

**A Survey for Evaluating the Awareness, Knowledge and Perception of Various Treatment Modalities for Replacement of Missing Teeth**

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**Abstract**

**Aim:** To assess the general awareness of the various treatment modalities for replacement of missing teeth among individuals and their choice of treatment.

**Methodology:** A survey was conducted among 400 randomly selected patients reported to dental college and hospital for various treatments. A self-designed questionnaire was prepared and the awareness, knowledge and perception towards the prosthodontics rehabilitation were assessed.

**Results:** 95% of patients both male and female were aware that the teeth have to be replaced and there was a positive attitude of patients towards prosthetic replacement. It was seen that there is lack of awareness about implants among patients as most of them knew about the fixed and removable prosthesis.

**Conclusion:** Very little number of subjects was aware of dental implants. Knowledge regarding implants should be improved by conducting more number of awareness programmes by the dentists.

**Keywords:** knowledge; perception; awareness; prosthodontic treatment; survey; prosthetic replacements.

**Introduction**

The prosthodontic treatment aims towards restoring function and aesthetics of edentulous patients while improving oral and psychological health of the individuals, particularly in patients with complete tooth loss<sup>1</sup>.

Teeth play an important role in the maintenance of a positive self-image<sup>2</sup>. The loss of teeth results in significant disabilities, which can profoundly disrupt social activities. Tooth loss is very traumatic and upsetting and is regarded as a serious life event that requires significant social and psychological readjustment<sup>3,4</sup>.

De Van stated it well when he said we should meet the mind of the patient before we meet the mouth of the patient. Accurate diagnosis and a strict treatment protocol have proven to predict good long term survival rates for prosthodontics. Even if the prosthetic treatment is of excellent clinical quality, some patients will still be

dissatisfied. Patient satisfaction with prosthetic dentistry seems to have a multicausal character<sup>5</sup>. Patient's attitude toward treatment, measured by means of a questionnaire prior to the patients receiving the treatment, could be a prospective tool to determine satisfaction with the decided treatment. Deciding to get dental prosthetic treatment is expected to have a close relationship with demographic characteristics such as gender, age, education, economic condition, interest and expectation about health, and surrounding environment<sup>6</sup>. The aim of this paper is to evaluate the level of knowledge, perception, awareness, attitude, and behaviour of patients visiting the dental college for various treatment modalities, options available for replacing missing teeth and also the factors preventing them from seeking the treatment.

**Materials and Methods**

The present study was a questionnaire survey conducted in the Department of Prosthodontics at GITAM Dental College and Hospital, Visakhapatnam. The study samples of 400 subjects were randomly selected from patients and the persons accompanying the patients. The sample population consists of 265 males and 135 females within an age range of 21 to 80 years. A self-designed questionnaire containing sixteen questions was designed on knowledge and awareness for different Prosthodontic treatment modalities and reasons for choosing or refusing treatments were measured (Table 1). The dentist, dental students, dental technicians, and assistants were excluded from the study. Socio-demographic details including age, gender etc was noted. All the 16 questions were asked to all the 400 people and the answers were noted.

1) Awareness regarding replacement of teeth?	Yes	No			
2) Period of edentulousness?	Year	Month	Days		
3) Were teeth missing?	Yes	No			
If yes, where were the teeth missing?	Anteriorly	Posteriorly			
4) Reasons for loss of teeth?	Periodontitis	Caries	Trauma		
5) Awareness about the type of treatment option?	CD	RPD	FPD	Implants	
6) Preference to the various treatment options?	Removable	Fixed	Implants		
7) Reasons for teeth replacement?	Masticatory difficulties	Esthetic shortcomings	Phonetics		
8) Motivating factors for teeth replacement?	Friends	Family	Local dentist	Awareness programme	Self
9) Attitude of patients towards prosthetic replacement?	Positive	Negative			
10) Acceptance of proposed treatment plan?	Yes	No			
11) Reasons for not considering implants?	Financial constraints	Lack of knowledge	Lack of motivation		

12) Preference to go for teeth replacement?	Dental clinic	General hospital	Dental college	Others	
13) Got any prosthodontic treatment done before?	Yes	No			
14) Satisfaction with the treatment?	Yes	No			
If yes,	Appearance	Speech	Mastication	Overall	
15) Does prostheses require similar oral hygiene maintenance as natural teeth?	Yes	No			
16) Knowledge about a Prosthodontist and their role?	Yes	No			

**Table 1: Questionnaire**

**Statistical Analysis:** raw data was collected and statistical analysis was done using the chi square test. The

probability was assessed using P value by considering  $p < 0.05$  as significant.

**Result & Statistical Analysis**

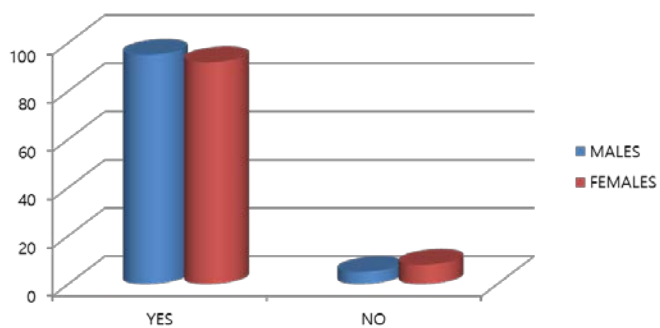


Fig1: Awareness regarding prosthetic rehabilitation.

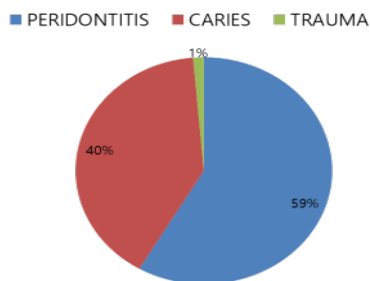


Fig 2: Reasons for loss of teeth

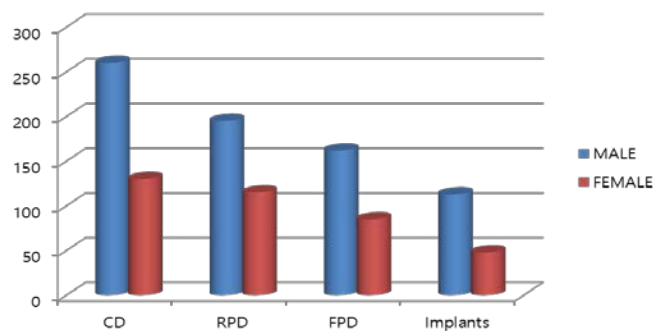


Fig 3: Awareness about the type of treatment option

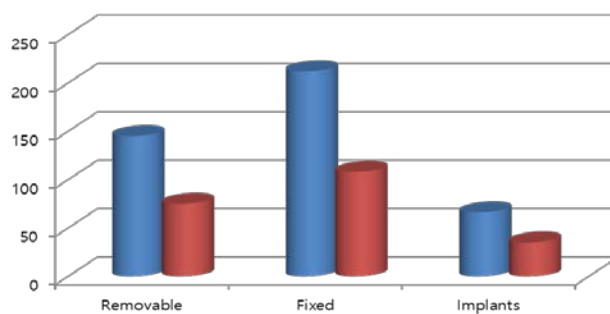


Fig 4: Preference to various treatment options

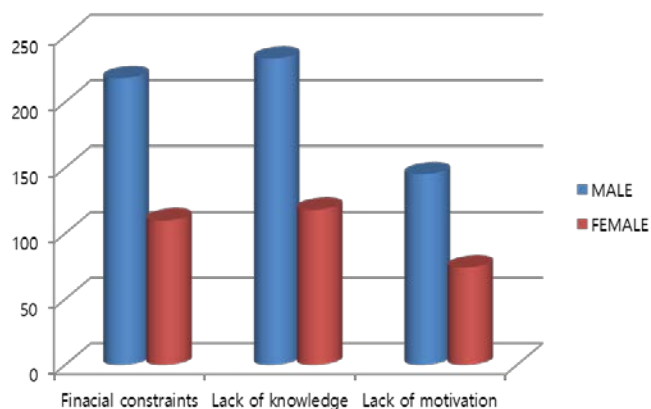


Fig 5: Reasons for not considering implants

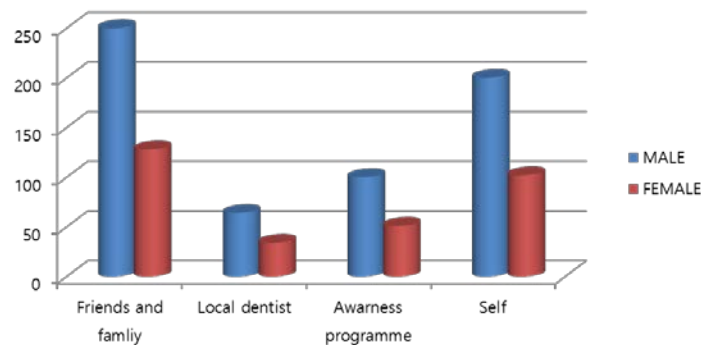


Fig 8: Motivating factors for teeth replacement

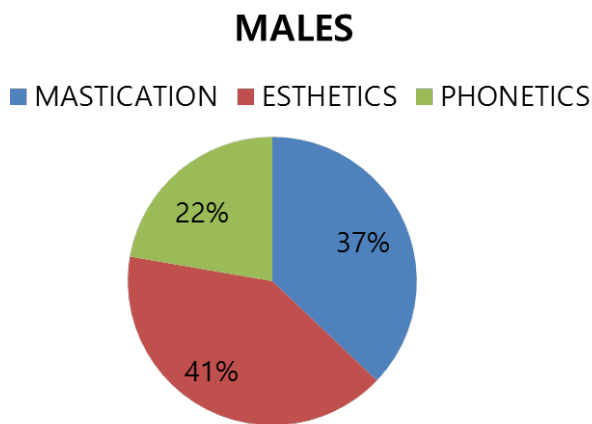


Fig 6: Reasons for replacement of teeth in males

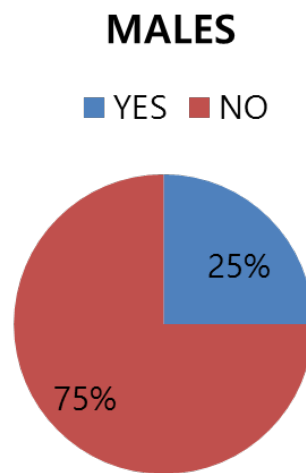


Fig 9: Knowledge about Prosthodontist in males.

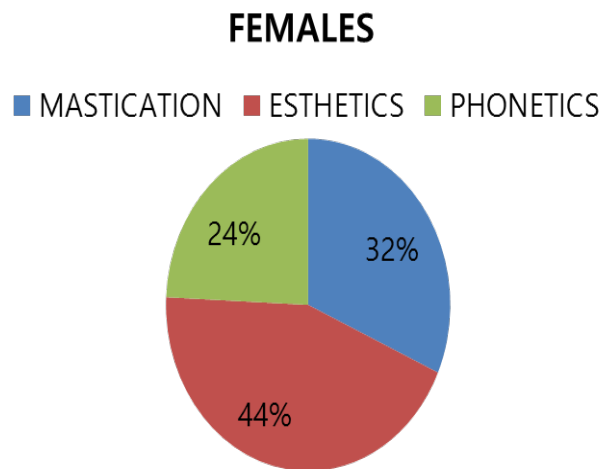


Fig 7: Reasons for replacement of teeth in females

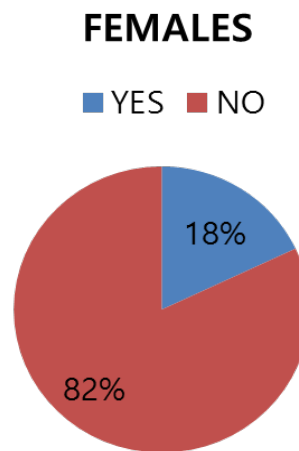


Fig 10: Knowledge about Prosthodontist in females

		Preference to various treatment options			Chi-square value	p-value
		Fixed	Removable	Implant		
Awareness regarding prosthetic rehabilitation	No	17 (65.4%)	5 (19.2%)	4 (15.4%)	0.319	0.853
	Yes	259 (69.3%)	71 (19.0%)	44 (11.8%)		
Total		276 (69.0%)	76 (19.0%)	48 (12.0%)		

Table 2: comparison of values regarding awareness to various options in prosthetic rehabilitation.

		Gender		Chi-square value	p-value
		Females	Males		
Reasons for replacement of teeth	Esthetics	60 (35.3%)	109 (64.5%)	9.862	0.007*
	Mastication	35 (24.8%)	106 (75.2%)		
	Phonetics	40 (44.4%)	50 (55.6%)		
Knowledge about prosthodontist	No	111 (35.6%)	201 (64.4%)	2.117	0.146
	Yes	24 (27.3%)	64 (72.7%)		

Table 3: comparison of values regarding reasons for replacement of teeth and knowledge about prosthodontist in male and female patient

After evaluating the data sheets of sample selected for the study (n=400), the results showed that mean age of the patients was  $44.07 \pm 9.31$ . 60% of the subjects were of the age between 30-50 years and patients above 50 years were 30%. 265 patients (66.25%) were male patients while 135 patients (33.75%) were female patients.

95% of the male patients and 92% of female patients had awareness regarding prosthodontic rehabilitation that is the teeth have to be replaced (fig 1).

The main reason for the loss of teeth was found to be periodontitis (59%) followed by caries(40%) and trauma(1%)(fig 2).

The level of knowledge about 3 major tooth replacement options i.e, dental implants, fixed partial denture and removable partial denture was assessed. 98% of the male

and female patients were aware about the complete denture prosthesis, 73% of male and 85 % of female patients knew about the removable partial denture prosthesis, 61% of male and 62% of female patients knew about fixed partial denture prosthesis and 28% of male and 35% of female patients had an idea about the implants (fig 3) and a non-significant difference was seen with p value – 0.853 (table 2).

Most of the patients both male and female preferred fixed partial prosthesis (69%) as their treatment of choice followed by removable prosthesis (19%) and then implants (12%) (Fig 4).

The main reasons for not considering implants were lack of knowledge (42%) and financial constraints (39%) followed by lack of motivation (19%) (Fig 5).

Reasons for replacement of teeth in males were esthetics (41%), mastication (37%) and phonetics (22%), whereas in females, esthetics (44%), mastication (32%) and phonetics (24%) (Fig 6 and 7) with a significant difference of p value – 0.07 (table 3)

Self-awareness (37%) and friends and family (42%) were the main motivating factors for prosthetic rehabilitation followed by awareness programmes (13%) and dentists (8%) (Fig 8).

25% of male and 18% of female patients had a knowledge about the prosthodontic specialty and that they should go to a prosthodontist for replacement of teeth (Fig 9 and 10) and a non-significant difference was seen with p value – 0.146 (table 3).

### **Discussion**

Good oral health is a major resource for social, economic and personal development of individuals. Teeth are required for mastication, phonetics, esthetics, structural balance and for the comfort of an individual. With the loss of teeth, the above functions are impaired resulting in physical and physiological, psychological trauma to the individual. Preventive dental care is difficult in rural India due to lack of awareness and resources. Initiatives should be aimed not only on the prevention but also on the curative aspects of oral health<sup>7</sup>.

In India, epidemiological data on patients' attitude towards tooth replacement are scanty. Therefore, an attempt was made to find out the attitude towards replacement of teeth among patients reporting to the GITAM Dental College And Hospital, Visakhapatnam. 400 patients were asked the questions for the study and it was seen that male patients were more in number.

Individuals with greater financial resources have better access to dental care. Those who have attained higher levels of education are more apt to have greater financial opportunity and to place a higher priority on dental health.

Lack of education about the importance of oral health, the need for preventive services, and the consequences of neglect appear to constitute a significant barrier to dental health care.

Most of the patients belonged to the forty-six to fifty-five years age group. There were fewer patients in the sixty-six to seventy-five and seventy-six to eighty-five years age groups because geriatric patients give a lower priority to dental health. Older people make extensive use of medical facilities, but they seem to underuse dental facilities. Mobility problems, lack of information, and misconceptions about the value of dental visits have been mentioned as contributing to this apparent disinterest in dental care among geriatric patients<sup>8</sup> and also dependency for getting dental treatment.

Perceptions associated with increasing age such as feelings that they are too old to adapt to dentures and lack of interest in esthetics may also be contributory factors for low perceived needs in the higher age group<sup>9</sup>.

In a survey by Dr. Nirmal Raj and Dr. Naveen Reddy et al, they found that out of the 249 participants, 95.4% had heard about Prosthodontic rehabilitation as a dental treatment modality. Out of these, 84.4% people with missing teeth, only 47.4% people were willing to undergo treatment if needed. Individual perception of potential reasons for treatment selection was the most important determinants of patients' decisions based on knowledge, awareness and motivation<sup>7</sup>.

In a survey by B Suprakash and AR Yusuf Ahammed et al, out of 440 subjects asked about the knowledge and attitude about implants, only 33.3% had heard of implants as a treatment modality and dentists were the main source of information. Very few people had undergone implant surgery. The level of awareness increased with education. The main factor for not having implants was due to its high treatment charges<sup>10</sup>.

In a survey by Kamal Shigli and Mamata Hebbal et al, among these 365 patients, 228 were in a waiting period for soft tissue healing after extraction of tooth/teeth; 19.7 percent of the patients gave financial constraints as the reason for not replacing teeth; 7.1 percent reported that they lacked the time to have teeth replaced; 6.9 percent had lesser needs; and 3.8 percent indicated they did not know that teeth could be replaced. Subjects with different levels of socioeconomic status reported different reasons for not replacing the teeth<sup>9</sup>.

It was seen that there is lack of awareness about implants among patients as most of them knew about the fixed and removable prosthesis.

The main reason for not considering implant as a treatment option was mainly because of the lack of knowledge followed by financial constraints and then because of the lack of motivation. Cost was the main barrier for obtaining dentures and is in agreement with the findings of Macek et al<sup>11</sup>.

Financial constraints is an important reason as in India the insurance is yet not pays for the dental treatment and also the various health schemes are limited to certain procedures. The other reasons for not considering the implant therapy is the fear of surgical procedures, multiple appointments and the systemic health. So, dental insurances, change in the government plans and schemes should be improved so as to allow the patients to render different treatment option.

Sterberg et al<sup>12</sup> reported that esthetics rather than functional factors determine a young individual's subjective need for the replacement of missing teeth while old age patients crave for functional need of the prosthesis (mastication). This was in accordance with the present study where esthetics was given the prime importance followed by mastication. Replacement of missing posterior teeth, and cosmetic dental treatment in general,

depends on the perception of the patient. Even in countries with highly developed dental care systems, open spaces in the premolar and molar regions are well accepted by people of all ages. The prospect of a good esthetic result frequently motivates the patient to wear a new denture, and esthetics can be more important than function for many individuals<sup>13</sup>.

From the present study it can be seen that 95% of patients both male and female were aware that the teeth have to be replaced and there was a positive attitude of patients towards prosthetic replacement and the main motivating factors were family and friends followed by self-awareness. 25% of males and 18% of females only were aware and had knowledge about prosthodontists for replacement of teeth.

So more programmes and camps should be conducted about teeth replacement and its importance and improve the knowledge regarding the various options. They should be informed about a prosthodontist's role and should be motivated for rendering treatment from a prosthodontist for replacement of teeth. The knowledge and attitude of patients towards the replacement of teeth would prepare a prosthodontist to provide a satisfying prosthesis. Knowledge of patient expectations, can help in planning a prosthesis in harmony with the hard and soft oral tissues and in harmony with the patient's expectations as well<sup>14</sup>.

The findings indicate that awareness needs to be created regarding the other functions of teeth like esthetics and phonetics because many subjects in this study were only aware of the masticatory function performed by teeth, especially among individuals in the lower socioeconomic group<sup>15</sup>.

### **Conclusion**

The present results may serve as a baseline for the future evaluation of attitudes towards replacement of teeth. Attitudes of patients towards replacement of teeth should

be assessed to educate the patient accordingly and improve patient compliance with acceptance of prostheses.

Very few numbers of subjects were aware of dental implants. Knowledge regarding implants should be improved by conducting more number of awareness programmes by the dentists as lack of knowledge was one of the reason for not considering dental implants. Financial constraint might be the reason because of the socio-economic status of the patients.

The acceptance of dental implants, & other advanced treatment modalities other than the conventional complete denture & removable partial denture options in the elderly population might be increased by providing further knowledge & awareness and promoting oral health in general.

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