

Exploring Patient Awareness: A Web-Based Study on Dental Implants as a Treatment for Replacement of Missing Teeth

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Abstract

Background: The face, and especially the smile, is central to personal identity, with teeth playing a vital role in self-confidence. Tooth loss affects both appearance and well-being. Dental implants provide a lasting, functional, and esthetically pleasing solution, enhancing oral health and overall quality of life. **Methodology:** A cross-sectional survey of 400 patients aged 18–60 was conducted using a structured questionnaire in English and Telugu. **Results:** 63% of respondents had some awareness of dental implants, primarily from doctors. Many were uncertain about the procedure's invasiveness, longevity, and costs. **Conclusion:** Educational initiatives are needed to bridge knowledge gaps, particularly in rural areas, to improve acceptance and understanding of dental implants as a treatment option.

Keywords: Awareness, Dental implant, Knowledge, Missing teeth, Patients, Procedure, Survey, Teeth, Treatment.

INTRODUCTION

The face serves as a representation of one's identity, with a smile serving as a window into their personality, and teeth playing a crucial role in maintaining a positive self-image. Therefore, the loss of teeth significantly affects both an individual's appearance and functionality, leading to adverse impacts on their psychological and social well-being.^[1]

Dental implants represent a revolutionary advancement in dental care, offering patients a permanent, functional, and esthetically pleasing solution for tooth replacement. Unlike traditional dental prosthetics, such as bridges or dentures, which rely on adjacent teeth or adhesives for support. Implants are surgically implanted directly into the jawbone to serve as a stable foundation for various dental prostheses.^[2] Dental implants are versatile and can be utilized for single-tooth replacement, anchoring bridges for multiple teeth, or supporting partial and full dentures.^[3] They not only restore the esthetic appearance of a smile but also promote oral health by preventing bone loss and preserving adjacent teeth. This process involves a surgical procedure where a titanium implant is placed into the jawbone, which then integrates with the bone through a process called osseointegration.^[4] Once healed, the implant can support a crown, bridge, or denture, providing a stable and long-lasting solution for tooth replacement and restoration of dental function.^[2] therefore There is a rising demand for implant-supported fixed prostheses, as they have

been shown to enhance both perceived oral health and patient satisfaction.^[5,6]

A survey on dental implant awareness in the East Godavari district can offer valuable insights into the local population's knowledge, attitudes, and practices concerning dental implants. This region, being predominantly rural, might have unique challenges and perspectives not commonly addressed in existing studies, making it an ideal choice for this survey.

This is a descriptive cross-sectional survey-based study to determine the attitudes, awareness, sources of information, and level of knowledge of patients at a GSL dental college regarding the use of dental implants to replace missing teeth.

Therefore, the objective of this study was to investigate patients' awareness, knowledge, and attitudes regarding dental implants, as well as to evaluate how personality characteristics influence their acceptance of dental implants as a treatment option.

"The study aimed to achieve the following objectives:"

1. To assess the knowledge level among the study population regarding dental implants

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2. To evaluate the sources of information about dental implants among the study population
3. To assess the acceptance of dental implants as a treatment modality compared to other conventional techniques.

METHODOLOGY

A self-explanatory questionnaire-based prospective study was conducted on a total of 400 people among the patients attending the outpatient department of GSL Dental College over an estimated period of 3 months. The questionnaire was developed through a systematic process, involving a thorough review of existing literature.^[4,7-10] As a result, only minor modifications were made, keeping it largely consistent with previously used questionnaires in the literature. Hence, the final questionnaire was based on 23 questions in English, Mother Tongue (Telugu) to facilitate completion and to get a better understanding of the questions by the respondents. It was well-structured survey that included a mixture of demographic, qualitative, and quantitative questions to capture a comprehensive picture of the respondents' knowledge, attitudes, and practices. Quantitative questions assess the basic knowledge about what dental implants are, their benefits, and the general procedure involved. Qualitative questions, on the other hand, can explore deeper insights into patients' attitudes, perceived barriers, and sources of information. Moreover, this study was limited to the age group of 18–60 years. The survey questionnaire was distributed through printed forms among study participants during their regular dental visits, which was again transformed into Google Forms. All the respondents were informed about the aims and objectives of the study. Only fully completed forms were eligible for inclusion in the survey.”

The following criteria were required to be included: (1) Age group of 18–60 year-old.

Exclusion criteria were: (1) very old (>60 years) or uncooperative patients; (2) mentally or physically disabled patients.

RESULTS

A total of 400 responses were recorded among most respondents are younger adults, with a near-equal gender split (Table 1).

The results reveal varied levels of awareness and perceptions regarding dental implants. The majority of respondents are between 20 and 30 years old, with a nearly even gender distribution and most have a primary school education. While 66.8% have visited a dental clinic, awareness of dental implants remains moderate, with 63% having heard of them and only half knowing the treatment options for missing teeth. Fixed replacements are preferred by 52.8%, though 38.7% are uncertain about treatment choices.

Doctors are the most common source of information (31%), followed by friends (22.8%). Despite this, many still struggle with identifying dental implants, with only 61.3% being able to do. Misconceptions persist, as 45.7% are unsure if the procedure is invasive, and 36.7% don't know where implants

are placed. While 28.8% believe implants last a lifetime, many remain uncertain about their longevity and benefits, with half recognizing the advantages of improved function and appearance. The high cost and long treatment plans are the most significant concerns and myths about expense and invasiveness are common. Although 60.5% expressed a desire to learn more about implants, only 36.5% are ready to consider them, with 46.3% unsure about pursuing the treatment.

DISCUSSION

Different studies have shown significant variation in the level of awareness among the Indian public regarding dental implants across various states and districts. The current survey provides insights into the participants' knowledge and their need for additional information regarding dental implants, including surgical and prosthetic procedures, among a sample of dental patients visiting a dental college in Rajahmundry.

This survey reveals significant variations in awareness and understanding of dental implants. Most respondents are younger adults (57.3% aged 20–30), with a near-equal gender split. While 66.8% have visited a dental clinic, only 54.8% recognize the importance of replacing missing teeth, and awareness of treatment options is evenly split, indicating knowledge gaps.

Awareness of dental implants stands at 63%, with doctors being the primary source of information. However, only 61.3% could correctly identify a dental implant image, and misconceptions persist, with just 37.8% knowing implants are placed in the bone. In addition, 45% understood that implants can replace both single and multiple teeth, yet many remain uninformed.

There is significant uncertainty regarding the invasiveness of the procedure (45.8%) and the longevity of implants (42.8% unsure, 35% unaware of the impact of oral habits). Although 50.5% recognize the benefits of implants, concerns about high cost and lengthy treatment plans persist, with 20.5% citing these as major drawbacks. Only 13% have experience with implants, and comfort levels vary.

Despite persistent myths, such as implants being costly (22%) and painful (10.3%), 60.5% express a desire to learn more. The survey suggests that educational initiatives targeting these knowledge gaps and misconceptions could enhance patient acceptance and satisfaction with dental implants. Future research should focus on developing targeted strategies, particularly in rural areas like East Godavari, to improve dental health literacy and outcomes.

According to Rehman, 62.5% (250) of patients had some knowledge about dental implants. The primary source of information was friends and relatives (35%; 140 subjects), followed by dentists as the secondary source (30%; 120 subjects). The study concluded that there remains a need to provide patients with general and accurate information about this advanced treatment option.^[10]

Table 1: Questionnaire and comparison of responses regarding awareness of dental implants among 400 dental patients at a dental college in Rajahmundry

S. No.	Question	Responses	%
1	Age	20–30 years	57.3
		30–40 years	11.5
		40–50 years	24
		50–60 years	7.3
2	Gender	Male	51.2
		Female	47.5
		Other	1.3
3	Qualification	Primary school	63.5
		High school	24
		Graduated	12.5
4	Have you ever visited the dental clinic?	Yes	66.8
		No	33.2
5	Do you know the need for replacing the missing tooth?	Yes	54.8
		No	45.3
6	Do you have any idea about the treatment option for replacing the missing tooth?	Yes	50
		No	50
7	Which treatment option do you prefer for replacing of missing tooth?	Fixed	52.8
		Removable	8.5
		I don't know	38.7
8	Have you ever heard about dental implants?	Yes	63
		No	37
9	What was your 1 st source of information about dental implants?	Friends	22.8
		Tv/Radio	4.7
		Internet	15
		Doctor	31
		None	26.5
10	Can you identify the dental implant?	Option 1	4.2
		Option 2	1.7
		Option 3	61.3
		Don't know	32.8
11	Do you think dental implant placement is an invasive procedure?	Yes	34.3
		No	20
		Don't know	45.7
12	Where do you think dental implants are placed in?	Gum	25.5
		Bone	37.8
		Don't know	36.7
13	What do you think dental implants are used for replacement of?	Single tooth	9.3
		Multiple teeth	8.8
		Both 1 st and 2 nd	45
		Don't know	37
14	How long do you think implants last for?	5 years	6.1
		10 years	22.3
		Life long	28.8
		Don't know	42.8
15	Life span of dental implants depends on	Oral habits	8.5
		Systemic conditions	5.3
		Both A and B	51.2
		Don't know	35
16	Biggest advantage of dental implants	Fixed	5.3
		Look better	5.9
		Good In function	7
		All the three options	50.5
		Don't know	31.3

(Contd...)

Table 1: (Continued)

S. No.	Question	Responses	%
17	According to you what is the biggest disadvantage of dental implants?	High cost	20.5
		Need of surgery	9.3
		Long treatment plan	20.5
		None	9.8
		Don't know	40
18	Have you undergone any dental implant treatment?	Yes	13
		No	87
19	Can you rate how comfortable do you think living with a dental implant in the jaw?	0	9.5
		1	5.2
		2	20.4
		3	27.8
		4	21
		5	16.1
20	Does Implants need special care?	Yes	31.8
		No	12.5
		May be	55.8
21	What are the myths you believe about dental implants?	Costly	3.5
		Painful	10.3
		Expensive	22
		Invasive Procedure	11
		All the above	39.7
		None	33
22	Do you want to know more about dental implants?	Yes	60.5
		No	39.5
23	Would you like to go ahead and restore missing teeth with dental implants now or in the future?	Yes	36.5
		No	17.3
		May be	46.3

According to Nazar *et al.*, 61% of study participants were aware about dental implants, while 39% showed a lack of any information on them. Sources of information in decreasing order include dental practitioners (38%), friends (33%), media (26%), and reading material (3%).^[11]

Hence, Understanding the level of awareness about dental implants is crucial for several reasons. First, it helps to identify the knowledge gaps among the general population, enabling dental professionals and public health policymakers to design targeted educational campaigns. Second, it sheds light on the factors influencing patient decisions regarding tooth replacement options. Finally, it provides insights into regional disparities in dental health literacy, particularly between urban and rural populations. For instance, while urban areas may have higher awareness due to better access to dental care and information, rural regions like the East Godavari district might face unique challenges that limit their understanding and accessibility to dental implant treatments.

CONCLUSION

By conducting this survey, we aim to highlight the importance of educating patients about dental implants as a viable and advantageous alternative for tooth replacement. Enhancing awareness can empower individuals to make informed decisions

about their dental health, ultimately leading to improved oral function and esthetics. Through targeted educational efforts, we hope to bridge the gap between awareness and acceptance, promoting better oral health outcomes in our community.

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