Ergin S, Celik M, Ates G, Geckili O. Complication rates and patient satisfaction with removable dentures. *J Adv Prosthodont.* 2012;4(2):109-15.
5. Fenlon MR, Sherriff M. An investigation of factors influencing patients' satisfaction with new complete dentures using structural equation modelling. *J Dent.* 2008;36(6):427-34.

6. Saito M, Notani K, Miura Y, Kawasaki T. Complications and failures in removable partial dentures: a clinical evaluation. *J Oral Rehabil* 2002;29:627-33.
7. Hobkirk JA, Abdel-Latif HH, Howlett J, Welfare R, Moles DR. Prosthetic treatment time and satisfaction of edentulous patients treated with conventional or implant-supported complete mandibular dentures: a case-control study (part 1). *Int J Prosthodont* 2008;21:489-95.
8. Hobkirk JA, Abdel-Latif HH, Howlett J, Welfare R, Moles DR. Prosthetic treatment time and satisfaction of edentulous patients treated with conventional or implant-stabilized complete mandibular dentures: a case-control study (part 2). *Int J Prosthodont* 2009;22:13-9.
9. Jeganathan S, Payne JA. Common faults in complete dentures: a review. *Quintessence Int* 1993;24: 483-7.
10. Yemm R. Analysis of patients referred over a period of five years to a teaching hospital consultant service in dental prosthetics. *Br Dent J* 1985;159:304-6.
11. van Waas MA. The influence of psychologic factors on patient satisfaction with complete dentures. *J Prosthet Dent* 1990;63: 545-8.
12. A.-L. Suominen Taipale, P. Alanen, A. Nordbald, et al. "Edentulism among finish adults of working age, 1978–1997". *Commun Dent Oral Epidemiol.* 1999;27:335–365.

How to cite this article: Rahman MS. Clinical Performance of Removable Partial and Complete Dentures at a Speciality Dental Clinic, Hyderabad: A Retrospective Study. *Ann. Int. Med. Den. Res.* 2017; 3(2):DEXX-DEXX.

Source of Support: Nil, **Conflict of Interest:** None declared