



# PROSTHODONTIC TREATMENT; CLINICAL EVALUATION OF THE PREFERENCE FOR PROSTHODONTIC TREATMENT MODALITIES IN THE PATIENTS VISITING AT THE ISRA DENTAL COLLEGE, HYDERABAD

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**Abstract... Objectives:** This study was carried out to assess the clinical evaluation of the preference for prosthodontics treatment modalities in the patients visiting at the Welfare OPD, Isra Dental College, Hyderabad. **Study Design:** Cross sectional study. **Setting:** Welfare OPD, Department of Prosthodontics at Isra Dental College, Hyderabad. **Period:** Six months, from Jan, 2016 to June, 2016. **Materials and Methods:** The study comprised of 191 patients belonging to both genders ranging in age from 10 years to the 60+ years, divided into six groups. Data analysis by distribution was performed according to the various kinds of prosthesis, including removable partial denture, removable complete denture, fixed partial denture, repair of RPD, immediate denture, lower CD & upper PD, obturator, upper CD & lower PD, relining of dentures, splints, over denture and provisional restorations. Data was analyzed via SPSS version 21. Descriptive statistics such as percentage, frequency distribution, cross tabulation and descriptive were included in Data analysis. The level of significance was set at <0.05%. **Results:** This study revealed that the most of the patients were fell in group IV (41-50 years), which represents 28.3% and the most common treatment were given RPD restoration (49.2%), followed by FPD (22.5%). Majority of the patients were prefer the RPD as 32 (34.0%) and 27 (28.7%) from the age group IV and III respectively while 13 (13.8%) patients were prefer RPD and 13 (30.8%) patients were prefer FPD from the age group II. Out of 191 patients, 47 (50.0%) Males and 47 (50.0%) Females as well prefer the RPD while 26 (60.5%) females and 17 (39.5%) males were prefer FPD as treatment modalities. Younger female patients preferred the FPD while with the increase of age both genders prefer removable prosthesis. **Conclusion:** This study concludes that in the treatment modalities, mostly patients preferred the removable partial denture, provisional restorations and removable complete denture. Younger patients preferred fixed partial denture and removable partial denture as well.

**Key words:** Treatment Modality, Edentulism, Fixed & Removable Prosthesis.

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## INTRODUCTION

In dental profession, development of oral science in the terms of better restorative dental materials and technologies, led to the innovation of the advanced, more efficient and successful prosthodontics treatment.<sup>1</sup> Moreover, it is still debatable that the ideal therapy for oral rehabilitation approaches in the terms of prosthodontics treatment; socioeconomic condition and general health affect the clinical results. However there is still confusion in choosing the best treatment options for the betterment of patients, because of the patient's awareness, understanding, acceptance and affordability as well.<sup>2</sup> Therefore treatment planning is one of the

critical aspects and it has major role in dentistry.<sup>3,4</sup>

In the total population of Pakistan, an estimated edentulism occurs 4.1% aged 65 years and above, with an expected increase to 9.3% by 2030.<sup>5</sup> Since there has been increase in the life expectancy of elderly individuals, number of the adults seeking prosthodontics treatment over the age of 65 years.<sup>6</sup> Amongst the European countries, dental treatment statistics has shown that private dental practitioners providing fixed prosthodontics treatment as compared to the public sector dentists. However dentists in the public health care provides higher number of removable prosthesis.<sup>7</sup> Similar trend has been

observed in the developing countries that decrease in providing removable prosthesis as compared to fixed prosthesis.<sup>8,9</sup> Moreover, it has been assessed that the requirement for removable partial and complete denture prosthesis may surpass the provision of these prosthesis by oral health care professionals during the upcoming 20 years.<sup>10,11</sup>

Removable prosthesis is more common in elderly patients above the age of 50 years as compared to the young adults between the age of 20-50 years. Prosthodontics treatment options usually selecting in the consideration of age, gender, educational level, oral health status, socioeconomic status and patients willingness and demand as well.<sup>12</sup> Moreover, many factors are involved in selection of prosthodontics treatment modalities which may influence the better outcome like, Edentulous ridge span, ridge type, soft and hard tissue conditions, aesthetics has always been one of the important concern of the patient for providing prosthodontics treatment.<sup>4</sup>

Current treatment approaches such as implant supported prosthesis has significantly extended during the past decades.<sup>13</sup> Better retention and stability provided by implant supported prosthesis, however in Pakistan, this treatment modality is gaining very slow popularity due to lack of patients awareness, implant education and very high cost.<sup>4</sup> The completely and partially edentulous patient's potency is not capable to recover normal function, speech, comfort or aesthetic with traditional removable prosthesis. Various studies revealed compromised oral function for complete denture wearers. Improvement occurs in oral function has been revealed that after the prosthodontic oral rehabilitation with implant supported prosthesis due to better retention and stability.<sup>14</sup> New generation are more educated, health aware and economically self-governing than their ancestors in carrying exclusive opportunities and challenges to the fixed prosthesis.<sup>14</sup> FPD is the intervening restorative form, for its good appearance, outstanding masticatory performance and support to improved periodontal conditions.<sup>2</sup> However, still problem of choosing the best treatment modalities, mystifying the patient

between several options and various limits. The best case is, the patient understands, accepts and can afford the suitable treatment modalities.<sup>2</sup>

The aim of this study was to assess the clinical evaluation of the preference for prosthodontics treatment modalities in the patients visiting at the Welfare OPD, Isra Dental College, Hyderabad.

## MATERIALS AND METHODS

This was a cross sectional study conducted in the Welfare OPD, Department of Prosthodontics at Isra Dental College, Hyderabad, over the period of six months, from Jan, 2016 to June, 2016.

The study consisted of a sample size of 191 patients. Patients of both genders were included within the age range starting from 10 years to 60 years onwards. They were divided into 6 groups on the basis of the chronological age: Group I, 10 to 20 years; Group II, 21 to 30 years; Group III, 31 to 40 years; Group IV, 41 to 50 years; Group V, 51 to 60 years and Group VI, 61+ years.

Data analysis by distribution was performed according to the various kinds of prosthesis, including removable partial denture (RPD), removable complete denture (RCD), fixed partial denture (FPD), repair of RPD, immediate denture (ID), lower CD & upper PD, obturator, upper CD & lower PD, relining of dentures, splints, overdenture and provisional restorations.

Data was analyzed by SPSS version 21. Descriptive statistics such as percentage, frequency distribution, cross tabulation and descriptive were included in Data analysis. The level of significance was set at <0.05%.

## RESULTS

This study comprised of 191 patients. Out of which 97 (50.8%) were female and 94 (49.2%) were male patients (Figure-1).

They were divided into 6 groups on the basis of chronological age. Most of the patients were fell in group IV (41-50 years), which represents 28.3%, followed by group III (31-40 years) 20.9%, group II (21-30 years) 16.8%, group V (51-60 years)

15.2%, group VI (61+ years) 14.7% and group I (10-20 years) 4.2% respectively. The distribution of patients according to age group and gender is shown in Table-I.

Out of 191 patients, the most common treatment were given RPD restoration (49.2%), followed by FPD (22.5%), RCD (9.9%), provisional restorations (6.8%), Repair of dentures (3.7%), upper CD and lower PD (2.6%), obturators (2.1%), splints (1.0%), lower CD and upper PD (0.5%), Immediate denture (0.5%), over denture(0.5%) and relining of upper denture (0.5%) respectively shown in Table-II.

Majority of the patients were prefer the RPD as 32 (34.0%) and 27 (28.7%) from the age group IV and III respectively while 13 (13.8%) patients were prefer RPD and 13 (30.8%) patients were prefer FPD from the age group II. It indicates the

young patients more prefer the both RPD and FPD (Table-III).

Out of 191 patients, 47 (50.0%) Males and 47 (50.0%) Females as well prefer the RPD while 26 (60.5%) females and 17 (39.5%) males were prefer FPD as treatment modalities shown in Table-IV.

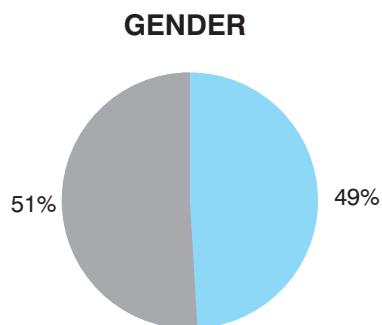


Figure-1. Gender distribution

Age Group	Gender (%)		Total (%)
	Male	Female	
Group I	2 (2.1%)	6 (6.2%)	8 (4.2%)
Group II	7(7.4%)	25 (25.8%)	32 (16.8%)
Group III	18 (19.1%)	22 (22.7%)	40 (20.9%)
Group IV	23 (24.5%)	31 (32.0%)	54 (28.3%)
Group V	21 (22.3%)	8 (8.2%)	29(15.2%)
Group VI	23 (24.5%)	5 (5.2%)	28 (14.7%)
Total	94 (100.0%)	97 (100.0%)	191 (100.0%)

Table-I. Distribution of patients according to age group and gender

Treatment Modalities	Frequency	Percent	Valid Percent	Cumulative Percent
RPD	94	49.2	49.2	49.2
RCD	19	9.9	9.9	59.2
Repair of dentures	7	3.7	3.7	62.8
Immediate denture	1	.5	.5	63.4
Lower CD and upper PD	1	.5	.5	63.9
Obturator	4	2.1	2.1	66.0
Upper complete and lower partial dentures	5	2.6	2.6	68.6
Relining of upper denture	1	.5	.5	69.1
Splint	2	1.0	1.0	70.2
Over denture	1	.5	.5	70.7
FPD	43	22.5	22.5	93.2
Provisional restorations	13	6.8	6.8	100.0
Total	191	100.0	100.0	

Table-II. Distribution of treatment modalities

Treatment Modalities	Age Group						Total
	10-20	21-30	31-40	41-50	51-60	60+	
RPD	1	13	27	32	13	8	94
	1.1%	13.8%	28.7%	34.0%	13.8%	8.5%	100.0%
RCD	0	0	1	3	7	8	19
	0.0%	0.0%	5.3%	15.8%	36.8%	42.1%	100.0%
Repair of RPD	0	0	1	3	1	2	7
	0.0%	0.0%	14.3%	42.9%	14.3%	28.6%	100.0%
Immediate denture	0	0	0	0	1	0	1
	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
lower cd and upper pd	0	0	0	0	1	0	1
	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
obturator	0	0	2	1	1	0	4
	0.0%	0.0%	50.0%	25.0%	25.0%	0.0%	100.0%
upper complete and lower partial	0	0	1	1	1	2	5
	0.0%	0.0%	20.0%	20.0%	20.0%	40.0%	100.0%
relining of upper denture	0	0	0	0	0	1	1
	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
splint	0	2	0	0	0	0	2
	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
overdenture	0	0	0	0	0	1	1
	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
FPD	5	13	7	10	3	5	43
	11.6%	30.2%	16.3%	23.3%	7.0%	11.6%	100.0%
provisional	2	4	1	4	1	1	13
	15.4%	30.8%	7.7%	30.8%	7.7%	7.7%	100.0%
Total	8	32	40	54	29	28	191
	4.2%	16.8%	20.9%	28.3%	15.2%	14.7%	100.0%

Table-III. Distribution of patients according to treatment modalities and age groups

Treatment Modalities	Gender		Total
	Male	Female	
RPD	47	47	94
	50.0%	50.0%	100.0%
RCD	16	3	19
	84.2%	15.8%	100.0%
Repair of RPD	2	5	7
	28.6%	71.4%	100.0%
Immediate denture	1	0	1
	100.0%	0.0%	100.0%
lower cd and upper pd	0	1	1
	0.0%	100.0%	100.0%
Obturator	1	3	4
	25.0%	75.0%	100.0%
upper complete and lower partial	3	2	5
	60.0%	40.0%	100.0%
relining of upper denture	1	0	1
	100.0%	0.0%	100.0%
Splint	0	2	2
	0.0%	100.0%	100.0%
Overdenture	1	0	1
	100.0%	0.0%	100.0%
FPD	17	26	43
	39.5%	60.5%	100.0%
provisional	5	8	13
	38.5%	61.5%	100.0%
Total	94	97	191
	49.2%	50.8%	100.0%

Table-V. Distribution of patients according to treatment modalities and gender

## DISCUSSION

This study was tried to assess the clinical evaluation of the preference for prosthodontics treatment modalities in the patients visiting at the Welfare OPD, Isra Dental College, Hyderabad. Although sample collection was conducted only at Isra Dental College, Hyderabad, the OPD setting for the current study offer better facilitation for the data collection. However, improvement in the sample size could be happens in future studies by targeting other localities in Sindh province.

The results of current study showed that there is a removable partial dentures were usually preferred for the patients as out of 191 patients 94 (49.2%) preferred removable partial denture.

In the studies of Manski RJ et al<sup>6</sup> and Wu B et al<sup>15</sup>, suggested that the need for removable prosthesis will actually increase with time and it is likely that this demand will exceed during the next 20 years.

The study of Rashid H<sup>4</sup>, reported that most of the practitioners providing removable prosthesis and only 18.7% reported a decrease in RPD treatment and 18% reported a decrease in CD treatment.

The study of Mojon PI et al<sup>16</sup>, revealed that the use of removable dentures in Europe has declined probably due to decrease in the rates of edentulism and it seems that having the artificial denture teeth is becoming less socially acceptable.<sup>17</sup>

Li H, Lee JB et al<sup>2</sup>, was conducted study in Seoul National University Dental Hospital, he observed in his study that the both number and percentage of patients with RPD are decreasing year by year.

In the current study, results showed that the fixed partial dentures were preferred by 43 (22.5%) patients. The study of Li H, Lee JB et al<sup>2</sup>, revealed that FPD is most often selected treatment modality and its amount takes the overwhelming majority amongst varieties of prosthodontic restoration. In his study, it was seen in the findings that 61.06% patients accepted FPD restoration from 2005 to 2008.

Our study showed that the 19 (9.9%) patients preferred the removable complete denture. This finding is supported in consistent with the study conducted by Li H, Lee JB et al.<sup>2</sup> Their study showed that the both the number and percentage of RCD have been decreasing year by year.

Removable complete denture and partial denture, fixed partial denture, immediate denture, over denture etc. all are the prosthesis in clinical treatment modalities and each has its own indications.

Dental implants were introduced around 40 years ago and have been focus of research in the field of dentistry.<sup>18</sup> Levin P<sup>19</sup>, stated that the field of implant dentistry will grow at moderately low levels unless certain changes are made. His findings suggested that only 40% of the restorative dentist take up or participate in a case that involves implant prosthodontics. This study is done in the welfare OPD that's the reason patient were not affording the implants as a treatment option.

However, the decision making is influenced by the dentist, patient and treatment system existing. Dentist factors included preferences, individual and practice related characteristics.<sup>20</sup> In the current study Immediate denture, Repair of dentures, Lower CD and upper PD, Upper complete and lower partial dentures, Relining of upper denture, Over denture, Obturator and Splint are fabricated in less number of patients as compared to removable partial denture, fixed partial denture, provisional restorations and removable complete denture.

Furthermore it is worth mentioning that the majority of the dentist who were practicing in institutions and teaching hospitals are better connected to training and education related to innovations in dentistry and is exposed to better opportunities for development of clinical skills.

The increasing trends of implant dentistry specify an essential for training and education not just for practitioners but for undergraduates as well in relation to the dental implant.<sup>21</sup> A comprehensive knowledge of diagnosis and treatment modalities



in implant dentistry should be mandatory for undergraduate dental students.<sup>22</sup>

## CONCLUSION

Within the limitations of the current study, it can be concluded that the out of 191 patients, the most common treatment were given RPD restoration (49.2%), followed by FPD (22.5%), RCD (9.9%), provisional restorations (6.8%), Repair of dentures (3.7%), upper CD and lower PD (2.6%), obturators (2.1%), splints (1.0%), lower CD and upper PD (0.5%), Immediate denture (0.5%), over denture(0.5%) and relining of upper denture (0.5%) respectively.

Majority of the patients were prefer the RPD as 32 and 27 from the age group IV and III respectively while 13 patients were prefer both RPD and FPD from the age group II. It indicates the young patients more prefer the both RPD and FPD.

Out of 191 patients, 47 Males and 47 Females as well prefer the RPD while 26 females and 17 males were prefer FPD as treatment modalities.

Implant is not the choice of patients because of high cost and this study was done in the patients visiting at the Welfare OPD, Isra Dental College, Hyderabad.

Clinical adaptability is the key to prosthodontics success. Not any single procedure, material or technique is adequate for all edentulous patients' treatment success. Hence, the prosthodontist must be capable to draw from a comprehensive knowledge and select features from different treatment modalities that suit each patient best. Thus, modification to standard procedures within the limits of medical, functional and psychological status can make the difference between success and failure.

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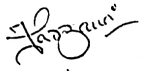

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*Every day holds the possibility of a miracle.*

– Elizabeth David –

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**AUTHORSHIP AND CONTRIBUTION DECLARATION**

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Farzana Memon	Concept, Study design, literature search, data collection and analysis.	
2	Diya Ram Khatri	Data collection, manuscript writing, critical revision and final approval.	
3	Salwa Memon	Literature search, manuscript writing, referencing.	