

Knowledge and Attitude towards Prosthodontic Rehabilitation and Utilization of Dental Services by the General Population in Puducherry: A Hospital based Cross Sectional Survey

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Abstract:-

Background: Due to lack of awareness about the importance of tooth replacement and maxillofacial rehabilitation, most patients do not seek treatment immediately after tooth loss.

Objective: The objective of the study was to evaluate the knowledge and attitude towards prosthodontic rehabilitation and utilization of dental services by the general population in Puducherry.

Methodology: A cross-sectional questionnaire based survey was conducted at a private dental college in Pondicherry from surrounding population. The total study samples were 417 (n=417). The questionnaire was randomly distributed to the patients reporting to the institute for teeth replacement. A self designed questionnaire containing total 14 questions, out of which 9 were knowledge based and remaining 5 were attitude-based questions was used for obtaining data. SPSS software was used for analysing the data.

Results: It was found that gender was not associated with patient's knowledge and attitude ($P > 0.05$) except preferred mode of prosthesis. It was found that 9.8% of male participants preferred removable prosthesis when compared to 3.4% of female participants. In addition, 79.3% of female participants preferred fixed prosthesis when compared to 72.9% of male participants. This distribution was statistically significant ($P = 0.039$).

Conclusions: From the analysis, it was understood that the knowledge level might vary among the subjects based on demographic factors like income, education, gender and age. However, their attitude towards dental and prosthetic treatment is positive, especially in cases where surgical intervention is not required because it improves their appearance and function.

Key-words: *Knowledge; Attitude; Prosthetic Rehabilitation; Missing teeth; Removable Protheses; Fixed Protheses; Implants; Maxillofacial protheses*

Introduction:

Loss of teeth not only adversely affects the body physiology but also disturbs the psychology of the individual. This is directly related to patient acceptance of the prosthesis. Patient acceptance and adaptation to a new set of dentures depends on various factors classified as anatomical, physiological, psychological and/or prosthodontic factors.^[1] This depends first of all on the patient's attitude towards prosthetic treatment. Restorative treatment is very diverse, ranging from replacing missing teeth in an incomplete healthy dentition to completely restoring teeth that are severely damaged to functional form.^[2] Multiple prosthetic options are available for the patient to restore lost teeth that include removable or fixed partial denture, complete dentures, implant supported processes and

over-dentures.^[3] Maxillofacial rehabilitation like eye, ear, nasal, finger and limb prosthesis is of less importance for the patients.

According to a survey conducted, Leles CR et al. have concluded that in contemporary classical clinical practice, patients are actively participating in discussing and deciding their prosthetic treatment needs by stating their expectation and constraints.^[4]

The three main factors that determine the acceptability and success of any type of prosthetic treatments are comfort, function and aesthetic. Mechanical and biological factors determine comfort and function. Patient acceptance of aesthetic appearance is determined by an individual's cultural and social influences, attitudes, and beliefs.^[5] Because the focus is on the patient's concerns in prosthetic treatment planning, it is necessary to understand the patient's knowledge and attitudes toward prosthetic replacement before receiving treatment. This could be a potential tool to predict satisfaction with a given new prosthesis. The decision to pursue prosthodontic treatment is also related to demographic characteristics such as gender, age, education level, economic status, and preferences.^[6]

Yousuf and Fakiha assessed patients perceptions and attitudes toward denture restorations at Riyadh University Dental Hospital, Kingdom of Saudi Arabia. They concluded that 53.1% of the population surveyed had not replaced their teeth. They emphasized the need to motivate and educate patients to make beneficial decisions.^[7] Shigli K, studied the attitude towards tooth replacement among patients at the Institute of Dental Sciences, Belgaum, India and concluded that the majority of the study subjects were only aware of the chewing function provided through the teeth. Most studies on patient knowledge and attitudes towards tooth replacement in India are based on geographical areas and cannot be generalized.^[8] Therefore, the objective of the study was to survey knowledge and attitude towards maxillofacial rehabilitation and preferred mode of replacement of teeth by patients who reported to a private dental college in Pondicherry.

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| <ol style="list-style-type: none"> 1. Replacement of missing teeth is important for? 2. Preferred mode of replacement of missing teeth? 3. Do you know missing body parts can be replaced? 4.. Do you know missing body parts will be replaced by Prosthodontists? 5. Do you know about facial prosthesis? 6. Do you know about eye prosthesis? 7. Do you know about ear prosthesis? 8. Do you know about finger prosthesis? 9. Do you know about limb prosthesis? 10. Do you feel that there is need for replacing missing teeth? 11. Do you think removable is a better mode of replacement of missing teeth? 12. Do you think fixed is a better mode of replacement of missing teeth? 13. Do you think implant is a better mode of replacement of missing teeth? 14. Do you think hygienic maintenance for prosthesis is must like natural teeth? |
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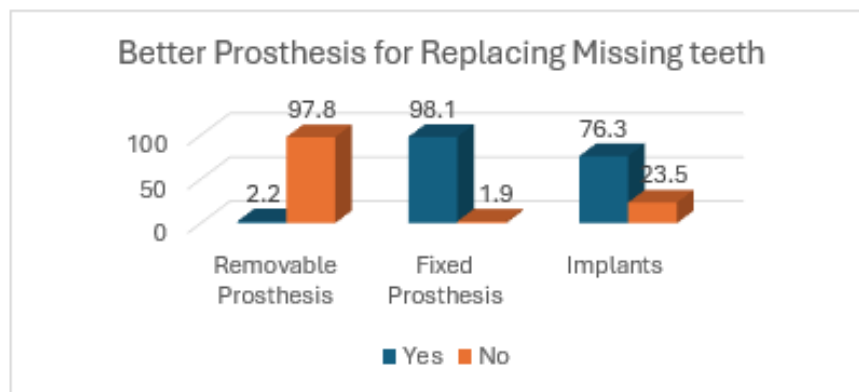
Table 1. Questionnaire used in the study

Methodology :

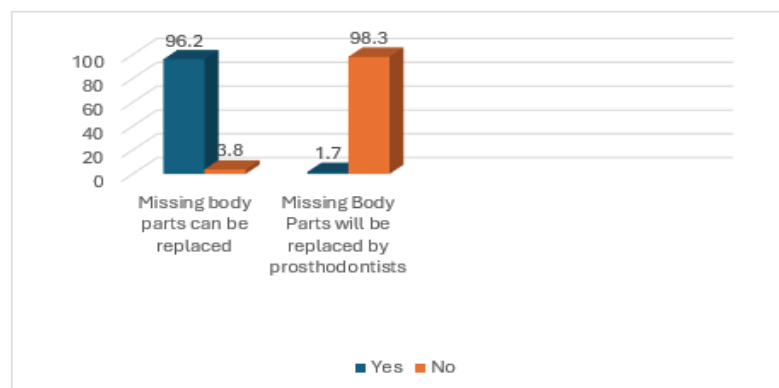
This study was a cross sectional questionnaire-based survey conducted at a private dental college in Pondicherry. The total study samples were 417 (n=417). The subjects were randomly selected from patients reporting to the institute for replacement of missing teeth from month of July 2022 to December 2022. The sample population consisted of 214 males and 203 females. A self-designed questionnaire containing total 14 questions, out of which 9 were knowledge based and remaining 5 were attitude-based questions was used for data collection [Table 1]. Socio-demographic details of the subjects were also recorded in the questionnaire. Informed consent was taken from every person participating in the survey. Data analysis was done using SPSS software after ranking the response from the questionnaire.

Variable		Number	Percentage
Age Group	<20 Years	20	4.8
	21 - 30 Years	46	11
	31 - 40 Years	87	20.9
	41 - 50 Years	90	21.6
	51 - 60 Years	95	22.8
	61 - 70 Years	60	14.4
	> 70 Years	19	4.6
Gender	Males	214	51.3
	Females	203	48.7
Education	Primary School	294	70.5
	High School	86	20.6
	Graduate	37	8.9

Table 2: Distribution of participants according to demographic variables



Graph 1: Participants attitude towards preference of prosthesis

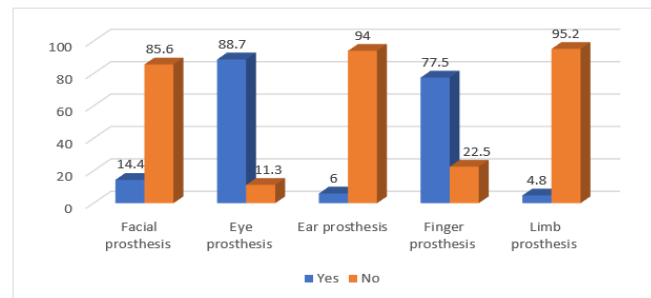


Graph 2: Participants response on knowledge of replacing body parts

Results:

The study population consisted of 51.3% males and 48.7% females. General characteristics and distribution of participants according to demographic variables of the study group are shown in Table 2. The present survey results showed that 98.1 % of subjects showed positive attitude towards fixed prosthesis as mode of replacement of teeth, 76.3% showed positive attitude towards implants and only 2.3% felt removable as a better option. It was

found that 9.8% of male participants preferred removable prosthesis when compared to 3.4% of female participants (Graph 1). In addition, 79.3% of female participants preferred fixed prosthesis when compared to 72.9% of male participants. This distribution was statistically significant ($P = 0.039$) (Table 3). Surveyed population showed 96 % positivity towards replacement of missing body parts but only 1.7% positivity that missing body parts are replaced by prosthodontists (Graph 2). The participants have no knowledge about various maxillofacial prosthesis except finger (77.5%) and eye prosthesis (88.5%) (Graph 3). Answers on maintenance of hygiene towards prostheses showed 98.3% positivity.



Graph 3: Participants knowledge on various prosthesis

		Males		Females		Total	Chi Square	P Value
		N	%	N	%			
Replacement of missing teeth is important for?	Eating	101	47.2	97	47.8	198	0.067	P = 0.99 NS
	Smiling	46	21.5	42	20.7	88		
	Speaking	49	22.9	46	22.7	95		
	Appearance	18	8.4	18	8.9	36		
Preferred mode of replacement of missing teeth	Removable	21	9.8	7	3.4	28	6.9	P = 0.031*
	Fixed	155	72.4	161	79.3	316		
	Implant	38	17.8	35	17.2	73		
Do you know missing body parts can be replaced?	Yes	206	96.3	195	96.1	401	0.012	P = 0.9 NS
	No	8	3.7	8	3	16		
Do you know missing body parts will be replaced by Prosthodontists?	Yes	2	0.9	5	2.5	7	1.47	P = 0.27 NS
	No	212	99.1	198	97.5	410		
Do you know about facial prosthesis?	Yes	31	14.5	29	14.3	60	0.003	P = 0.9 NS
	No	183	85.5	174	85.7	357		
Do you know about eye prosthesis?	Yes	189	88.3	181	89.2	370	0.074	P = 0.87 NS
	No	25	11.7	22	10.8	47		
Do you know about ear prosthesis?	Yes	11	5.1	14	6.9	25	0.57	P = 0.57 NS
	No	203	94.9	189	93.1	392		
Do you know about finger prosthesis?	Yes	169	79	154	75.9	323	0.57	P = 0.48 NS
	No	45	21	49	24.1	94		
Do you know about limb prosthesis?	Yes	9	4.2	11	5.4	20	0.33	P = 0.65 NS
	No	205	95.8	192	94.6	397		
Do you feel that there is need for replacing missing teeth?	Yes	209	97.7	198	97.5	214	0.007	P = 0.99 NS
	No	5	2.3	5	2.5	203		
Do you think removable is a better mode of replacement of missing teeth?	Yes	4	1.9	5	2.5	9	0.174	P = 0.74 NS
	No	210	98.1	198	97.5	408		
Do you think fixed is a better mode of replacement of missing teeth?	Yes	211	98.6	198	97.5	409	0.62	P = 0.49 NS
	No	3	1.4	5	2.5	8		
Do you think implant is a better mode of replacement of missing teeth?	Yes	167	78	151	74.4	318	1.88	P = 0.39 NS
	No	46	21.5	52	25.6	98		
Do you think hygienic maintenance for prosthesis is must like natural teeth?	Yes	212	99.1	198	97.5	410	1.47	P = 0.27 NS
	No	2	0.9	5	2.5	7		

N-Number; %-Percentage; NS-Not significant; *Statistically Significant using Chi square test

Table 3: Association between patients responses according to gender

Discussion:

We have already discussed about the importance of teeth for general health and well-being. So an appreciation of need for replacement of lost teeth which depend upon knowledge and attitude of the individual about types and modes of artificial teeth replacement and maxillofacial rehabilitation is required to be known.^[9] Epidemiological data on knowledge and attitude towards maxillofacial rehabilitation and preferred mode of replacement of lost teeth in Pondicherry state was lacking. Therefore, an attempt was made to survey the population visiting a private dental college in Pondicherry with chief complaint of replacement of lost teeth. Majority of the patients belonged to the age group of 51-60years (22.8%).

In their study, Pallegdara and Ekanayake concluded that age-related cognitive changes are increasing, such as feeling too old to adapt to dentures and artificial teeth as well as lack of interest in to aesthetics, may be a contributing factor to the reluctance to restore lost teeth in old age.^[10] In the present investigation, the study subjects knowledge was incomplete regarding the repositioning of lost teeth.

The reason may be because 70.5% of the population only has primary education. This is similar to the study of Marcus et al. who found that lack of educational attainment is associated with lack of awareness of the importance of oral health and that the consequences of neglect appear to be barriers to the use of health care services.^[11] Attitude profile of the subjects, in the present study showed that 97.6 % had positive attitude towards replacement of missing teeth. This was similar to the result obtained by Nirmal et al, who have concluded in their survey that the participants had knowledge about needs for teeth replacement.^[12]

The present survey results showed that 98.1 % of subjects showed positive attitude towards fixed prosthesis as mode of replacement of teeth, 76.3% showed positive attitude towards implants and only 2.3% felt removable as a better option. A study done by Al-Quran et al, also confirms our results.^[13] Similar survey done in Saudi Arabia highlighted that around 50% of the sample preferred removable partial denture while 25% preferred fixed partial denture. This result was opposite to our findings.^[14]

Out of the total subjects 76.3% considered implants as a better mode of replacement of teeth. A survey conducted in Peradeniya, Sri Lanka reported that 32% participants out of 425 total subjects surveyed were aware of implants as a mode of replacement. This was a higher percentage reported as compared to multiple studies done on Asian population as described in the study.^[15] In the present study 96.2% participants had positive attitude towards replacement of missing body parts and also only 1.7% positivity that missing body parts are replaced by prosthodontists. This definitely reveals that people need awareness about the role of prosthodontists in maxillofacial rehabilitation.

Answers related to hygiene maintenance of artificial teeth revealed that 98.3% showed positive attitude and felt that maintenance of prosthesis hygiene is very important. Amjad et al. of Pakistan reported similar results that there was a positive response to the question regarding prosthetic maintenance (97.5%).^[16]

Dental camps and orthodontic awareness programs are a viable solution to change attitudes, raise awareness and provide knowledge about the ways and means of replacing artificial teeth, as concluded in a study by Menezes M.^[17]

There are a few limitations of the study namely limited sample size and the study was performed in an institutional set up where prosthetic treatment charges are different as compared to private dental care centres. Similar survey can be conducted over large scale of population hospital and clinical sectors. Similar survey could be conducted on knowledge and attitude towards role of prosthodontists in maxillofacial rehabilitation which was unfavourable in the present study.

Conclusion:

Within the limits of the study, we can conclude that patients prefer fixed rather than removable means of tooth replacement and show positive attitudes in maintaining denture hygiene. Most of the participants gave importance

for eating as a main reason for replacement of teeth. Major population was aware of maxillofacial parts being prosthetically replaced but knowledge about role of prosthodontists in maxillofacial rehabilitation is below average.

Conflict of Interest:

There was no conflict of interest for all authors.

Acknowledgement:

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