Research Article

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A Survey on Awareness about Dental Implant Prosthesis Among Partially Edentulous Patients in Namakkal District: A Hospital Based Study

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ABSTRACT

Background: To monitor and evaluate dental implant awareness among partially edentulous patients in Namakkal District. This study envisages eventually ways and means to provide effective and meaningful treatment to partially edentulous patients through sustainable implant prosthesis.

Material and Methods: A total of 200 Partially Edentulous people in Namakkal District were surveyed. Every sample was interrogated with a closed ended questionnaire of self explanatory set of questions in local dialect and opinions got from them and no bias in selection had set in whatsoever throughout the period of study.The Chi-Square and Pearson values were analysed using IBM SPSS Statistics 22 from the gathered data.

Result: The study has shown that there is a low level of awareness about dental implant in this locality even though people were aware of the possibility of tooth replacement**.**

Conclusion: The results of this survey showed 76% of the surveyed people were unaware about Dental Implant, which shows a low level of awareness about dental implants among the selected sample of partially edentulous patients in Namakkal district. It also shows the need for providing more general and accurate informations to the patients about this treatment. Efforts must be made by the public sector to lower the cost of implant and by providing insurance coverage so that they can be made affordable to all who are in need and to improve their standard of life.

Keywords: Dental Implant awareness, Oral health awareness, Public awareness, Questionnaire, Replacement of missing teeth.

INTRODUCTION

A healthy oral status plays a vital role on the wellbeing and quality of life of every individual. Loss of one or more natural teeth often results in many induced ailments. It interferes in our day to day live activities like speaking and eating by way of weakening the process. It handicaps individuals by lesser social interaction because of discomfiture associated with wearing prosthesis.[1] The loss of tooth or teeth is quite centric to any individual in that it tends primarily to spoil once countenance. May be an ugly look or indifferent shape may mask the confidence of individual greatly. Immediate corrective measures will go a long way in instilling confidence in the individual and restore normal oral activity. Prosthodontists play a major and vital role in the rehabilitation of affected patients after loss of

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teeth and associated oral functions. One of the major resolutions in prosthetic dentistry is implant supported prosthesis to replace missing teeth that provides comfort as well as confidence to the best of one's satisfaction. Individuals preference rules roost as to the treatment modalities as there are no accepted rules to estimate the need, demand or utilization of prosthodontics service in most situations.[2] I have chosen this survey to evaluate the knowledge of patients about tooth replacement as a whole and assess their awareness of implant retained prosthesis as an option for tooth replacement. The success rate of implant supported prosthesis among partially edentulous patients was estimated to be between 96.6% and 98.5% [3-7] Dental implant is an artificial root that is surgically inserted into the jaw bone to support a single tooth replacement (crown), fixed partial or complete denture or maxillo facial prosthesis.[8, 9] It is a suitable option for people with good oral health but have lost a tooth or teeth because of traumatic injuries, periodontal diseases, endodontic failure etc. It is also a suitable choice of treatment for edentulousness accompanied by improved denture retention, stability and functional efficiency thereby improving the quality of life of the patient.[8,9]

GPT 9: Dental Implant is a prosthetic device made of alloplastic material(s) implanted into the oral tissues beneath the mucosal and/or periosteal layer and on or within the bone to provide retention and support for a fixed or removable dental prosthesis; a substance that is placed into and/or on the jaw bone to support a fixed or removable dental prosthesis.

Complete information on implant treatment and alternative therapies must be provided to guide the patient for the choice of the most appropriate option especially in the developing countries due to lack of education and amongst people about dental implants as a dental treatment modality. Hence the main aim of the present in vivo study was to assess the patient awareness and acceptance of implant therapy as a treatment of the missing teeth.

Aim and Objective

The primary objective of the survey is to gain firsthand knowledge on the extent of awareness among general public about dental implant as a means to overcome the problem of missing tooth / teeth. The second objective is to drive home that implant prosthesis has definite advantages over conventional replacement.

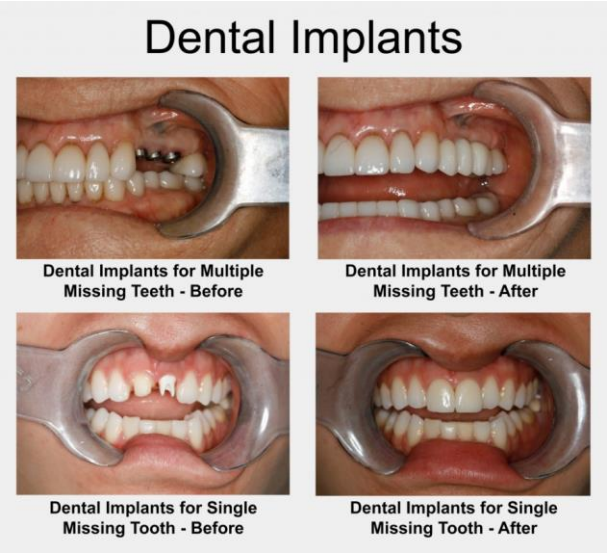

Fig 1: Dental Implant Prosthesis.

MATERIALS AND METHODS

Irrespective of gender and age group starting above 16 years were considered for the survey. No other variables were given serious consideration. All patients visiting the prosthodontics department of dental institute of Vivekananda Dental College, Thiruchengode, JKK Nataraja Dental College, Komarapalayam and various other private dental clinics were considered for the survey. Only such of those patients who were willing to participate in the survey and who had given their willingness in writing were enumerated for the purpose. The nature and purpose of survey were explained to the informer patients and consent was obtained in writing. This procedure was approved by the Institutional Ethical Committee of Vivekananda Dental College for Women, Thiruchengode. Every sample was interrogated with a closed ended questionnaire of self-explanatory set of questions in local dialect and opinions got from them and no bias in selection had set in whatsoever throughout the period of study between January 2017 and June 2017 for a period of 6 months to facilitate patients to offer their opinion.

Data so gathered from the 200 sample informants were fed into an IBM computer and analyzed using SPSS (version) 22. Descriptive statistics were employed and results were presented as

percentages and proportions. Test of association between meager variables too were conducted using chi-square statistics, with the level of statistical significance set at P<0.05.

RESULTS

Age of informant was not a bar. All were included under the study excepting those who were less than 16. Six age groups of patients had taken part in the survey. In all 200 samples were subject to interrogation and details tabulated. Male and female among the participants were 53% and 47% respectively. Such of those people who had not come forward to subject themselves to the questionnaire of the survey had not been considered for the survey. Their unwillingness may be due to inhibition, ignorance of the subject that was dealt with or any other social reasons like shy behaviors inherent silent attitude etc. Enough samples had been interrogated (200 samples) to reduce possible risk of statistical error. Sample size had been increased substantially to avert possible error to a greater extent.

The present survey has given us information on patients' awareness of implant prosthesis, source of information, acceptance and their willingness or refusal of the treatment. The study population (Aged 17 – 81 years; mean age 45 years) was selected for ease of access and to increase the response rate as they were dental patients who approached various dental institutes and private dental clinics for their dental needs. In all 200 patients participated in the survey (M = 106 (53%); F = 94 (47%)) summarizes the gender data of participating patients.

Table 1. Age descriptive statistics.

Age Group	Frequency (N)	Percent (%)
16 to 49Yrs	125	62.5
50 to 54 Yrs	14	7.0
55 to 59 Yrs	20	10.0
60 to 64 Yrs	14	7.0
65 to 69 Yrs	18	9.0
70 Yrs & Above	9	4.5
Total	200	100.0

Table 2: Gender descriptive statistics.

Gender	Frequency (N)	Percent (%)
Female	94	47.0
Male	106	53.0
Total	200	100.0

Awareness about Implant Therapy:

The awareness of the population was found to be statistically insignificant at p value of 0.071 which is greater than 0.05 which indicates that the awareness is very less among the edentulous patients in Namakkal district. The pie-chart below shows the awareness about the dental implant treatment procedure among the total 200 sample. Only 48 samples (i.e., 24%) were aware of this procedure and the rest 152 samples(i.e.,76 %) were unaware about the treatment option. From the results we can see that the awareness is significantly low in this locality.

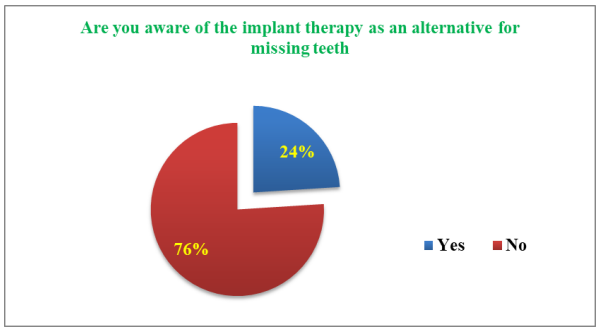

Fig 2: Awareness about implant therapy.

Table 3: Awareness about implant therapy.

Are you aware of the implant therapy as an alternative for missing teeth			Gender		Total
			Female	Male	
	Yes	Count	28	20	48
		%	58.3%	41.7%	100.0%
	No	Count	66	86	152
		%	43.4%	56.6%	100.0%
Total		Count	94	106	200
		%	47.0%	53.0%	100.0%

Chi-Square Test	Value	P-Value
Pearson Chi-Square	3.257	.071

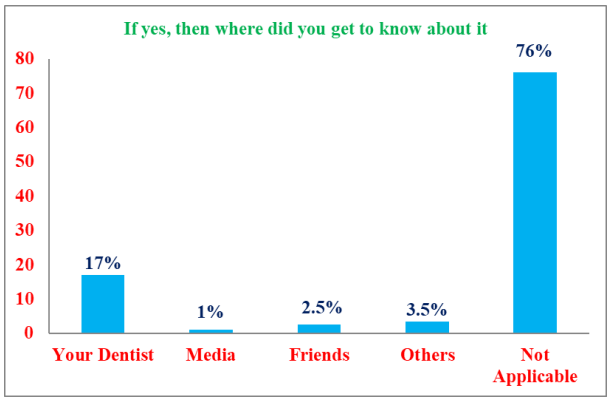

Fig 3: Bar representation of source of awareness

Awareness by Means:

When we analyze the source of the awareness, we found that 17.0%, of samples who were aware of the dental implant treatment are through dentist. However the awareness through media is 1%, and 3.5% came to know about dental implant by other than dentist, media and friends. And another 2.5% of samples through their friends.

Table 4: Source of awareness.

If yes, then where did you get to know about it		Gender		Total
		Female	Male	
Your Dentist	Count	18	16	34
	%	52.9%	47.1%	100.0%
Media	Count	2	0	2
	%	100.0%	0.0%	100.0%
Friends	Count	4	1	5
	%	80.0%	20.0%	100.0%
Others	Count	4	3	7
	%	57.1%	42.9%	100.0%
Not applicable	Count	66	86	152
	%	43.4%	56.6%	100.0%
Total	Count	94	106	200
	%	47.0%	53.0%	100.0%

Willing to undergo an Implant Procedure:

However after explaining about the dental implant treatment 57% of the samples were willing to undergo the treatment.

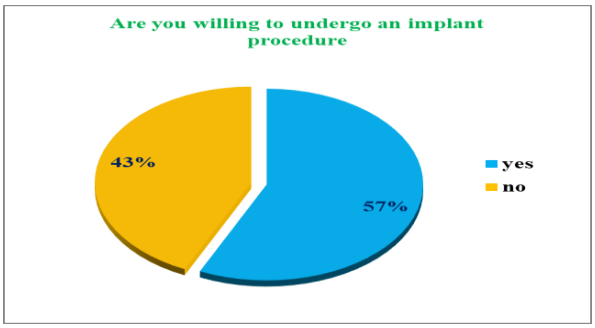

Fig 4: Patient's desire for implant therapy.

Table 5: Willingness for Implant Therapy

Are you willing to undergo an implant procedure			Gender		Total
			Female	Male	
	Yes	Count	59	55	114
		%	51.8%	48.2%	100.0%
	No	Count	35	51	86
		%	40.7%	59.3%	100.0%
Total		Count	94	106	200
		%	47.0%	53.0%	100.0%

Reason for willingness of Implant Procedure:

Among 57% of the samples willing to undergo implant therapy 25.5% of the samples were willing to undergo the dental implant only because of Esthetic. 31% of the sample were willing for the treatment due to long survival rate.

Table 6: Willingness for Implant Therapy.

If yes, what are your expectations		Gender		Total
		Female	Male	
Esthetic	Count	28	23	51
	%	54.9%	45.1%	100.0%
Long survival rate	Count	31	31	62
	%	50.0%	50.0%	100.0%
Others	Count	0	1	1
	%	0.0%	100.0%	100.0%
Not applicable	Count	35	51	86
	%	40.7%	59.3%	100.0%
Total	Count	94	106	200
	%	47.0%	53.0%	100.0%

Chi-Square Test	Value	P-Value
Pearson Chi-Square	3.760	.289

Repudiation for Treatment:

When the reason for their rejection of the treatment was analyzed, it was found that the major cause for denial of treatment was cost (19.5%) and lack of knowledge about implant (15.5%) and hence it shows us that the treatment procedure should be explained to all patients without any discrimination. Of the 86 patients who were not willing for the treatment nearly 45 patients (22.5%) were not willing for the treatment due to fear and lack of knowledge which indirectly means the lack of adequate knowledge and information about the implant supported prosthesis. Only 39 patients (19.5%) of the population were unwilling for the treatment due to cost factor. Hence the treatment option should be explained to all patients without any bias.

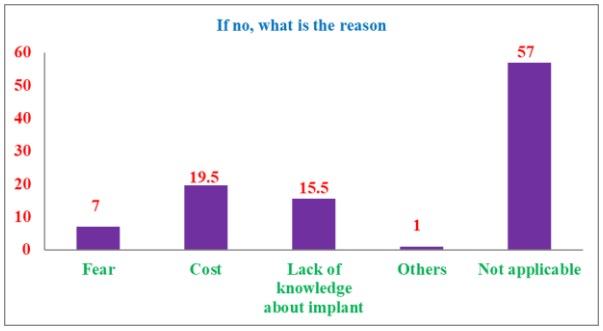

Fig 5: Reason for Repudiation for Treatment.

Table 7: Repudiation for Treatment.

Q14. If no, what is the reason		Gender		Total
		Female	Male	
Fear	Count	7	7	14
		50.0%	50.0%	100.0%
Cost	Count	12	27	39
	%	30.8%	69.2%	100.0%
Lack of knowledge about Implant	Count	15	16	31
	%	48.4%	51.6%	100.0%
Others	Count	1	1	2
	%	50.0%	50.0%	100.0%
Not Applicable	Count	59	55	114
	%	51.8%	48.2%	100.0%
Total	Count	94	106	200
	%	47.0%	53.0%	100.0%

Chi-Square Test	Value	P-Value
Pearson Chi-Square	5.241	.263

DISCUSSIONS

Inspite of proven advantages of implant supported prosthesis in replacement of missing tooth / teeth it is still primitive so far as the rate of awareness is abysmally poor. The study was indicative and not exhaustive. It was confined to awareness of patients alone. Had the same been categorized under education level, economic background patients' socio economic conditions, social status the study could have provided many more information.

The survey has clearly brought out lack of awareness among dental patients of implant supported presthesis in replacing missing tooth or teeth among partially edentulous patients. The study is almost similar to other authors who had taken up studies in this regard. Dissemination of information on implant supported prosthesis deserves higher priority to ensure almost a permanent replacement of loss of tooth / teeth is made possible for every edentulous patient.

Of the 43% patients not willing to this dental therapy more than 19% felt it was costlier and beyond their means. This study is wholly self-funded. It is a part of the curriculum.

CONCLUSION

The study has shown that there is a low level of awareness about dental implant in this locality even though people were aware of the possibility of tooth replacement. Adequate awareness and rich, right and detailed information are the necessary tools that shall project dental implant-retained prostheses as the best option for the tooth and lost maxillofacial tissue replacement.

Majority of the patients lack satisfactory awareness of Dental implant prosthesis as a substitute for replacement of missing teeth. Dentists must be the major source of information to the patients but within the limitations of this survey only 17.0% of the patients acquired information through the dentist and hence dental health education programmes involving dentists should be utilized for effective circulation of information to create awareness towards implant treatment. Lack of adequate knowledge on dental implant in replacing teeth among partially edentulous individuals is

recognised as the prime factor for the refusal of implant treatment among patients surveyed in this study and the high treatment charge of the implants is also the major factor for the refusal of patients to undergo this treatment. This also emphasised the need for providing more general and accurate information to the patients about this treatment modality. The dentist as a professional has the major role to play in this regard, and this can be fulfilled by implementing patient education programmes and counselling centres on dental implant use, advantages and possible complications, through the organisation of camps, distribution of pamphlets, utilisation of media and publication of journals and articles which could reach the public in order to prepare a patient's mind. Attempts must be made by the public sector to reduce the cost of implant and by providing insurance coverage so that they can be made affordable to all who are in need and to improve their standard of life.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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