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Knowledge and awareness of dental implants as a treatment choice in the adult population: A hospital-based study

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Abstract
Context: Implantology, although an emerging scientific field, remains underutilized among patients. Dental prostheses supported by oral implants have gained favorable reviews from patients who have undergone such treatment. Presently, implant-supported restorations are favored due to their benefits in occlusal support, preservation of adjacent teeth, and avoidance of removable dentures. Dental implants are now widely accepted as a prosthetic solution for both fully and partially edentulous patients, leading to their increased popularity among dental professionals.
Objective: This study aimed to assess the knowledge, attitudes, and awareness regarding dental implants among residents .
Methods: A random sample of 500 individuals was surveyed using a questionnaire to gauge their understanding of dental implants.
Results: The analysis of questionnaire responses revealed a notable lack of knowledge among the surveyed population regarding dental implants.
Conclusion: Efforts are needed to educate the general public about dental implants as a viable treatment option, along with addressing concerns about cost feasibility.
Keywords: Attitudes, awareness, dental implants, knowledge

Introduction

Historically, dental implants were primarily recommended for edentulous individuals due to their ability to enhance denture stability, functionality, and overall quality of life. However, their usage has expanded to include both partially and completely edentulous patients as a means of replacing missing teeth. The widespread acceptance of dental implants among patients has been noted by several researchers. Dental implants are preferred over traditional prosthetic options due to their positive impact on quality of life, self-esteem, and preservation of adjacent teeth. (Shalya et al., 2020)

These implants are surgically inserted into the jawbone to provide support for single-tooth replacements, fixed or partial prostheses, and maxillofacial restorations. The success of dental implants hinges on their integration with surrounding bone tissue, which is influenced by factors such as implant material, bone quantity and quality, and loading conditions. (Mously et al., 2020)

Studies by Grogono et al. (1989) have shown that a significant majority of implant patients experience increased confidence (88%) and are willing to undergo the procedure again (89%). Additionally, nearly all implant recipients (98%) report improvements in overall oral health. However, awareness levels about implant dentistry vary across different populations. For instance, studies from Finland (1999) and Australia (1993) revealed awareness rates of 29% and 64%, respectively. Preferences among patients also vary, with

a considerable percentage favoring implant prostheses over fixed partial or removable dentures due to factors like comfort, natural appearance, enhanced chewing ability, and improved speech. (Sinha et al., 2019)

Cost remains a major consideration for patients opting for dental implants, with higher costs often acting as a deterrent. Regarding knowledge levels, a significant proportion of individuals (78.8%) prefer implant placement by specialists rather than general dental practitioners (21.2%).(Rehman, 2019)

Questionnaires serve as a common method for self-administered data collection, although they come with limitations such as data organization, transfer errors, and confidentiality concerns, particularly in web-based formats. (Baqar et al., 2018)

Materials and Methods

A questionnaire-based survey was conducted at the Dental Outpatient Department , involving 500 subjects. The questionnaire, available in English, , and Arabic, consisted of five questions aimed at assessing awareness and knowledge regarding dental implants. Participants aged 16 years and above were included in the study. Printed questionnaires were distributed, and only fully completed forms were included, resulting in 470 valid responses after excluding incomplete forms. The study protocol was approved by the ethical committee

The survey form included the following questions:

1. What is your highest level of education?
    - Postgraduate
    - Undergraduate
    - Illiterate
2. Are you aware of dental implants as a treatment option for missing teeth? (Yes/No)
3. Where did you learn about dental implants?
    - Print media (e.g., newspapers, magazines)
    - Audiovisual media (television, radio)
    - Internet
    - Dentists
    - Friends and relatives
4. Are you willing to consider dental implants as a treatment option? (Yes/No)
5. What factors limit your choice of dental implants?
    - Higher cost
    - Lack of knowledge
    - Surgical procedure
    - Longer treatment duration

Results

The study group consisted of 52% male and 48% female participants. Among them, 46% had a postgraduate level of education, while 40% were undergraduates, and 15% were illiterate.

Regarding awareness of dental implants as a treatment option for missing teeth, only 25% of the participants were aware, while 75% were not.

Information sources about dental implants varied, with 57% of subjects learning from family and friends, 30% from dentists, and only 15% from the Internet or print media.

When asked about their willingness to choose dental implants as a treatment alternative, 57% of participants expressed reluctance due to the higher cost involved. Other reasons included less knowledge (28%), fear of surgical intervention (47%), and concerns about longer treatment duration (53%).

Table 1: Various parameters studied on dental implants

Various parameters studied on dental implants	Responses received (%)
Level of education	
- Postgraduate	46
- Undergraduate	40
- Illiterate	15
Are you aware of dental implants as a treatment substitute for missing teeth?	
- Yes	25
- No	75
From where have you learned about dental implants?	
- Print media (e.g., newspapers, magazines, etc.)	15
- Audiovisual media like television and radio	5
- Internet usage	8
- Dentists	30
- Friends and relatives	57
What are the limitations in choosing dental implants?	
- Higher cost	57
- Less knowledge	28
- Surgical intervention	47
- Longer treatment time	53

Discussion

Shalya et al. conducted a survey using an 11-question questionnaire to assess public awareness of dental implants. Their study found that most subjects gained knowledge from their dentists, followed by the Internet. The major deterrents to implant therapy were high treatment costs, with 52.2% of subjects citing this as a significant factor, and 45% associating implant failure with poor maintenance. Only 25% of the study group expressed willingness for implant-based treatment. (Shalya et al., 2020)

Mously et al. analyzed 905 study participants and found that 56% had low knowledge levels regarding dental implants, while 44.4% had a good understanding. Knowledge levels tended to increase with higher education levels, with postgraduates showing the highest awareness. Family and friends were the primary sources of information on dental implants for most participants. (Mously et al., 2020)

Sinha et al. studied 1000 subjects and found that only 9% had undergone implant placement, while 17% were well-informed about this treatment option. Dental practitioners played a significant role in providing information, followed by the Internet and media sources. (Sinha et al., 2019)

Rehman's study on 450 dental patients in Hyderabad observed that 62.5% had knowledge of dental implants, with 87.5% citing cost as a major barrier to accepting implant treatment. Information sources varied, with friends and relatives being more common than dentists. (Rehman, 2019)

Sakshi et al. studied undergraduate dental students and found that 99% had prior knowledge about dental implants, mainly from audiovisual resources and the Internet. However, cost remained a significant factor in choosing implant treatment.

Dental professionals are crucial in educating patients about treatment options, and fixed implant prostheses offer improved functionality and aesthetics. (Sakshi et al., 2018)

According to Nazar et al., 61% of participants were aware of dental implants, with dentists being the primary information source. (Nazar et al., 2018)

Baqar et al.'s study showed that only 9.8% of participants were aware of dental implants, with awareness increasing with education levels. Relatives and friends were the main sources of information. (Baqar et al., 2018)

Kinani et al.'s study found good knowledge levels among medical and non-medical groups regarding missing tooth replacement with implants. Dentists were the primary information source for both groups. (Kinani et al., 2018)
Mayya et al. reported low awareness (17.8%) among study participants in Mangalore, , with friends and family being the main sources of information. (Mayya et al., 2018)
Ajayi et al.'s study in Nigeria showed that dental health practitioners were the major information providers on implants, with higher educational levels associated with greater knowledge. (Ajayi et al., 2016)
Mathuriya and Agarwal's study revealed low awareness (32.5%) among dental patients in Bhopal regarding dental implants. (Mathuriya and Agarwal, 2015)
Kumar and Chauhan's study in Indore found that only 25.8% of participants were knowledgeable about dental implants, with aesthetic advantages being a major factor in choosing implants. (Kumar and Chauhan, 2015)
Hosadurga et al. conducted an educational intervention study, showing knowledge deficits among subjects before receiving information about implants. (Hosadurga et al., 2015)
Gbadebo et al.'s study in Nigeria found widespread unawareness about dental implants, with dental professionals being the primary source of information. (Gbadebo et al., 2014)
Pommer et al. reported high desirability for dental implant treatment in Austria, contrasting with Chowdhary et al.'s study, which showed low awareness. (Pommer et al., 2011)
Various studies worldwide have shown differing levels of knowledge and awareness regarding dental implants, with dentists playing a crucial role in patient education. Kohli et al.'s study in Malaysia reported moderate levels of information among respondents, with dentists being the primary information source. Overall, around 56% of study participants had both knowledge and awareness of dental implant treatment. (Kohli et al., 2015)

Conclusion

The field of implant dentistry is growing globally, yet there exists a significant disparity between the popularity of dental implants and the available evidence supporting their efficacy. There is a clear imperative for enhanced education on dental implants among the populace to elevate their understanding and proficiency in implant dentistry. This necessity stems from diverse educational backgrounds, socioeconomic disparities, and varying levels of interaction with oral healthcare providers, acquaintances, and family members. In our study, over half of the participants lacked information about dental implants, highlighting the critical need for more comprehensive patient education on this treatment approach. Therefore, dental education plays a pivotal role in fostering a positive attitude toward dental implants within the population.

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