



## Original Article

### Patient's Satisfaction with Removable Partial Dentures: A Retrospective Study

Praveen Chandra<sup>1</sup>, Sonali Roy<sup>2</sup>, Archana Kumari<sup>3</sup>

<sup>1</sup>Department of Prosthodontics, Buddha Institute of Dental Sciences and Hospital, Patna, Bihar, India, <sup>2</sup>Department of Dentistry, Nalanda Medical College and Hospital, Patna, Bihar, India, <sup>3</sup>Department of Dentistry, VIMS Pawapuri (Nalanda), Patna, Bihar, India.

#### Abstract

**Background:** The success of prosthodontic treatment in geriatric patients is based on the general health as well as an array of dental and nondental factors. Dentist–patient communication plays an important role in satisfaction. There are several modalities of treatment for rehabilitation of partially edentulous patients. These include implant-supported prostheses, teeth-supported bridges, and removable partial dentures (RPDs). Aim of the study: To study patient's satisfaction with removable partial dentures. **Materials and methods:** The present study was conducted in the Department of Dentistry. For the study sample, we contacted 100 patients from the previous medical records of 2 years who got treatment for partially edentulous ridge with removable partial denture. All the patients responded and visited the department on the desired date. The age of the patients ranged from 18 to 60 years. It was made sure that each patient had either one of the maxillary or mandibular RPD for the evaluation. On the day of reporting at department, the patients were asked to fill up a questionnaire. **Results:** A total of 100 patients' medical records were studied. Number of male patients was 65 and number of female patients was 35. Excellent esthetics was observed in 71 patients. Only 1 patient had complaint with esthetics of the RPD. Similarly, comfort, masticatory efficacy and retention was seen to be excellent in 62, 56 and 59 patients respectively. **Conclusion:** Within the limitations of the present study, it can be concluded that Removable Partial Denture provides significant esthetics, comfort, hygiene, masticatory efficiency and retention to the patients.

**Keywords:** RPD, Satisfaction, Retention, Denture.

**Corresponding Author:** Dr. Archana Kumari, Department of Dentistry, VIMS Pawapuri (Nalanda), Patna, Bihar, India.

**How to Cite:** Chandra P, Roy S, Kumari A. Patient's Satisfaction with Removable Partial Dentures: A Retrospective Study. IDA Lud J –*le* Dent 2021;5(1):94-99.

## INTRODUCTION

The success of prosthodontic treatment in geriatric patients is based on the general health as well as an array of dental and nondental factors. Among the nondental factors, patient satisfaction has a vital role. With accurate diagnosis and strict protocol, patient satisfaction would ensure long-term clinical results. Patient satisfaction should be given utmost importance as Devan stated appropriately that the dentist had to meet the mind of the patient before he meets the mouth of the patient.<sup>1</sup> Dentist-patient communication plays an important role in satisfaction.<sup>2</sup> The aim of a dentist would be not only to achieve function but also satisfaction which can be affected by various factors such as medical, functional, and psychological statuses. There are several modalities of treatment for rehabilitation of partially edentulous patients. These include implant-supported prostheses, teeth-supported bridges, and removable partial dentures (RPDs).<sup>3,4</sup> However, some options, such as dental implants, can be difficult to implement due to general and/or oral limitations, financial issues, and patient preferences.<sup>5</sup> Accordingly, based on a 2016 survey of 200 Saudi Arabian volunteers whose missing teeth had been successfully restored with a prosthesis, it was concluded that level of education and monthly income had a significant influence on the treatment choice.<sup>6</sup> RPDs are applied to restore facial form and masticatory function after loss of natural teeth. Hence, the present study was conducted to study patient's satisfaction with removable partial dentures.

## MATERIALS AND METHODS

For the study sample, we contacted 100 patients from the previous medical records of 2 years who got treatment for partially

edentulous ridge with removable partial denture. The patients were recalled. All the patients responded and visited the department on the desired date. The protocol and procedure of the study was explained to the patients and an informed consent was obtained from them. The age of the patients ranged from 18 to 60 years. It was made sure that each patient had either one of the maxillary or mandibular RPD for the evaluation. On the day of reporting at department, the patients were asked to fill up a questionnaire. The acceptance of RPD was marked as excellent, good or bad. The patients were asked to rate the acceptance of RPD for aesthetics, comfort, masticatory efficacy and retention. After completion of questionnaire, the patients submitted them to the operator. The data was analyzed and data was tabulated for further evaluation.

The statistical analysis of the data was done using SPSS version 11.0 for windows. Chi-square and Student's t-test were used for checking the significance of the data. A p-value of 0.05 and lesser was defined to be statistically significant.

## RESULTS

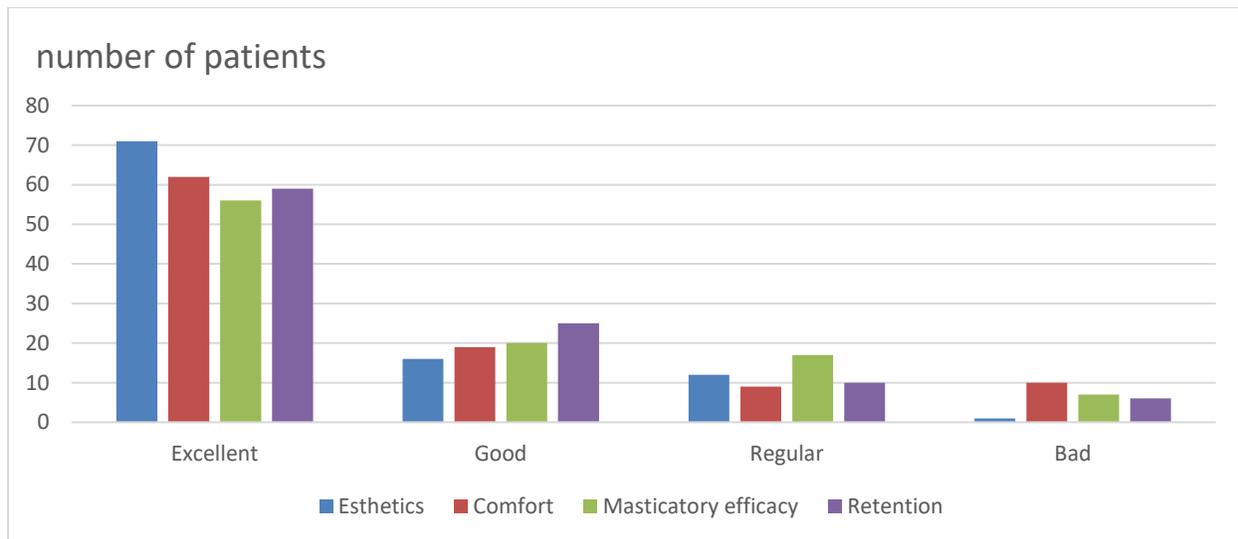
Table 1 shows the demographics of the patients. A total of 100 patients' medical records were studied. Number of male patients was 65 and number of female patients was 35. The mean age of the patients was 59.34 years. Table 2 shows assessment of esthetics, comfort, hygiene, masticatory efficiency and retention according to patient. Excellent esthetics was observed in 71 patients. Only 1 patient had complaint with esthetics of the RPD. Similarly, comfort, masticatory efficacy and retention was seen to be excellent in 62, 56 and 59 patients respectively.

<b>Total number of patients</b>	<b>100</b>
Number of males	65
Number of females	35
Mean age (years)	59.34

**Table 1: Demographics of patients**

	Esthetics	Comfort	Masticatory efficacy	Retention	p-value
Excellent	71	62	56	59	0.003
Good	16	19	20	25	
Regular	12	9	17	10	
Bad	1	10	7	6	
Total	100	100	100	100	

**Table 2: Assessment of esthetics, comfort, hygiene, masticatory efficiency and retention according to patient**



**Fig 1: Response to esthetics, comfort, hygiene, masticatory efficiency and retention**

## DISCUSSION

In the present study, we evaluated 100 patients with RPD. The number of male

patients was 65 and female patients was 35. We observed that RPD provides excellent esthetics, comfort, masticatory efficacy and retention to the patients. Few patients had

issues with masticatory efficacy and comfort with RPD. The results on comparison were statistically significant. On comparing the results with previous studies. Disha V et al <sup>7</sup> compared esthetic outcomes, masticatory performance and a comfort of removable partial denture (RPD) wearing after receiving: clasp-retained RPD (C-RPD) or mini dental implant-retained RPD (MDI-RPD) in the mandible. A sample of 88 patients (Kennedy Class I) with all posterior teeth missing and a linear support for a RPD participated. A total of 52 patients (36 females, 16 males; 56 to 84 years old) participated in the C-RPD group and 36 patients (26 females, 10 males; 43 to 81 years old) in the MDI-RPD group. The MDI-RPD wearers were more satisfied with their post-treatment esthetics, food comminution, a comfort with RPDs and had better confidence while chewing than the C-RPD wearers. The MDI-RPD wearers reported larger positive effect of the treatment. The results were consistent throughout the first 6-months period. They concluded that the MDI-RPD patients showed superior outcomes than the C-RPD patients after the treatment and over the 6-month period. Alageel O et al <sup>8</sup> investigated the factors related to RPD retention that affect patient satisfaction. Seventy-five patients treated with 107 RPDs delivered at the McGill University Dental Clinic (Montreal, Canada) and Estaing University Hospital (Clermont-Ferrand, France) participated in this study. The average satisfaction score for all RPDs was  $8.2 \pm 1.7$  out of 10. Patients were more satisfied with RPDs in the maxillary arch, tooth-supported, or retained by  $\geq 3$  clasps than with RPDs in the mandibular arch, with distal extension bases, or retained by  $< 3$  clasps. The materials used for RPD fabrication (metal-based or acrylic resin-based), the number of

missing teeth, and the presence of indirect retention were not associated with patient satisfaction. Participants were significantly more satisfied with RPD designs predicted by the developed mathematical model to have enough retention than with RPD designs predicted to have insufficient retention. The mathematical model for predicting the RPD retention showed a clinical specificity of 83% in predicting patient satisfaction. They concluded that RPD retention predicted from the number and position of clasps and missing teeth might help to determine patient satisfaction. In addition, patient satisfaction with RPDs was influenced by the arch type, the presence of a distal extension base, and the number of clasps.

Gjengedal H et al <sup>9</sup> explored variables that might influence self-reported oral health and denture satisfaction in partially and completely edentulous patients. The study sample was recruited from 294 patients treated with complete dentures at the Department of Prosthodontics, Faculty of Dentistry, University of Bergen, Norway, between 1997 and 2005. The 172 respondents completed a self-administered questionnaire regarding demographics, denture status, appetite, avoiding food items, satisfaction with dentures, various aspects of wearing dentures, and the Oral Health Impact Profile (OHIP-20). The mean age of patients was 67 years; 52% were men. Sixty-seven percent of patients had complete maxillary and mandibular dentures, while 33% had a complete maxillary denture and a dentate mandible. There were no significant group differences regarding age, sex, general health, appetite, avoiding food items, chewing, speech, maxillary denture esthetics, or the OHIP-20. However, striking group differences were found in the number

and nature of significant variables associated with reported oral health and denture satisfaction at all levels of analyses. Thus, oral health in the completely edentulous was associated with the OHIP-20, avoiding food items, and satisfaction with dentures, while in the partially edentulous, it was associated with maxillary denture retention and age. Similarly, satisfaction with dentures in the completely edentulous was associated with the OHIP-20, global oral health, and some clinical variables, while in the partially edentulous, it was associated with the OHIP-20 and some clinical variables. Predictors for oral health in the completely edentulous were the OHIP-20, speech, and avoiding certain food items; in the partially edentulous, they were denture retention and age. Predictors for denture satisfaction in the completely edentulous were the OHIP-20 and maxillary denture esthetics; in the partially edentulous, only maxillary denture comfort served as a predictor. Also, the completely edentulous reported better oral health and satisfaction with their dentures than the partially edentulous. The results of this study suggest that the completely and partially edentulous differ in variables associated with, and predictive for, both self-reported oral health and denture satisfaction. de Souza RF et al<sup>10</sup> evaluated the pattern of maxillary complete denture movement during chewing for free-end removable partial dentures (RPD) wearers, compared to maxillary and mandibular complete denture wearers. Eighteen edentulous participants (group I) and 10 volunteers with bilateral posterior edentulous mandibles (group II) comprised the sample. Upper movement during chewing was significantly lower for group II, regardless of the test food. The test food did not influence the vertical or lateral position of the denture bases, but more

anterior dislocation was found when polysulphide blocks were chewed. Group II presented lower intra-individual variability for the vertical axis. Vertical displacement was also more precise with bread as a test food. It can be concluded that mandibular free-end RPD wearers show smaller and more precise movements than mandibular complete denture wearers.

## CONCLUSION

Within the limitations of the present study, it can be concluded that Removable Partial Denture provides significant esthetics, comfort, hygiene, masticatory efficiency and retention to the patients.

## REFERENCES

1. Van MM. *Methods of procedure in a diagnostic service to the edentulous patient.* *J Am Dent Assoc.* 1942;29:1981–90.
2. Sondell K, Palmqvist S, Söderfeldt B. *The dentist's communicative role in prosthodontic treatment.* *Int J Prosthodont.* 2004;17:666–71.
3. Stilwell C. *Risk management in clinical practice. Part 6b. Identifying and avoiding medico-legal risks in removable dentures.* *BDJ.* 2010;209(7):339–350.
4. Furuyama C., Takaba M., Inukai M., Mulligan R., Igarashi Y., Baba K. *Oral health-related quality of life in patients treated by implant-supported fixed dentures and removable partial dentures.* *Clin Oral Implants Res.* 2012;23(8):958–962.
5. Sakka S., Baroudi K., Nassani M.Z. *Factors associated with early and late failure of dental implants.* *J Investig Clin Dent.* 2012;3(4):258–261.

6. Shafaei A. Correlation between socioeconomic status and different types of prosthetic modalities in hail region, Saudi Arabia. *Dent Oral Craniofacial Res.* 2016;2(5):344–348.
7. Disha V, Čelebić A, Rener-Sitar K, Kovačić I, Filipović-Zore I, Peršić S. Mini Dental Implant-Retained Removable Partial Dentures: Treatment Effect Size and 6-Months Follow-up. *Acta Stomatol Croat.* 2018 Sep;52(3):184-192. doi: 10.15644/asc52/3/2. PMID: 30510294; PMCID: PMC6238870.
8. Alageel O, Ashraf N, Bessadet M, Nicolas E, Tamimi F. Evaluation of the design-driven prediction of removable partial denture retention. *J Prosthet Dent.* 2020 Sep;124(3):357-364. doi: 10.1016/j.prosdent.2019.10.005. Epub 2019 Dec 4. PMID: 31810612.
9. Gjengedal H, Berg E, Boe OE, Trovik TA. Self-reported oral health and denture satisfaction in partially and completely edentulous patients. *Int J Prosthodont.* 2011 Jan-Feb;24(1):9-15. PMID: 21209996.
10. de Souza RF, Marra J, Pero AC, Regis RR, Compagnoni MA, Paleari AG. Maxillary complete denture movement during chewing in mandibular removable partial denture wearers. *Gerodontology.* 2009 Mar;26(1):19-25. doi: 10.1111/j.1741-2358.2008.00248.x. PMID: 18710401.

**Conflict of Interest: None**

**Source of Support: NiL**



This work is licensed under a Creative Commons Attribution 4.0 International License