

Evaluation of Awareness and Attitude on Dental Implant Therapy among Patients Visiting a Dental College

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Abstract: Introduction: As implant dentistry becomes more popular, we need to understand its perception among the general public. The purpose of this study was to assess the public perception of dental implants as a treatment option among the population visiting the department of prosthodontics in a South Indian dental college with the missing teeth/tooth. Materials and methods: A questionnaire survey consisting of 12 questions about implant perception was conducted among 266 people who were randomly selected to come to the prosthetics department to replace missing tooth(s). Distribution for each question assessed using frequencies and percentages for different socio-demographic groups. Result: 40.22% of the participants were aware of dental implants as a replacement option for missing teeth, with no significant differences in gender or age groups spanning from 18 to 70 years. Dentists were the primary source of implant information, followed by the internet. 86.09% of those polled requested more information on dental implants. Among those who were aware of implants, 53% viewed the high cost of treatment as the most significant disadvantage. 71.05% blamed their dental professional for implant failure, 37.96% believed implants would last a lifetime, and 94.73% were willing to restore their missing teeth with implant based treatment options. Conclusion: This study aimed to assess patient awareness and attitudes towards dental implants, revealing a general lack of understanding among the population. However, many participants expressed interest in learning more about implant-based treatment from their dentist. Most patients who were aware of dental implants preferred this therapy, indicating it may become the first choice for restoring missing teeth for both dentists and patients.

Keywords: Dental implants, Awareness, Implant therapy, Prosthodontics, Edentulism

1. Introduction

Edentulousness is a major ailment among people nowadays. There are many treatment options available for restoring the missing tooth such as fixed and removable partial dentures and implant therapy. Titanium implants were introduced in the year 1950s and they became a popular option for replacing missing teeth/tooth. [1]. It brought many advantages in the field of dentistry for patients well being. [2] The main aim of the treatment is to restore patient's function speech and aesthetics. Implant therapy is preferred more among patients compared to other treatment options. Implant therapy can be performed in patients even in the circumstances of damaged soft tissue and hard tissues. [1, 3-7]. About 1 million implants are placed worldwide annually. [8] implant manufacturers and dentists are also more updated and skilled over the last decade [9]. Only few literatures focuses on public opinion about implant therapy [10]. Hence it is high time to assess the awareness and attitude of patients towards the dental implant therapy.

For professionals it is vital to assess patient's knowledge perception & awareness about dental implants. The purpose of this study is also to evaluate the patient's awareness and attitude towards dental implants compared to other conventional treatment modalities. The aim of the study is to assess the awareness and attitude on dental implant therapy among patients visiting a dental college.

2. Materials and methods

This is a cross sectional study based on the questionnaire which evaluates the awareness and attitude of participants about dental implant therapy and the questionnaire was adapted from the similar study performed in Mumbai metropolitan city by Gharpure et al.[16]. The questions and the distribution of the responses of the participants can be seen in Table 1. The locality of Rathinamangalam is situated in the centre of many villages and has a diverse population. Due to its central location and accessibility, patients from all over the locality visit the private teaching dental hospital. A sample size of 266 individuals was collected by randomly selecting individuals visiting the department of prosthodontics with missing tooth in this private teaching dental hospital to represent the local population of the village rathinamangalam. Patients who agreed to participate in the trial were asked to complete a questionnaire. The investigator distributed and collected the questionnaires directly after obtaining written informed consent. The investigators reviewed the questionnaire for completeness and incorrect entries before submitting it. To facilitate respondents' comprehension, the questionnaire was translated and printed in local languages. The trial lasted from March 15, 2023, through April 19, 2023.

Table 1: Distribution of responses of the participants to various questions related to their information on dental implants

Q. No.	Question	Response	n (%)
1	Do you know about dental implants as an option to replace missing teeth?	Yes	107 (40.22)
		No	159 (59.77)
2	Where did you get your information on dental implants?	Family Doctor/ Physician	48 (18.04)
		Dentist	78 (29.32)
		Acquaintances/ Family	40 (15.03)
		Magazines/ Newspaper/ TV	5 (1.87)
		Internet	36 (13.53)
3	Do you want more information on dental implants?	Yes	229 (86.09)
		No	37 (13.9)
4	From where do you want more information on dental implants?	Family Doctor/ Physician	73 (27.44)
		Dentist	187 (70.30)
		Acquaintances/ Family	2 (0.75)
		Magazines/ Newspaper/ TV	0 (0)
		Internet	4 (1.50)
5	Where do you think implants are anchored?	Gums	112 (42.10)
		Jawbone	31 (11.65)
		Teeth	94 (34.33)
		Non sure	29 (10.90)
6	What do you think is the biggest disadvantage of implant-based treatment	High cost of treatment	142 (53.38)
		Invasive Surgery	111(41.72)
		Long period for treatment completion	13 (4.88)
7	How long do you think will an implant last?	5 years	32 (12.03)
		10 years	70 (26.31)
		20 years	63 (23.68)
		Lifetime	101(37.96)
8	whom would you blame for a dental implant failure/ loss	Dentist	189 (71.05)
		Patient	1 (0.37)
		Poor maintenance	74 (27.81)
		Incompatibility/ rejection by body/ allergy	2 (0.75)
9	Do you think implants need special care and oral hygiene maintenance	More than natural teeth	126 (47.36)
		Less than natural teeth	4 (1.50)
		Same as that of natural teeth	136 (51.12)
10	Do you know someone with dental implant treatment	Yes, myself	0 (0)
		Yes, an acquaintance I know	24 (9.02)
		No	242 (90.97)
11	Are you/ is that acquaintance satisfied with dental implant treatment?	Yes	22(8.27)
		No	2(0.75)
12	Would you go ahead and restore missing teeth with dental implants?	Yes	252 (94.73)
		No	14 (5.26)

Healthy adults and participants over the age of 18 were included in the study. Individuals under the age of 18 and those who were very ill/terminally ill, mentally challenged, physically disabled, or pregnant females were excluded.

Participants were divided into numerous subgroups based on age (18-30, 31-50, 51-70, 71 and above).

Before analysing the data, the completed surveys were coded and tabulated. The frequency and percentage distributions of replies were investigated. Descriptive statistics were reported for questionnaire domain scores in age, gender.

The ethical clearance was obtained from the Institutional Ethical Committee(IEC) of Tagore dental college and hospital. The informed consent was attained from all the participants by the investigators in written format . This study was conducted in adherence to the GCP guidelines and was in agreement with the STROBE statement for cross - sectional studies.

3. Results

Table 2 describes the sample's demographic dispersion. Dental implants were mentioned as a replacement option for lost teeth by 40.2% (n = 107) of the participants. Males (26.31% (n = 70) and females (13.9% (n = 37) reported being aware of dental implants. Table 2 depicts awareness of dental implants in various categories depending on age, gender.

Table 2: Demographic distribution of the participants on the basis of awareness of dental implants

Category	Sample distribution (%)	Awareness of dental implants (%)
Total Sample	266 (100)	107 (40.22)
Gender		
Male	158 (59.39)	70 (26.31)
Female	108 (40.61)	37 (13.90)
Age (years)		
18- 30	34 (12.78)	13 (4.88)
31- 50	134 (50.37)	47 (17.66)
51- 70	92 (34.58)	45 (16.91)
70 and above	6 (2.25)	2 (0.75)

Table 1 and Figure 1 list the numerous sources of information on dental implants for patients who were aware of dental implant treatment. When asked if they wanted more information about dental implants, 86.09% of all participants said they did. Figure 2 shows that 75.70% of individuals who were aware of dental implants requested additional information on implants. Only 24.30% of those who did not know about dental implants wanted more knowledge, while 6.91% of those who did not know about implants did not want more information. When asked where they needed further information, the majority of participants (70.30%) said their dentist, followed by other sources, as shown in Table 1.

Figure 3 and Table 1 show the distribution of participant replies to questions on dental implants such as anchorage location, durability, maintenance, and reasons for failure/loss. As shown in Figure 4, the majority of participants (53.38%) cited high treatment costs as the most significant drawback, followed by the invasive nature of surgery (41.72%) and a lengthy treatment completion period (4.88%). A substantial percentage of participants (94.73%) said they would proceed with dental implants to replace missing teeth [Figure 2]. When participants who were aware of dental implants were asked if they specifically knew anyone else who had undergone dental implant treatment, 9.02% knew of acquaintances who had implant based treatment, and 90.97% did not know anyone with dental implant treatment. 91.66% of patients were satisfied with implant-based treatment [Table 1].

4. Discussion

In this study, 40.2% patients reported dental implants as a replacement option for missing teeth, which is significantly higher than the 23.24% reported in earlier studies conducted in urban Indian populations by Chowdhary et al.[14] In European and North American populations, it is substantially lower than the 72% as recorded by Tepper et al., Pommer et al. reported 79%, Berge reported 70.1%, and 77% by Zimmer et al.[11-13,15] This is most likely due to the fact that implant treatment has yet to become as popular on the Indian subcontinent as it has in Europe and North America. This study found that males have somewhat higher levels of awareness than females, this is similar with the findings of Chowdhary et al., who discovered that males were more aware of dental implants than females.[14] .

Although many participants (42.05%) said they learned about dental implants via their dentist, a considerable

proportion (30.84%) said they learned about them from other their family doctor and (14.95%) of participants learned about dental implant from internet [Table 1 and Figure 1]. These findings are consistent with those of Pommer et al. and Tepper et al.[13,15] However, Berge's findings indicated that the media was the primary source.[12]

The greater number of participants wanted more information on dental implants [Figure 2], from their dentist (70.30%), which is similar to previous research findings.[13,15] The majority of the participants plainly displayed a lack of understanding about implant based treatment. 42.10% thought that the gums as the location of implant implantation, whereas 11.65% identified the jawbone and 10.90% were unsure. When asked how long implants will last, 37.96% of the participants said "a lifetime."

The majority of participants said they would blame dentist for implant failure/loss, with poor maintenance coming in a second place [Figure 3]. Few participants blamed the patient or inadequate maintenance for the failure/loss [Figure 3], and when asked if implants required special care and oral hygiene, just 47.36% thought implants required more care than natural teeth, while 51.12% thought implants required the same care as natural teeth. These findings are consistent with prior research and emphasis the issue that dentists currently provide little information on the longevity, complications, and care of implants. [13, 15]

Almost half of participants identified high cost as the single most significant drawback of implant treatment, followed by the invasive nature of the procedure and a lengthy treatment completion period [Figure 4]. These findings are consistent with earlier research. [13, 15]. The cost of the most reputable implants is substantial, and this cost must be met by the patients.

Only 9.02% of those who were aware of dental implants either received implant based therapy themselves or knew of a friend who did, and 91.66% were satisfied with the treatment. Furthermore, when asked if they would replace missing teeth with dental implants, 94.73% of those who had heard of them said they would [Figure 2]. This clearly implies that once participants are familiar with implant based therapies, they will choose such treatments to replace their missing teeth and will be usually satisfied with the therapy offered.

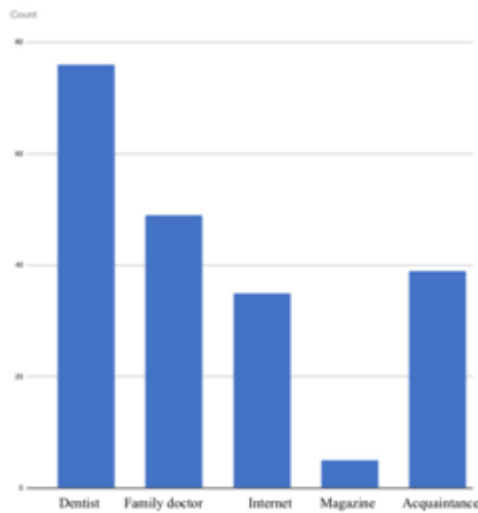


Figure 1: Percentage distribution of the source of information on dental implants for those participants who were aware of dental implants as an option to replace missing teeth (n = 107)

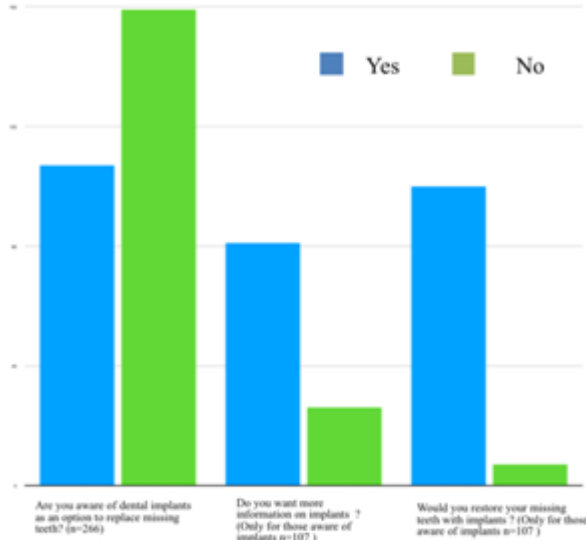


Figure 2: Percentage distribution of participants based on awareness of dental implants as an option to replace missing teeth (n = 266). Furthermore, percentage distribution of participants who were aware of dental implants (n = 107) based on whether they wanted additional information and whether they were ready to replace their missing teeth with dental implants

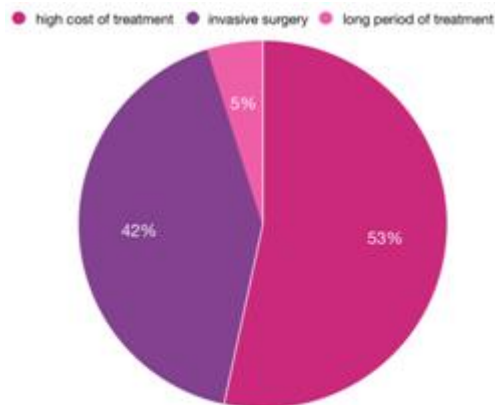


Figure 4: Percentage distribution of the biggest disadvantage of implant dentistry as recorded by participants who were aware of dental implants (n = 323)

This study clearly shows lack of awareness among the patients about the dental implant therapy but most of them were interested to get the information about the implants from the dentist and after getting aware of the therapy about 95% of the participants said that they will go for the implant based therapy. Thus, the dentist must make patients aware of dental implant therapy as a treatment option for restoring their missing tooth/teeth.

5. Conclusion

Implant dentistry has evolved into mainstream of restorative practices all over the world. This study aimed to assess the patients' awareness and attitude towards dental implants. This study's findings clearly show that there is a general lack of understanding about implant based treatment in the population. However, a large percentage of participants are interested in learning more about implant-based treatment alternatives from their dentist. It can be observed that the majority of patients who were aware of dental implants preferred implant-based therapy. There is the high possibility of dental implants becoming the first choice of

treatment for dentists as well as patients for restoring their missing teeth/tooth.

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Nil

Conflicts of interest

There are no conflicts of interest.

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