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Comparison of superiority Fixed Partial Denture and Removable Partial Denture in Dental Teaching Clinic of Kabul University of Medical Sciences.

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Abstract

Introduction: Teeth have different functions; such as: chewing, speaking and beauty. However, Missed one or several teeth can cause malfunction of mentioned above jobs. If eventually, the lost teeth don't be replaced by artificial ones, it can manage to the malfunction of chewing and speaking tasks. It can also lead to problems in aesthetic and cause depression and digestive diseases by the time. In case of missed of one or more teeth; missed teeth can be replaced by Fixed Partial Denture (FPD) or Removable Partial Dentures (RPD).

(FPD) replaces the missed tooth or teeth in a fixed type by use of natural adjacent teeth. Moreover, this type of replacement cannot be moved from mouth by patient.

(RPD) replaces the missed one or more teeth by help of remaining natural teeth. As well, this type of teeth replacement can move from mouth by patient. The removable partial dentures prepared retention and stability of denture by help of clasps that connected to the natural teeth. This type of replacement can be removed from mouth by patient.

Purpose: Determining that which kind of Partial dentures (fixed or removable) is more effective.

Methodology: This is a Comparative cross sectional study which is done among patients of Dental Teaching Clinic of Kabul University of Medical Science "Abu-Ali Abne Sina" among 30 patients with (FPD) and 30 patients with (RPD). Patients had to respond to before preparation questionnaire for determining their level of satisfaction.

Results: The research was done among 60 patients; which 30 of patients were having (FPD) and 30 other were with (RPD)

The 30 patients have (FPD) 13 of patients was male and 17 were female. The age of patients was between 29-67 years old. Among mentioned 30 patients, 8 of them had (FPD) in both jaws, 13 patients in upper jaw and 9 of them had (FPD) in lower jaw.

22 of patients (73.33%) were satisfied from Fixed Partial denture 8 patients (26.66%) had complained about esthetic, chewing, speaking and bad smile. Female patients, especially those who had (FPD) in their forward teeth, were complainant of esthetic.

Among 30 patients with (RPD), 9 were male and 21 were female that the age was ranged from 34 to 70 years old. 10 of patients had (RPD) in both jaws; while 14 patients had (RPD) in upper jaw and 6 had in lower jaw. 17 of patients (56.66%) satisfied of (RPD) However, 13 patients (43.33) were not content from (RPD) due to fixation and chewing force. Female were more complainant than male. Complaints triggered by (RPD), were more in lower jaw than upper jaw.

Conclusion: Through this research, we determined that patients with (RPD) were more unwilling than (FPD) Women were more complainants from beauty and chewing aspects than men. Problems raised from (RPD) fixation was more in lower jaw than upper jaw.

Keywords: Removable Partial Denture Fixed Partial Denture, Satisfaction of Patients from Removable and Fixed Partial denture

Introduction: missing teeth can have negative impacts on beauty, speaking and chewing. A variety of treatments is suggested for recovering the toothless area; like: implant, (RPD) and (FPD), Implant is limited in use by patients due to systematic, localized and economic problems not available for every patient. (FPD) is a type of restoration which replaced the missing teeth by help of natural teeth the patients cannot able to remove and put back their denture in mouth. (RPD) is a type of denture that the patients are able to remove or put back their artificial teeth in mouth. Partial denture recovers beauty, speaking and chewing action in patients.⁽¹⁻²⁻⁵⁾

Result of a research by Ghada, Hassan Geiballa in 2016 at rehabilitation of the mouth department of dentistry faculty of Khartoum university in Sudan country the research was done among 192 patients, which were comprised of 31.8% male and 68.2% female with (FPD) about the level of patients' satisfaction from beauty, speaking and chewing perspectives, show that: 84% of patients were satisfied from their fixed partial denture; while 16% were not. 46.4% of patients had problem in chewing and 80% of patients were complainant of beauty.⁽³⁾

A research which was conducted by Kujtim sh, Shala, Linda J in 2016 in Prishtine, Kosovo among 63 patients with (RPD) The patients were between 40 up to 60 years. The results determine that: 73.6% of patients were convinced from removable (RPD) while 26.4% were not.⁽⁴⁾

It is determined by results of a research by Mohsen K. Aljabri, Rayan M. Sharka in 2017 at dentistry faculty of Umm Al Qura among 60 patients with (FPD) and (RPD) that: 35% of patients were totally satisfied, 23.3% were less satisfied and 26% were not satisfied. The unsatisfied patients were complainant due to pain during chewing (16.7%), nausea (10%) and speaking problems (8.3%).⁽⁵⁾

Results of a research by Abdul-Rahman Shams and his colleagues in 2015 at Prosthodontics Dept. of Babol University, Iran country among 30 males and 10 females in age of 37-64 show that: (68.3%) of patients had complained from chewing problem, (36.7%) from caries of abutment tooth, (35%) from retention and stability. Totally, (62%) satisfied of partial denture Patients with partial denture in upper jaw were more comfort than the patients who had lower partial denture ($p < 0.05$).⁽¹⁾

It has been reported by results of a research by Adili Sharma and Asra Tabassum in 2018 at Prosthodontic department of Indra Gandhi Government hospital, India among 50 patients with (RPD) that: (78%) of patients were satisfied from retention and stability, beauty and chewing force of their (RPD), while 22% were not.⁽²⁾

Other research by Nivedhaa Chezian and Dr. Abirami in 2016 at Prosthodontic department of dentistry college of Saveetha, Chennai University among 50 patients with removable partial denture (RPD) show that: (82%) of patients were satisfied and (18%) were unsatisfied of (RPD).⁽⁶⁾

Materials and Methodology: This is a Comparative cross sectional study which is done among Dental Teaching Clinic of Kabul University of Medical Science "Abu-Ali Abina Sina" among 30 patients with (FPD) and 30 patients with (RPD) Patients participated in the study voluntarily and had to respond to prepared questionnaire.

Results: The research was done among 60 patients; which 30 of patients were having Removable Partial denture and 30 other were with Fixed Partial denture. The patients the had fixer denture 13 of patients was male and 17 were female. The age of patients was between 29-67 years old. Among mentioned 30 patients, 8 of them had Fixed Partial denture in both jaws, 13 patients in upper jaw and 9 of them had Fixed Partial denture in lower jaw.

22 of patients (73.33%) were satisfied from Fixed Partial denture 8 patients (26.66%) had complained about beauty, chewing, speaking and bad smile of mouth. Female patients, especially those who had Fixed Partial denture in their anterior teeth, were complainant of beauty.

Among 30 patients with Removable Partial denture, 9 were male and 21 were female that the age was ranged from 34 to 70 years old. 10 of patients had Removable Partial denture in both jaws; while 14 patients had Removable Partial denture in upper jaw and 6 had in lower jaw. 17 of patients (56.66%) satisfied of Removable Partial denture However, 13 patients unsatisfied from Removable Partial denture retention, stability and lack chewing force. Female were have more complain than male. Complaints were more in lower jaw than upper jaw. The result of this research show in lower tables:

Table 1, Distribution of Participants according to Sex

Patients with (FPD)	Sex	Number	Percentage
	Male	13	43.33
	Female	17	56.66
		30	100
Patients with (RPD)	Male	9	30
	Female	21	70
	Total	30	100

As it can be observed from above table, the number of patients according to sex was 13 male (43.44%) and 17 female patients (56.66%). As well, patients with (RPD) regarding to sex included 9 male (30%) and 21 female patients (70%). It is determined through this research that the use of (FPD) dentures were more in women rather than men.

Table 2, Partial denture According to Jaw

(FPD)	Jaw	Number	Percentage
	Upper	13	43.33
	Lower	9	30
	Both	8	26.66
	Total	30	100
(RPD)	Upper	14	46.66
	Lower	6	20
	Both	10	33.33
	Total	30	100

As it can be seen in above table, 13 patients (43.33%) had (FPD) in maxilla and 9 patients (30%) in mandible, while 8 patients (26.66%) had (FPD) in both upper and lower jaw. Additionally, 14 patients (46.66%) had (RPD) in maxilla and 6 patients (20%) in mandibular. Whereas, 10 of patients (33.33%) had (RPD) in both jaws.

Table 3, Patients' satisfaction from (FPD) and (RPD)

(FPD)	Patients' satisfaction		Patients' dissatisfaction	Total
	Number	22	8	30
	Percentage	73.33	26.66	100
(RPD)	Number	17	13	30
	Percentage	56.66	43.33	100

As it can be considered in above table, patients with (FPD) were (73.33%) satisfied, while this number was (56.66%) in patients with (RPD).

Discussion: In our research (73.33%) of patients were satisfied of (FPD), while in a research by Ghada, Hassan Gieballa in 2016 at rehabilitation of the mouth department of dentistry faculty of Khartoum university in Sudan country (84%) of patients were satisfied of fixed partial denture⁽³⁾ Also, in our research satisfied patients from (RPD) was (56.66%). As well, the percentage of satisfied patients from (RPD) in a research by Kujtim, Shala, Linda J in 2016 in Prishtina, Kosovo was (73.6%).⁽⁴⁾ Results of a research by Abdul-Rahman Shams and his colleagues in 2015 at Prosthodontics Dept. of Babol University, Iran show that totally, (62%) of participants were satisfied of their (RPD)⁽¹⁾ A research which was conducted by Aditi Sharma and Asra Tabassum in 2018 at Prosthodontic Department of Andhra Gandhi Hospital show that (78%) of patients were satisfied from the retention and stability, beauty and chewing angles of their artificial teeth.⁽²⁾ Other research by Nivedhaa Chezian and Dr. Abirami in 2016 at Prosthodontic department of dentistry college of Saveetha, indicates that (82%) of patients were satisfied of their (RPD).⁽⁶⁾

Patients' satisfaction from (FPD) and (RPD) is dissimilar with international literatures; which the main reason possibly is: The Prothesians who are worked in dental laboratories in Kabul city are not vocationally and academically educated and just had a private period of apprenticeship. Additionally, metal and ceramic materials that used in Kabul city dental laboratories are not standardized.

Final result: according of this research the patients they had (FPD) are more satisfied than the patients who have (RPD). Female are unsatisfied due to esthetic than male. Also problems due to retention and stability are more in lower jaw than upper jaw.

Suggestions:

1. Ministry of Public Health must officially legalize dental laboratories.
2. All laboratories' personnel must be highly educated.
3. Standardizing dental laboratories by Ministry of Public Health.
4. Holding workshops for inexperienced dentists in order to enhance their knowledge about making fixed and removable partial denture.

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