

Acceptance Attitude Knowledge and Awareness of Dental Implants in Indian Subjects

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ABSTRACT

Background: Dental implant use as a prosthetic management modality for completely or partially edentulous subjects has increased more commonly since the osseointegration concept became more widely accepted.

Aim: The present study aimed to assess the acceptance, attitude, knowledge, and awareness of dental implants as a modality for replacing missing teeth.

Methods: The present cross-sectional study assessed 1000 subjects who visited the Institute within the defined study period. All the included subjects were assessed for acceptance, attitude, knowledge, and awareness of dental implants as a modality for the replacement of missing teeth using a questionnaire. All the responses were tabulated and assessed statistically for results formulation.

Results: The study results showed that 93% of subjects knew about dental implants as a modality to replace missing teeth. The source of information in the majority of subjects was vis dentists followed by electronic media and relatives and friends. Nearly 60% of subjects did not accept removable prostheses as missing teeth replacement. Dental treatment was affordable for 77% of subjects. The most common reasons for the unacceptance of implants were prolonged treatment time, surgical procedure, and cost associated. The implant was considered as expensive and a management modality for the rich only by 60% of subjects.

Conclusion: The present study concludes that the majority of subjects are aware of dental implants as a management modality to replace missing teeth. However, the attitude was positive and they accepted dental implants as a management modality, and the cost associated with treatment was a major concern to not opt for dental implants.

Keywords: Awareness, dental implants, missing teeth replacement, questionnaire, survey

1. INTRODUCTION

The use of dental implants for the replacement of missing teeth has increased globally in the recent past owing to the wide acceptance of the concept of osseointegration which is also recognized at a wide scale. Recently, the propagation of the benefits of dental implants has raised considerable interest in patients as well as dental practitioners. The literature data

concerning dental implants report that the majority of the subjects managed with implant-supported prostheses have reported improved self-confidence and quality of life along with psychological benefits.¹

Also, nutrition, dental health, and good general health have led to improved and increased life expectancy in humans which poses on need for the replacement of missing teeth for the concerns of esthetics and function.² However, the missing teeth can be replaced with both fixed and removable prostheses, there are various pros and cons associated with both modalities. Also, the acceptable rate for removable prostheses is lowest among both old and young subjects, and fixed prostheses need to comprise adjacent teeth for the replacement of missing teeth.³

Most of the previous literature studies concerning the awareness of dental implants in various parts of India and other nations suggest that dental implants are used in the rehabilitation of partially and completely edentulous subjects in educated rich, upper-middle-class subjects, and subjects from metropolitan cities. Hence, there is a need for assessment of acceptance, attitude, knowledge, and awareness of dental implants as a management modality to replace the missing teeth.⁴ Hence, the present study aimed to assess the acceptance, attitude, knowledge, and awareness of dental implants as a modality for the replacement of missing teeth.

2. MATERIALS AND METHODS

The present cross-sectional clinical study aimed to assess the acceptance, attitude, knowledge, and awareness of dental implants as a modality for the replacement of missing teeth. The study subjects were from the Outpatient Department of the Institute. Verbal and written informed consent were taken from all the subjects before study participation.

The study assessed 1000 subjects who visited the institute within the defined study period for replacement of the missing teeth. The study was survey-based and was done over a period of 6 months. The subjects were selected for the study following the random sampling method and convenient sampling.

The inclusion criteria for the study were 1000 subjects who were aged more than 14 years of age, had a minimum of one missing tooth except for a third molar, and were willing to participate in the study. The subjects were from middle-class backgrounds, working in the private sector, had similar socioeconomic status, and were well-qualified. The information was gathered using a self-explanatory questionnaire following the previous studies by Kohli S et al⁵ in 2014 and Awooda EM⁶ in 2014. The purpose and nature of the survey were explained to the participants.

After the final inclusion of the study subjects, a questionnaire was given to the subjects during their regular dental visit to the subjects that visited to replace missing teeth. The performed structured questionnaire was given to all the subjects in both Hindi and English language for a better understanding of the subjects. The results were assessed to raise acceptance, attitude, knowledge, and awareness of dental implants as a management modality for subjects who need dental implants. In all subjects, descriptive statistics were generated.

Data gathered were statistically analyzed using the chi-square test, Fisher's exact test, Mann Whitney U test, and SPSS (Statistical Package for the Social Sciences) software version 24.0 (IBM Corp., Armonk, NY, USA) using ANOVA, chi-square test, and student's t-test. The significance level was considered at a p-value of <0.05.

3. RESULTS

The present survey-based study gave information concerning acceptance, attitude, knowledge, and awareness of dental implants as a management modality to replace missing teeth in subjects visiting the Institute. The study assessed 1000 subjects where there were 47.6% (n=524) males and 52.4% (n=476) females in the age range of 15-70 years. There were 25% (n=250), 54% (n=540), and 21% (n=210) subjects in 15-25, 26-55, and >56 years of age. The majority of subjects had education till secondary level followed by graduation. The most common occupation was professional in 70.2% (n=702) subjects followed by business in 9.68% (n=140) subjects respectively (Table 1).

It was seen that nearly 84% of subjects felt that it is necessary to replace the lost teeth, however, 16% of subjects reported that it is not necessary to replace the missing teeth. The majority of the study subjects have opinions on the necessity of replacing missing teeth. Concerning options to replace the missing teeth, 60% of subjects chose a fixed bridge as a replacement for missing teeth and the remaining 30% chose a removable prosthesis that was within the age range of 46-65 years.

The study results showed that for the source of information concerning dental implants, in 93% of subjects, the source was dentists that gave information for dental implants, whereas, the remaining attained information from friends and relatives reported by 5.8% of subjects and very little (0.6%) attained information from social media. Among 1000 subjects assessed, there were 41% and 40% subjects that were well and moderately well informed about dental implants. There were 14%, 48%, and 52% of subjects that had high will, willing, and not willing to get missing teeth replaced by dental implants. The reason for not choosing dental implants as missing teeth replacement was its cost as reported by 80% of subjects, 11% of subjects did not choose implants as they had to undergo surgery, and 6% did not opt for implants owing to prolonged treatment duration.

For the question on the biggest advantage of implants over bridges and implant-supported dentures, 84% of subjects preferred the fixed nature of dental implants, whereas, 11% reported esthetics and function as the biggest advantages of dental implants. The lifespan of dental implant treatment was answered as 20 years by 42% of subjects and 46% reported it to last till lifetime. Also, 43% of subjects felt that dental implants require more care compared to natural teeth and 51% reported it to need less care. Nearly 60% of subjects reported dental implant treatment was better compared to fixed prosthesis and for phobia associated with implant treatment, 62% of subjects were not afraid of treatment and 37% reported phobia.

Table 1: Demographic data in the study participants

S. No	Characteristics	Number (n)	Percentage (%)
1.	Age range (years)		
a)	15-25	250	25
b)	26-55	540	54
c)	>56	210	21
2.	Gender		
a)	Females	576	52.4
b)	Males	524	47.6
3.	Education		
a)	Illiterate	44	3.04
b)	Primary	182	12.58
c)	Secondary	414	41.4
d)	Graduate	332	22.95
e)	Postgraduate	28	1.93
4.	Occupation		
a)	Student	46	3.18
b)	Unemployed	40	2.76
c)	Housewife	72	4.97
d)	Professional	702	70.2
e)	Business	140	9.68

4. DISCUSSION

The present study assessed 1000 subjects where there were 47.6% (n=524) males and 52.4% (n=476) females in the age range of 15-70 years. There were 25% (n=250), 54% (n=540), and 21% (n=210) subjects in 15-25, 26-55, and >56 years of age. The majority of subjects had education till secondary level followed by graduation. The most common occupation was professional in 70.2% (n=702) subjects followed by business in 9.68% (n=140) subjects respectively. These data were comparable to the previous studies of Watzek G et al⁷ in 2003 and Berge TI⁸ in 2000 where authors assessed subjects with demographics similar to the present study that needed the replacement of missing teeth as in the present study.

The study results showed that nearly 84% of subjects felt that it was necessary to replace the lost teeth, however, 16% of subjects reported that it is not necessary to replace the missing teeth. The majority of the study subjects had an opinion on the necessity of replacing missing teeth. Concerning options to replace the missing teeth, 60% of subjects chose a fixed bridge as a replacement for missing teeth and the remaining 30% chose a removable prosthesis that was within the age range of 46-65 years. These results were consistent with the studies of Ravikumar C et al⁹ in 2011 and Mukatash GN et al¹⁰ in 2010 where authors reported willingness to replace missing teeth with dental implants and preference over the fixed bridge in comparable proportion to the present study in their respective studies.

It was seen that for the source of information concerning dental implants, in 93% of subjects, the source was dentists that gave information for dental implants, whereas, the remaining attained information from friends and relatives reported by 5.8% of subjects and very little (0.6%) attained information from social media. Among 1000 subjects assessed, there were 41% and 40% subjects that were well and moderately well informed about dental implants. There were 14%, 48%, and 52% of subjects that had high will, willing, and not willing to get missing teeth replaced by dental implants. The reason for not choosing dental implants as missing teeth replacement was its cost as reported by 80% of subjects, 11% of subjects did not choose implant as they had to undergo surgery, and 6% did not opt for implant owing to prolonged treatment duration. These findings were in agreement with the results of Pommer B et al¹¹ in 2011 and Chowdhary R et al¹² in 2010 where authors in their studies reported dentists as a major source of information for dental implants followed by friends, relatives, and social media as seen in the results of the present study.

Concerning the question of the biggest advantage of implants over bridges and implant-supported dentures, 84% of subjects preferred the fixed nature of dental implants, whereas, 11% reported esthetics and function as the biggest advantages of dental implants. The lifespan of dental implant treatment was answered as 20 years by 42% of subjects and 46% reported it to last till lifetime. Also, 43% of subjects felt that dental implants require more care compared to natural teeth and 51% reported it to need less care. Nearly 60% of subjects reported dental implant treatment was better compared to fixed prosthesis and for phobia associated with implant treatment, 62% of subjects were not afraid of treatment and 37% reported phobia. These results were in line with the findings of Lee JH et al¹³ in 2005 and Saha A et al¹⁴ in 2013 where authors reported the fixed nature of implants and their lifespan as the preferred option compared to other replacements as in the present study as reported by authors in their respective studies.

5. CONCLUSION

Considering its limitations, the present study concludes that the majority of subjects are aware of dental implants as a management modality to replace missing teeth. However, the attitude was positive and they accepted dental implants as a management modality, and the cost associated with treatment was a major concern to not opt for dental implants. However, further longitudinal studies with larger sample sizes and longer monitoring including subjects from across India are needed to reach a definitive conclusion.

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