



## Dental Prosthetic Treatment Needs and Its Awareness as Related to Prognostic Parameter and Outcomes; An Original Research Study

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### KEYWORDS

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### ABSTRACT:

**Background and Aim:** Dental treatment and its approaches have been remarkably sophisticated and conservative. Most of the patients demands prosthetic replacement with maximum esthetic with minimum damage to existing tissues. Several significant researchers are also being conducted on these objectives. The exclusive venture of this paper was to evaluate the dental prosthetic treatment needs and its awareness as related to prognostic parameter and outcomes.

**Materials and Methods:** Simple systemic sampling procedure was used to select 50 patients. Both male and female patients were included in the study in the age range of 35 to 65 years. Questionnaires with 7 questions were given to all participating patients in their very first visit. The obtained data was subjected to appropriate statistical tests to obtain p values, mean and other statistical parameters. P values less than 0.05 was taken as significant. Questions were about the opinion regarding prosthetic intervention is mandatory for any missing teeth, overall outcome of prosthetic therapy is appreciated by patients, removable partial denture carries minimum prognostic value in terms of comfort, prosthetic replacement of missing teeth improves overall chewing efficiency.

**Statistical Analysis and Results:** Statistical analysis was done by SPSS software. Total 28 male and 22 female patients were studied in the study. Maximum 15 patients were noticed in the age range of 41-45 years. Minimum 5 patients were noticed in the age range of 61-65 years. The overall measured p value was highly significant (0.001). 79% patients think that prosthetic intervention is mandatory for any missing teeth. 91% patients believe that overall outcome of prosthetic therapy is appreciated by patients. 60% patients think that removable partial denture carries minimum prognostic value in terms of comfort. 72% patients think that prosthetic replacement of missing teeth improves overall chewing efficiency. Question number 2,3 and 5 showed highly significant p value.

**Conclusion:** Within the limitations of the study authors concluded that the participating patients showed reasonable and positive attitude towards the dental prosthetic treatment needs and its awareness as related to prognostic parameter and outcomes. Authors also anticipate few interrelated future studies with larger sample and detailed analysis.

### Introduction

Rehabilitation of missing teeth is one of the most common reasons of dental clinic visit by patients. With

the increasing life expectancy, individual are increasing more demanding for functions as well as esthetics.<sup>1,2</sup> In the recent past, the level of awareness of prosthetic



needs has been increased many folds. Many researchers in the literature have evaluated level of awareness about prognostic parameter and outcomes. Most of them concluded that the measured levels of awareness were poor.<sup>3,4</sup> Recently, people have become more conscious about more conservative approaches of therapies. This is particularly true for restoration of missing teeth in anterior region. Dental implantology has emerged as a novel methodology to restore missing teeth in a conservative way.<sup>5,6</sup> Most of the people visiting dental clinics for missing teeth replacement think that removable prosthesis are highly cumbersome and troublesome. It also thought of that these removable prosthesis are highly uncomfortable.<sup>7</sup> However, it does not stand true in all circumstances. As a dental professional it's our duty to counsel, educate and motivate the patients about wearing of such prosthesis. Looking all these facts and myths, it is apparently imperative to evaluate the awareness levels regarding it. Therefore this study was designed logically to evaluate the dental prosthetic treatment needs and its awareness as related to prognostic parameter and outcomes.

## Materials and Methods

This study was conducted to evaluate the overall awareness and need in the regular OPD patients as related to replacement of missing teeth. Simple systemic sampling procedure was finalized for the study. The study was abstracted, planned and completed within six month of time. Initially, 60 patients were screened from regular patients inflow. However after explaining the study objectives and procedure, only 50 patients had given their consent. So, written and informed consent was obtained from all 50 participating patients. All of them were explained about the relative benefit or possible harm of this study. Personal details and contact information of the patients were kept confidential and not revealed elsewhere. Both male and female patients were included in the study in the age range of 35 to 65 years. Authors prepared a set of questions about dental prosthetic treatment needs and outcomes. These questions along with demographic details were arranged in the form of questionnaire. These questionnaires were given to all participating patients in their very first visit. They were asked to respond and fill questions honestly. Questions were about the opinion regarding prosthetic intervention is

mandatory for any missing teeth, overall outcome of prosthetic therapy is appreciated by patients, removable partial denture carries minimum prognostic value in terms of comfort, prosthetic replacement of missing teeth improves overall chewing efficiency, prosthetic replacement of teeth improves overall health and confidence, fixed prosthetic treatments are superior than removable approaches in terms of prosthetic performances. Patients with any possibility of loss of follow up, and patients on heavy medication for any underlying disease were immediately excluded from the study. Patients those unable to understand the concrete meaning of prosthetic replacement were also excluded from the study. Patients having positive outlook and affirmative views were included in the study. This was ensured especially to maintain the data quality and to control the confounders. Authors also identify few effect modifiers and hence excluded from the study to avoid any wrong interpretations. The obtained data was subjected to appropriate statistical tests to obtain p values, mean and other statistical parameters. P values less than 0.05 was taken as significant.

## Statistical Analysis and Results

All the details and inputs were complied in methodical manner and subjected to suitable statistical analysis using SPSS statistical package for the Social Sciences version 22.0 for Windows. Table 1 depicts about the Patients allocation according to gender: statistical evaluation using student's t-test. Total 28 male and 22 female patients were studied in the study. The calculated p value was not significant (0.286). The mean values were 3.36 and 3.95 for male and female patients respectively. Table 2 and graph 1 illustrate about patients distribution as per their age groups: assessment of level of significance using ANOVA test. Maximum 15 patients were noticed in the age range of 41-45 years. Minimum 5 patients were noticed in the age range of 61-65 years. The overall measured p value was highly significant (0.001). Mean and standard deviation values are also calculated and shown in the table 2. Table 3 showed Questionnaire responses assessment with related statistical inferences. It also showed about various questions and their responses by respondents in terms of yes/no. The percentage values were recorded and processed to calculate p value. 79% patients think that prosthetic intervention is mandatory



for any missing teeth. 91% patients believe that overall outcome of prosthetic therapy is appreciated by patients. 60% patients think that removable partial denture carries minimum prognostic value in terms of comfort. 72% patients think that prosthetic replacement of missing teeth improves overall chewing efficiency. 71% patients believe that prosthetic replacement of teeth improves overall health and confidence. 85% patients think that fixed prosthetic treatments are superior than removable approaches in terms of prosthetic performances. 65% patients believe that

prosthetic appliances diminish patients perception of taste and sensation. The overall calculated p value was highly significant (0.030). Table 4 illustrated about the basic statistical description with level of significance evaluation using "pearson chi-square" test. Question number 2,3 and 5 showed highly significant p value. Mean values along with mean, standard deviation, standard error, 95% coefficient of interval, Pearson Chi-Square Value and level of significances were calculated individually for all questions.

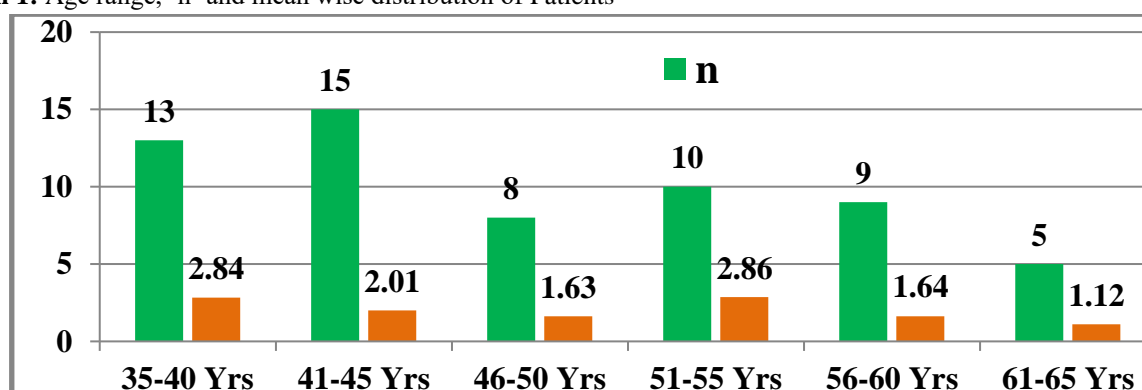
**Table 1:** Patients allocation according to gender: statistical evaluation using student's t-test

Student's t-test				
Sex	Number [n]	Mean	SD	P value
Male	28	3.36	1.059	0.286
Female	22	3.95	1.757	
*p<0.05 significant				

**Table 2:** Patients distribution as per their age groups: assessment of level of significance using ANOVA test

Dentists Distribution According To Age Groups						
Group	Age Range	n	Mean	SD	P value	<b>*Significant</b>
I	35-40 Yrs	13	2.84	1.314	0.001*	
II	41-45 Yrs	15	2.01	1.469		
III	46-50 Yrs	8	1.63	2.588		
IV	51-55 Yrs	10	2.86	2.323		
V	56-60 Yrs	9	1.64	2.388		
VI	61-65 Yrs	5	1.12	2.460		
<b>*p&lt;0.05 significant</b>						

**Graph 1:** Age range, 'n' and mean wise distribution of Patients



**Table 3:** Questionnaire responses assessment with related statistical inferences

Q.	Variables	Responses [% Yes]	Responses [% No]	p Value
1	Do you think that prosthetic intervention is mandatory for any missing teeth ?	79%	21%	0.030*
2	Do you believe that overall outcome of prosthetic therapy is appreciated by patients ?	91%	9%	
3	Do you think that removable partial denture carries minimum prognostic value in terms of comfort ?	60%	40%	
4	Do you think that prosthetic replacement of missing teeth improves overall chewing efficiency ?	72%	28%	
5	Do you believe that prosthetic replacement of teeth improves overall health and confidence	71%	29%	
6	Do you think that fixed prosthetic treatments are superior than removable approaches in terms of prosthetic performances ?	85%	15%	
7	Do you believe that prosthetic appliances diminishes patients perception of taste and sensation ?	65%	35%	
*p<0.05 significant				

**Table 4:** Basic statistical description with level of significance evaluation using “pearson chi-square” test

Que. No.	Mean	Std. Deviation	Std. Error	95% CI	Pearson Chi-Square Value	df	Level of Significance (p value)
1	1.74	0.748	0.035	1.12	2.839	1.0	0.849
2	2.61	1.194	0.526	1.94	1.120	2.0	0.010*
3	1.94	1.039	0.947	1.91	2.637	1.0	0.020*
4	2.13	0.946	0.236	1.53	1.628	2.0	0.150
5	1.04	1.205	0.847	1.64	2.390	2.0	0.001*
6	1.76	0.427	0.425	1.72	2.420	1.0	0.845
7	2.63	1.154	0.486	1.96	1.224	2.0	0.421
*p<0.05 significant							

### Discussion

Missing teeth is most common cause and form of oral health disability. Dental practitioners are often confronted to manage these delinquencies in the best possible ways. In India approximately 8% population belongs to the age range of >60 years (as per latest population registry).<sup>8,9</sup> In the same ratio and fraction,

prosthetic need and patient dental visit must be expected. However, in the daily routine practice dental practitioners do not appreciate the geriatric patient inflow in the expected rate. This is typically because of the lack of relative awareness and widespread myths about dental rehabilitations.<sup>10,11,12</sup> These entities are eventually more prominent in the rural India. Still



patients have more and more concern about their general and systemic health as compared to oral health. Many of the awareness based studies have confirmed that presence of teeth in the mouth increases patient overall level of confidence and self respect.<sup>13,14</sup> In Indian scenario, loss of teeth is considered as a severe loss of health with social rejection and non-acceptance. It is therefore imperative to conduct and perform the educational and awareness programs in the rural areas focusing on the prosthetic treatment needs and their beneficial outcomes.<sup>15-17</sup> Tepper and other researchers had studied about marketing based awareness and motivational program. They had ultimately checked the overall awareness levels like ours.<sup>18</sup> Zimmer and associates had collected comprehensive information about the public awareness and acceptance of dental implants in the targeted population.<sup>19</sup> Teja and others had assessed the awareness levels for missing teeth replacement in Indian scenario. Their results and inferences were highly significant and comparable.<sup>20</sup>

### Conclusion

Here in the present study, the participating patients showed reasonable and positive attitude towards the dental prosthetic treatment needs and its awareness as related to prognostic parameter and outcomes. Interestingly, most of the patients were already aware and informed about the overall outcomes of prosthetic treatment with their acceptance, comfortability and longevity. Patients also believe that prosthetic intervention is crucial for long term maintenance of chewing efficiency. In general, patients were fairly positive towards overall dental prosthetic treatment needs and its awareness. Authors also expect few other similar future studies with larger sample and wider parameters.

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