Original article

# The Patient's Fulfillment with Removable Partial Denture Treatment from Point of The Consolation and Mastication

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#### ARTICLE INFO

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#### ABSTRACT

Aims. The purpose of this article was to determine if there was a relationship between removable partial dentures satisfaction and efficiency of mastication in patients with partial dentures. Methods. A total of 40 people with removable partial dentures, ranging in the age from 25 to 66, were evaluated. After the dentures were construction and insertion, patients were interviewed about their comfort and mastication efficiency, and rate their satisfaction on a scale of 1 to 5. Results. In comparison to male patients, the majority of females (57%) were satisfied with the comfort of their dentures, with differences significant between the two groups. About efficiency of mastication, the male patients had the highest satisfaction rate (54%) compared to the female patients. When comparing age groupings, the group I satisfy had the highest percentage compared to the group II. Female patients in comfort. Conclusion. When it came to efficiency of mastication, male patients were more satisfied than female patients, and age of patients, the group I satisfied the most people compared to the group II.

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## **INTRODUCTION**

Missing teeth have a significant impact on the patient's appearance, as well as their ability to chew and communicate. Teeth loss can be caused by trauma, oral disorders, pathology, or other circumstances, and it affects the patient's esthetics and phonetics, as well as treatment options for partially edentulous individuals [1,2]. Oral implants, for example, have a number of disadvantages, including cost, patient demand, and dental complications [3]. Removable partial dentures (RPD) offer a number of advantages, including the ability to chew even when teeth are lost and the opportunity to improve facial appearance. Chewing is the primary function of teeth, and dentistry is the science responsible for repairing the structural integrity of teeth. RPD can improve a patient's masticatory function by restoration missing teeth [4]. The preservation of remaining teeth, not merely the restoration of missing teeth, should be the first cause of RPD development. As a result, RPD was created as a viable therapy alternative for improving speech and maintaining masticatory efficiency [1]. Patient satisfaction with RPDs is determined by the patient's personality, attitude, prior experience, and the RPD's design and manufacturing procedures [5]. As a result, efficiency of chewing, attractiveness, and retention all played a role in RPD retention [6,7].

Patient's esthetic is influenced by missing teeth, which has a negative impact on chewing abilities and speech. Missing teeth can be caused by trauma, dental diseases, pathology, or other factors, and will disrupt the patient's esthetics and phonetics, as well as their psychological focus [8-9]. All of these options for treating partially edentulous patients, such as dental implants, fixed bridges, and removable prostheses, are available, but there are numerous side effects associated with some treatment lines, such as cost, patient needs, or oral difficulties, with some treatment lines, such as dental implants [10]. Removable partial dentures (RPD) provide a number of advantages, including the ability to chew even when teeth are missing and the capacity to restore facial appearance. Chewing is the primary function of teeth, and dentistry is the science responsible for repairing structural integrity for teeth [11]. The restoration of missing teeth with RPD can improve the patient's masticatory function [12].

The preservation of the remaining teeth, not merely the replacement of lost teeth (as suggested by De Van's), should be the first cause of RPD development. As a result, the reasonable alternative of treatment was the construction of RPD to improve speech and maintain masticatory efficiency [4]. Since patient satisfaction with RPDs is dependent on their personality, attitude, any prior experience, as well as the design and manufacture procedures of the RPD [13-14]. Chewing efficiency, attractiveness, and retention were all important considerations in RPD adoption [15,16]. The objective of this article was to determine if there was relationship between RPD satisfaction and efficiency of chewing in patients wearing RPD and their comfort at the Faculty of Dentistry's Prosthetics Department.

# **METHODS**

Approximately 40 patients with removable partial dentures were examined from June to December 2020 at the Prosthetics Department, Faculty of Dentistry. Patients range in age from 25 to 66 years old, with 22 men and 18 females were included. Patients of both genders with partially edentulous areas in one or two arches were included in the insertion standards, after confirming that RPD was present in all of the patients.

Patients were asked for basic information such as their name, gender, and age. The included patients in the study were in good dental and general health, and their temporomandibular joint were in a normal state.

After RPD construction, some questions about comfort and mastication efficiency were asked, and patient fulfillment was estimated using a scale ranging from 1 to 3 (scale 1 is very comfortable, 2 Comfort, 3 Discomfort), and the patient was divided into two age groups, the first from 25 to 40 years old, and the second from 41 to 66 years old.

The research was carried out in compliance with ethical principles outlined in the Declaration of Helsinki. A local Ethics Committee evaluated and approved the study methodology and subject information.

Data was analyzed using the SPSS software program version 16. Number and percentages were used to describe the data. Student-T-test was used to compare differences between groups. P value of less than 0.05 was considered statistically significant.

# RESULT

The relation of the patient's fulfillment and their gender were seen in Table 1 and figure 1. The finding demonstrates that there was a relationship between gender and comfort, with the female patients being the most satisfied (57%) with their dentures, compared to the male patients (43 %), and the differences between the gender were significant (p = 0.043).

Table 1. Relation of the patient's fulfillment and their gender				
Gender	Very comfortable	Comfort	Discomfort	
Males (22)	2 %	8 %	33 %	
Females (18)	11 %	39 %	7 %	
P value = 0.043				



Figure 1. Relation of the patient's fulfillment to their gender.

Table (2) and figure (2) show that the group II (older than 40 years) had the highest percentage of satisfied respondents (52 %), followed by the group I (younger than 40 years) with (45 %), and the group I had the lowest percentage of unsatisfied respondents (5 %). The differences between the age groups were significant (p=0.048).

Age	Very comfortableComfortDiscomfort				
Group I	2%	5 %	38 %		
Group IU 21 % 30 % 1 %					
P value = 0.043					

Table ? Polation of the nationt's fulfillment and their ages



Figure 2. Relation of the patient's fulfillment to their ages.

About efficiency of mastication, table (3) and figure (3) demonstrate the relationship between gender and efficiency of mastication. Observer can see that the female patients (35 percent) were the most satisfied, compared to the male patients (2 percent), and the differences were significant (p < 0.033).

Table (4), figure (4) shows that the group I (about 47.7 percent) has the highest percentage of satisfied people, compared to the group II (approximately 23.3 percent).

Gender	Very comfortable Comfort Discom		
Males (22)	Patent	2 Patents	19 Patents
Females (18)Patent6 Patents11 Patent			
P value = 0.033			

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Figure 3. Relation of the efficiency of mastication to patient's gender.

Table 4	Relation of	the natient's	ages to	efficiency	of mastication.
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Age	Very comfortable	Comfort	Discomfort
Group I	5%	13 %	21 %
Group IU	1 %	3 %	9%
P value = 0.047			



Figure 4. Relation of the efficiency of mastication to patient's ages.

#### DISCUSSDION

The most important work of RPD treatment was preservation of remaining natural teeth, not the fastidious substitution of what has been misplaced, so the suitable choice of treatment with RPD that gives an made strides run of helpful choices: protecting or altering discourse, moving forward mastication effectiveness, stabilizing dental connections and progressing aesthetics [17]. The RPDs utilize is extremely influenced by the fulfillment of quiet, a few components like demeanor of understanding and identity, given RPDs quality, verbal cleanliness of quiet, resilience, consolation level, tasteful, and discourse can influence fulfillment of understanding with RPD treatment [18-19].

With respect to the connection between the gender and the consolation, the biggest rate of the females were fulfill with the consolation of her denture compared with the male patients and the contrasts between the gender was noteworthy (p = 0.043), and this may be related to the reality that the females have a inclination to be did not acknowledge their

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edentulous state and they tend to make strides their appearance whereas males are less slanted to hunt for treatment for edentulism or may be due to the bigger ladies component within the test, and this was concur with study which found that there was a noteworthy contrast between men and ladies within the fulfillment level with their RPD consolation but the ladies were less fulfilled with consolation at that point men [20,21]. With respect to the connection between the age and the consolation, the biggest rate for group II was fulfill compared with the group I, and the contrasts between the age bunches was noteworthy, this result was opposing this idea with articles those found that no critical distinction was found between diverse age bunches patients, [22,23]. The disappointment was seen generally with more seasoned age [20].

Results of mastication efficiency revealed that the connection between gender and mastication effectiveness, the consider appeared the female patients were more fulfilled than male patients, and the contrasts between the gender was significant (p=0.033).

Female's rate was for the group I fulfill compared with the group II, this may be due to the anatomical calculate that the youthful age has great bone, resorption rate less, great muscle, etc. so great maintenance, retention, support and stability so the mastication was best than old age group, [23] evaluated mastication and found that more youthful understanding were more fulfill than more seasoned patients.

## CONCLUSION

With respect to consolation, the biggest rate of the females was fulfilled of their dentures compared with the male patients and the contrasts between the sexual orientation was noteworthy, the biggest rate for group II was fulfill compared with the group I, and the contrasts between the age groups was noteworthy. The mastication efficiency revealed that female patients were more fulfilled than male patients, with significant contrasts between the gender. In terms of age, the biggest rate was recorded in group I fulfilled compared to group II.

#### Disclaimer

The article has not been previously presented or published, and is not part of a thesis project.

#### **Conflict of Interest**

There are no financial, personal, or professional conflicts of interest to declare.

## REFERENCES

- 1. Knezovic-Zlataric D, Celebic A, Valentic-Perozovic M, Jerolimov V, Celic R, Filipovic-Zore I et al. Patients' satisfaction withpartial denture therapy. Acta Stomat Croat. 2000; 34: 373-78.
- 2. Granstrom G. Placement of dental implants in irradiated bone: the case for using hyperbaric oxygen. J Oral Maxillofacial Surg. 200664(5): 812-18.
- 3. Mitrani R, Brudvik JS, Phillips KM. Posterior implants for distal extension removable prostheses: a retrospective study. Int J Periodontics Restorative Dent. 2003 Aug;23(4):353-9. PMID: 12956479.
- 4. 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 May;83(5):521-7. doi: 10.1016/s0022-3913(00)70008-4. PMID: 10793382.
- 5. Virard F, Venet L, Richert R, Pfeffer D, Viguié G, Bienfait A, Farges JC, Ducret M. Manufacturing of an immediate removable partial denture with an intraoral scanner and CAD-CAM technology: a case report. BMC Oral Health. 2018 Jul 4;18(1):120. doi: 10.1186/s12903-018-0578-3.
- 6. Reifel N, Rana H, Marcus M. Consumer satisfaction. Adv Dent Res. 1997;11(2):281–290.
- 7. de Baat C, van Aken AA, Mulder J, Kalk W. "Prosthetic condition" and patients' judgment of complete dentures. J Prosthet Dent. 1997 Nov;78(5):472-8. doi: 10.1016/s0022-3913(97)70062-3.
- 8. Tyson K, Yemm R, Scott B. Understanding partial denture design. 1st ed. Oxford: Oxford University Press; 2007. pp. 3e6. Section.
- 9. Phoenix Rodney D, Cagna David R, DeFreest Charles F. Stewarts's Clinical removable partial Prosthodontics, 4th ed. Warsaw Quintessence Publishing Co., Inc. 2008.
- 10. Knezović Zlatarić D, Celebić A, Valentić-Peruzović M, Jerolimov V, Pandurić J. A survey of treatment outcomes with removable partial dentures. J. Oral Rehabil. 2003;30(8):847–854.

- 11. Chen J, Ahmad R, Suenaga H, Li W, Sasaki K, Swain M, Li Q. Shape optimization for additive manufacturing of removable partial dentures; A new paradigm for prosthetic CAD/CAM. PLoS One. 2015;10(7):e0132552.
- 12. Reifel N, Rana H, Marcus M. Consumer Satisfaction. Advances in Dental Research. 1997;11(2):281-290. doi:10.1177/08959374970110021101
- Frank R, Brudvik J, Leroux B, Milgrom P, Hawkins N. Relationship between the standards of removable partial denture construction, clinical acceptability, and patient satisfaction. J Prosthet Dent. 2000 May;83(5):521-7. doi: 10.1016/s0022-3913(00)70008-4.
- Kalberer N, Mehl A, Schimmel M, Müller F, Srinivasan M. CAD-CAM milled versus rapidly prototyped (3Dprinted) complete dentures: An in vitro evaluation of trueness. J Prosthet Dent. 2019 Apr;121(4):637-643. doi: 10.1016/j.prosdent.2018.09.001.
- 15. Shala K, Dula L, Pustina-Krasniqi T, Bicaj T, Ahmedi EF, Lila-Krasniqi Z, Tmava-Dragusha A. Patient's Satisfaction with Removable Partial Dentures: A Retrospective Case Series. Open Dent J. 2016 Dec 9;10:656-663. doi: 10.2174/1874210601610010656.
- 16. Hoad-Reddick G, Grant A. Prosthetic status: the formation of a schedule. J. Prosthet. Dent. 1988;59(1):105–110.
- 17. Akeel R. Usage of removable partial dentures in Saudi male patients after 1 year telephone interview. Saudi Dent J 2010;22:125-8.
- 18. van Waas M. Determinants of dissatisfaction with dentures: A multiple regression analysis. J Prosthet Dent 1990;64:569-72.
- 19. Aljabri M, Ibrahim T, Sharka R. Removable partial dentures: Patient satisfaction and complaints in Makkah City, KSA. J Taibah Univ Med Sci. 2017 Apr 25;12(6):561-564. doi: 10.1016/j.jtumed.2017.03.002.
- 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.
- 21. 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 Rehabilitation 2002; 25(7):507-12.
- 22. Akinyamoju CA, Ogunrinde TJ, Taiwo JO, Dosumu OO. Comparison of patient satisfaction with acrylic and flexible partial dentures. Niger Postgrad Med J 2017;24:143-9
- 23. Abdel Salam MA, Aamir MB, Abdul QD. Removable Partial Dentures: Patient satisfaction with associated demographic and biomechanical factors. Pakistan Oral & Dental Journal 2012; 32(3):564-68