ISSN-2455-5592

Original Article

Treatment outcome of the removable partial denture-prosthodontics approach

Manpal Kaur
Post Graduate Student, Department of Prosthodontics, Maharaja Ganga Singh Dental College and Research Centre, Sriganganagar.

Abstract

Background: Important aspects in patient's wearing RPDs are satisfaction, comfort, ability to masticate, esthetics and retention. Besides the clinician's skill and the quality of dentures, the following factors related to the patient are very important to final satisfaction with RPDs: personality, attitude toward the dentures, prior RPD experience, and motivation for wearing a denture. The aim of the present study was to determine the degree of patient satisfaction with their RPDs and to compare patient and prosthodontist assessments of treatment outcome. **Materials and method:** A questionnaire based study was performed in the institution and total of 100 patients with RPDs took part in this study who visited the department of prosthodontics. An informed consent form was obtained from the patients. The included patients had been wearing the existing RPDs for different periods ranging from 1 to 10 years. There were 49 men and 51 women aged between 40-80 years. The examined patients had 45 maxillary and 55 mandibular RPDs. **Results:**. According to this study, the percentage of completely dissatisfied patients was 10% for the mandibular and 5% for the maxillary RPDs. The percentage of hardly satisfied patients was 5% for the mandibular RPDs, and 4% of the patients were hardly satisfied with their maxillary RPDs. The prosthodontist listed 40% of the RPDs in the best category, which was significantly lower than the patients' listing, while 60% of the RPDs were given grade 3. Patient assessments were higher than those of the prosthodontist for all variables. **Conclusion:** A significant difference was registered between prosthodontist and patient assessments of the quality of the RPDs.

Keywords- Esthetics, Retention, Rotational movements, Residual ridge

Corresponding author:Manpal Kaur Post Graduate Student, Department of Prosthodontics, Maharaja Ganga Singh Dental College and Research Centre, Sriganganagar

This article may be cited as: Kaur MTreatment outcome of the removable partial denture-prosthodontics approach.Int J Com Health and Med Res 2017;3(2):29-32

Article Received: 28-03-17 **Accepted On:** 01-04-2017

INTRODUCTION

Abutment teeth and residual ridges support a RPD which have different supporting characteristics on force application. It has been known that rotational movements of the RPD are generated by the difference of supporting characteristics, when a force is exerted on the extension base, and it results in potentially destructive forces on the abutment teeth and residual ridges. Biomechanical principles of RPD design were proposed by McCracken for minimizing the undesirable forces and maintaining the health of the structures, which focused on distribution of the forces to the supporting tissues, namely, support, stability, and retention of RPD**.** [1]The factors which are important in patients wearing RPDs are satisfaction, comfort, the ability to masticate, esthetics and retention.[2] Besides the clinician's skill and the quality of dentures, the following factors related to the patient are very important to final satisfaction with RPDs: personality, attitude toward the dentures, prior RPD experience, and motivation for wearing a denture [3,4] The majority of patients are satisfied with their removable partial dentures (RPD).[5] However, even if RPDs are constructed according to all accepted criteria, some patients will still be dissatisfied. Satisfaction with RPDs seems to have a multicausal character.[6]In addition to the factors directly related to the functioning of dentures, patient-related factors influence the final result.The most common reasons for patient dissatisfaction with RPDs have already been studied.[7, 8] The aim of the present study was to determine the degree of patient satisfaction with their RPDs and to compare patient and prosthodontist assessments of treatment outcome

MATERIALS AND METHODS

The present study included assessment of 100 patients with RPDs who visited the department of prosthodontics. A questionnaire based study was performed in the institution included patients had

ISSN-2455-5592

been wearing the existing RPDs for different periods ranging from 1 to 10 years. There were 49 men and 51 women aged between 40-80 years . The examined patients had 45 maxillary and 55 mandibular RPDs. Ethical approval was taken from the institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. The questionnaire divided into two parts for the purposes of the study, and it was completed by both the patients and the prosthodontist independently. To ensure an objective assessment, the patients were attributed an identifying number when responding to the questionnaire(on paper). The prosthodontist assessing the dentures independently was referring only to those identifying numbers, not to the patients' names, for the same reasons of objectivity. In the first part of the questionnaire, the patients graded the RPDs depending on the level of their satisfaction, using a scale from 1 to 5. The 1 to 5 scale is a common grading scale in the Croatian educational system (1 = unsatisfactory, 2 = hardly satisfactory, 3 = satisfactory on average, 4 = very satisfactory, 5 = excellent). The patients first graded their dentures in general, and then they gave separate grades on the retention, esthetics, and hygiene of their dentures (their opinion on how clean they thought they kept their RPDs). In the second part of the questionnaire, a trained prosthodontist evaluated the dentures, also by using the scale from 1 to 5 and without any idea about the patients' assessments.[4] All the results were recorded and analyzed.

RESULTS

The great majority of the patients were very satisfied with the treatment outcome, and the median value was 4 for all assessments. The median for the prosthodontist's evaluation of the RPDs was lower; for the general assessment, esthetics, and hygiene it was 4, and for the retention it was 3. The distribution of patient and prosthodontist general assessments for the maxillary and mandibular RPDs is shown in Fig 1 and 2. The distribution of the grades was different from the normal distribution . The distribution of patient grades in this study was completely skewed towards the highest scores while the distribution of prosthodontist grades was also towards the highest scores, but not as much as the patients' grades. More than half of the patients assessed all variables describing their satisfaction with the RPDs as very satisfactory. The highest percentage of the patients' best scores (grade 5) was assigned to the esthetics of the maxillary and mandibular RPDs. The parameter with the highest percentage of the lowest scores was the patients' general satisfaction with their mandibular RPDs . According to this study, the percentage of completely dissatisfied patients was 10% for the mandibular and 5% for the maxillary RPDs. The percentage of hardly satisfied patients was 5% for the mandibular RPDs, and 4% of the patients were hardly satisfied with their maxillary RPDs. The prosthodontist listed 40% of the RPDs in the best category, which was significantly lower than the patients' listing , while 60% of the RPDs were given grade 3. Patient assessments were higher than those of the prosthodontist for all variables.

Table 1: **General assessment of maxillary and mandibular RPD'S**

General Assesment		General Assement for Maxillary RPD	General Assement for andibular RPD
Patients	Esthetics	5	4
	Retention	4	3
	Hygiene	5	4
Prostho dontist	Esthetics	4	3
	Retention	3	2
	Hygiene	4	3

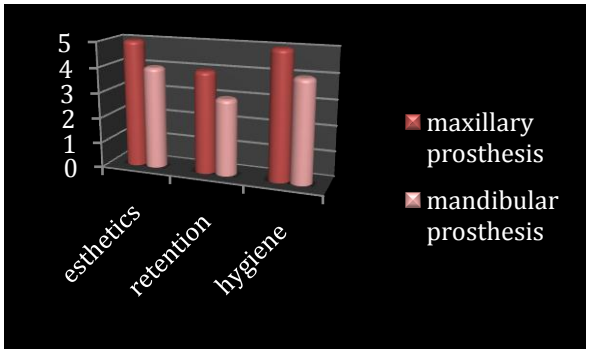

Fig. 1: General assessment of maxillary and mandibular RPD'S from patient's point of view

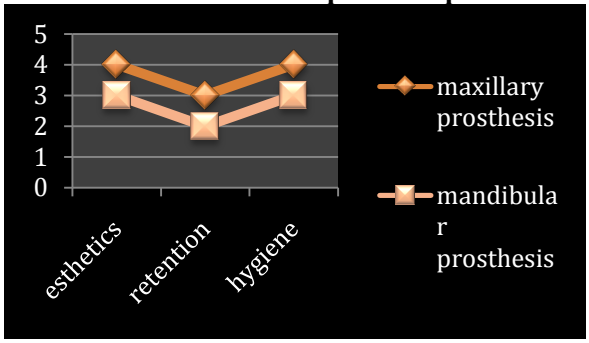

Fig. 2: General assessment of maxillary and mandibular RPD's from prosthodontics approach

ISSN-2455-5592

DISCUSSION

Quality of the denture-supporting area, quality of the oral mucosa, influence of the surrounding muscles on the denture flanges, viscosity of saliva, patient's age and ability to get used to the denture, state of the abutments, condition of the other teeth in the mouth, relation between the horizontal and vertical dimensions of occlusion, hygiene habits, diet, presence of chronic diseases position of the patient's teeth in the mouth, and quality of the removable appliance and psychic factors are the various parameters that determine the success of a RPD[9-12] . There are many factors dependent on the patient, as well as on the clinician, that could have an influence on patients' satisfaction with their RPDs.[13,14] According to the results of this study, it is clear that the distribution curve showing the patient assessments depending on the level of satisfaction with their RPDs is skewed toward the highest score area, ie, the majority of the patients (more than 60%) gave the highest grade to their dentures. Almost complete satisfaction of patients is obtained after fulfilling the above mentioned factors. Although it was reported elsewhere that the presence of anterior teeth in an RPD could influence patients' degree of satisfaction,[15] this was not true in our previous study.[16] For that reason, it was decided that patients with anterior teeth replaced in the RPDs should not be treated separately in the present study. The results of this study considering patient satisfaction are even better than the results from some other studies dealing with complete dentures, overdentures, implant-supported dentures, RPDs, and fixed partial dentures, in which the percentage of dissatisfied patients varied between 20% and 35%. Although it is not completely justified to compare patient acceptance of complete dentures and RPDs, we would like to underline that patients' general satisfaction with their RPDs registered in this study was better than patients' general satisfaction with their complete dentures in the Croatian adult population. Considering the 54% of the patients completely satisfied with the complete dentures, 7% completely dissatisfied, and 11% hardly satisfied [17,18] there are fewer dissatisfied patients with RPDs. Better satisfaction with the RPDs in comparison to the complete dentures could be ascribed to the clasps and other retentive elements, indirect and direct retainers used in the construction of partial dentures to improve retention and stability, or even partially edentulous patients' better sense of chewing force because of the mechanoreceptors in the periodontal ligament of the remaining teeth [19] The opinion of the RPD treatment outcomes was significantly different between the patients and the assessing prosthodontist. Generally, when compared to the most satisfied patients, the prosthodontist evaluated the RPD with lower grades; compared with the least satisfied patients, the prosthodontist graded the RPD with higher grades. When the patient was satisfied, he or she graded the RPD as the best, probably without any margin of criticism, a phenomenon that held true for the worst grades. Almost the same results appeared in a study comparing the esthetic outcome of implant supported single-tooth replacement assessed by patients and prosthodontists. The appreciation of esthetics was rated higher by patients than prosthodontists [20] These facts point out that subjective patient factors, such as psychologic factors, attitude toward the RPD, expectations, etc, play a role in the final result of the therapy; we can suppose that the clinician's assessment is more objective, as it relies on technical denture standards and clinical demands in the mouth.

CONCLUSION

The results reflecting patient satisfaction with the treatment outcomes of their RPDs could be helpful to both clinicians and patients in treatment planning. Compared to the most satisfied patients, the prosthodontist assessed the RPDs with lower grades, whereas the few dissatisfied patients assessed their dentures worse than did the prosthodontist.

REFERENCES

1. McGivney GP, Castleberry DJ. McCracken's Removable Partial Prosthodontics, ed8. St Louis: Mosby, 1989
2. Wöstmann B, Jørgensen EB, Jepson N et al. Indications for removable partial dentures: A literature review. Int J Prosthodont 2005; 18: 139-145
3. Frank RP, Brudvik JS, Leroux B, Milgrom P, Hawkins N. Relationship between the standards of removable partial denture construction, clinical acceptability, and patient satisfaction. J Prosthet Dent 2000;83:521–527.
4. Frank RP, Milgrom P, Leroux BG, Hawkins NR. Treatment outcomes with mandibular removable partial dentures: A populationbased study of patient satisfaction. J Prosthet Dent 1998;80:36–45

ISSN-2455-5592

5. Watson CL, Reeve PE, Barnes E, Lane AE, Bates JF. The role of personality in the management of partial dentures. J Oral Rehabil 1986;13:83–91.
6. Van Waas M, Meeuwissen J, Meeuwissen R, Käyser A, Kalk W, van't Hof M. Relationship between wearing a removable partial denture and satisfaction in the elderly. Community Dent Oral Epidemiol 1994;22:315–318.
7. Jokovic A, Locker D. Dissatisfaction with oral health status in an older adult population. J Public Health Dent 1997;57:40–47.
8. Wakabayashi N, Yatabe M, Ai M, Sato M, Nakamura K. The influence of some demographic and clinical variables on psychosomatic traits of patients requesting replacement removable partial dentures. J Oral Rehabil 1998;25:507–512
9. Cowan RD, Gilbert JA, Elledge DA, McGlynn FD. Patient use of removable partial dentures: Two- and four-year telephone interviews. J Prosthet Dent 1991;65:668–670.
10. Wong MM, Ettinger R, Barsby MJ. An evaluation of removable partial dentures: A retrospective study. Iowa Dent J 1995;81:13–16.
11. Steele JG, Ayatollahi SM, Walls AW, Murray JJ. Clinical factors related to reported satisfaction with oral function amongst dentate older adults in England. Community Dent Oral Epidemiol 1997;25:143–149.
12. Petridis H, Hempton TJ. Periodontal considerations in removable partial denture treatment: A review of the literature. Int J Prosthodont 2001;14:164–172
13. Burns DR, Unger JW, Elswick RK Jr, Beck DA. Prospective clinical evaluation of mandibular implant overdentures: Part I— Retention, stability, tissue response. J Prosthet Dent 1995;73: 354–363.
14. Burns DR, Unger JW, Elswick RK Jr, Giglio JA. Prospective clinical evaluation of mandibular implant overdentures: Part II—Patient satisfaction and preference. J Prosthet Dent 1995;73:364–369
15. Frank RP, Milgrom P, Leroux BG, Hawkins NR. Treatment outcomes with mandibular removable partial dentures: A populationbased study of patient satisfaction. J Prosthet Dent 1998;80:36–45
16. Knezovic' Zlataric' D, C ˇelebic ' A, Valentic '-Peruzovic' M, C 'elic ' R, Filipovic'-Zore I, Baucˇic ' M. The satisfaction with removable partial denture therapy in the Croatian adult population. Coll Antorpol 2000;24:485–493.
17. Berg E. Acceptance of full dentures. Int Dent J 1993;43:299–306.
18. Jeganathan S, Payne JA. Common faults in complete dentures: A review. Quintessence Int 1993;24:483–487
19. C ˇelebic 'A, Valentic '-Peruzovic ' M, Stipetic ' J, Delic' Z, Stanicˇic ' T, Ibrahimagic ' L. The patient's and the therapist's evaluation of complete denture therapy. Coll Antropol (Suppl) 2000;24:71–78.
20. Chang M, Ödman PA, Wennström JL, Andersson B. Esthetic outcome of implant-supported single-tooth replacement assessed by the patient and the prosthodontist. Int J Prosthodont 1999;12: 335–341

Source of support: Nil
Conflict of interest: None declared