

# DENTAL PATIENT'S AWARENESS AND KNOWLEDGE IN USING DENTAL IMPLANTS AS AN OPTION IN REPLACING MISSING TEETH

Muhammad Masood Khan<sup>1</sup>, Mehmoona Rehman<sup>2</sup>, Saima Rahat<sup>3</sup>, Khalid Rehman<sup>4</sup>, Aasiya Javaid<sup>5</sup>, Khurshid Alam<sup>6\*</sup>

## Abstract

**Introduction:** Present-day dentistry attempts to return patients' natural appearance, function, speech, and health. The face is considered a representation of the "self", and a smile is seen as an entrance to the personality. The teeth have critical role in the preservation of a positive sense of self, and losing them can be traumatic and disturbing, leading to severe dysfunction that can substantially interfere with social interactions.

**Objectives:** This study aimed to determine awareness about dental implants as a treatment option, expectations and degree of knowledge about them in patients attending the dental college in Kohat, Khyber Pakhtunkhwa.

**Material and methods:** To gauge the understanding and familiarity of patients with dental implants, a self-explanatory questionnaire was designed. Prior to the survey questionnaire's finalization; a pilot test was conducted on 20 students to assess survey's effectiveness. During the patients' routine dental appointments, students distributed the questionnaires to the patients and their family members. Excel and SPSS software version 26.0 were used to analyze data. Results were presented as percentages and proportions using descriptive statistics.

**Results:** The current study included 288 individuals in total, out of which 142 (49.30%) were males and 146 (50.70%) were female subjects. Participants in the study ranged in age from 15 to 60, with a mean age of 33.4 (11.5) years. The majority of the participants 271(94%) knew that missing teeth could potentially be restored in some way. Bridge 101 (35%) was the most familiar treatment, followed by RPD 95 (33%) and implant 75 (26%). When asked to name a source of information, social media was chosen by 38 respondents (50.6%), followed by friends who had an implant (16; 21.4%), friends/relatives (11; 14.6%), and television (10; 13.4%). When asked if they were interested in learning (more) about dental implants, 242 (84%) responded positively, while 46 (16%) refused.

**Conclusion:** In this study, while the majority of patients (94%) knew that missing teeth could be replaced, only 26% knew about dental implants. Of the total, 84% of patients were interested to know more about dental implants. The dentist's professional responsibility is to educate patients about the use and advantages of dental implants, and this can be done by carrying out patient education programs using contemporary technologies (social media, the internet, etc.).

**Keywords:** Implant Awareness, RPD (Removable Partial Denture), Bridge

1. KMU Institute of Dental Sciences  
Kohat, Pakistan
2. General Dental Practitioner,  
Nunawading, Melbourne, Australia
3. LRH, Peshawar, Pakistan
4. Institute of Public Health and Social  
Sciences, KMU, Peshawar, Pakistan
5. Shahida Islam Dental College,  
Bahawalpur, Pakistan
6. Ayub Medical College, Abbottabad,  
Pakistan

## Address for Correspondence

**Dr. Khurshid Alam**

Assistant Professor, Ayub Medical College  
Abbottabad, Pakistan  
[Khurshid\\_027@yahoo.com](mailto:Khurshid_027@yahoo.com)

## Introduction

Present day dentistry attempts to return patients' natural appearance, function, speech, and health.<sup>1</sup> The face is considered a representation of the "self", and a smile is seen as an entrance to the personality.<sup>2</sup> The teeth has critical role in the preservation of a positive sense of self, and

losing them can be traumatic and disturbing, leading to severe dysfunction that can substantially interfere with social interactions. This is a serious problem and necessitates social and mental adjustment.<sup>3-4</sup>

Implant-supported prostheses for replacing missing teeth have become a very popular dental treatment option.<sup>5</sup> A dental implant is a synthetic root which is introduced into the jawbone via surgery to replace one or more

missing teeth and to support a fixed partial, complete denture or maxillofacial prosthesis.<sup>3</sup> The majority of patients who underwent this type of treatment reported an enhancement in their quality of life, assurance, and sense of self.<sup>5</sup> The usage of it has been extremely beneficial for patients with badly resorbed bones. Patients with no teeth have seen success rates of up to 96%.<sup>1-7</sup>

Prosthetics supported by implants have been shown to improve masticatory function, bone integrity, phonetics, aesthetics, and so forth. Annually, about one million dental implants are placed, worldwide.<sup>6</sup> Clinicians should assess their patients' awareness of implant placement as a treatment alternative and whether it is accurate or not.<sup>7</sup> Patients' degree of education concerning the treatment can help to dispel any unfavorable perceptions of the procedure that might have been sparked by inadequate communication.<sup>8</sup> If the proper information is provided to patients, it will further aid in promoting this improved course of therapy as a treatment alternative.<sup>3</sup>

With a high likelihood of success, implant treatment is increasingly gaining popularity. It has increasingly come to dominate the patient's interest in recent times. To assist patients who are unable to choose wisely between implant-supported dentures and removable dentures due to a lack of knowledge or education, a dentist must assess their level of expertise regarding dental implants and whether or not their perception of them accurately reflects reality.<sup>1</sup>

Therefore, the goal of this study was to determine how well-informed dental patients were about dental implants as a treatment option for replacing lost teeth among a sample of dental patients who visited a dental college in Kohat, Khyber Pakhtunkhwa.

### Methodology

The current study was carried out after approval from the ethical committee (ERB # DIR/KMU- EB/DP/000107) from Aug, 2022

to Sep, 2022. To gauge the understanding and familiarity of

patients with dental implants, a self-explanatory questionnaire was designed. The survey was developed from an earlier study conducted by Tepper et al. Prior to the survey questionnaire's finalization; a pilot test was conducted on 20 students to assess survey's effectiveness. The final survey consisted of 17 questions to evaluate the ensuing considerations:

1. The extent of dental implants information as a potential solution for missing teeth.
2. The degree to which dental implants are a generally acknowledged choice in comparison to other customary treatment procedures.
3. Information source for dental implants.

During the patients' routine dental appointments, students distributed the questionnaires to the patients and their family members. Patients who refused providing answers were not included in the study. The definition of dental implants was provided to patients as "an artificial tooth that is anchored in the jawbone to replace a lost tooth" who had never previously heard of them as a treatment option.

Excel and the Statistical Package for Social Sciences (SPSS Inc. Chicago, IL) software version

26.0 were used to enter and analyse the obtained data. Results were presented as percentages and proportions using descriptive statistics.

### Results

The current study included 288 individuals in total, out of which 142 (49.30%) were males and 146 (50.70%) were female subjects. Participants in the study ranged in age from 15 to 60, with a mean age of 33.4 (11.5) years. (Table 1)

**Table 1: Demographic Characteristics**

Variables	N (%)
Gender	
Male	142 (49.30)
Female	146 (50.70)
Age	

15-30 years	109 (38)
31-45 years	108 (37.5)
46-60 years	71 (24.5)
Marital status	
Single	118 (41)
Married	153 (53)
Widow	17 (6)

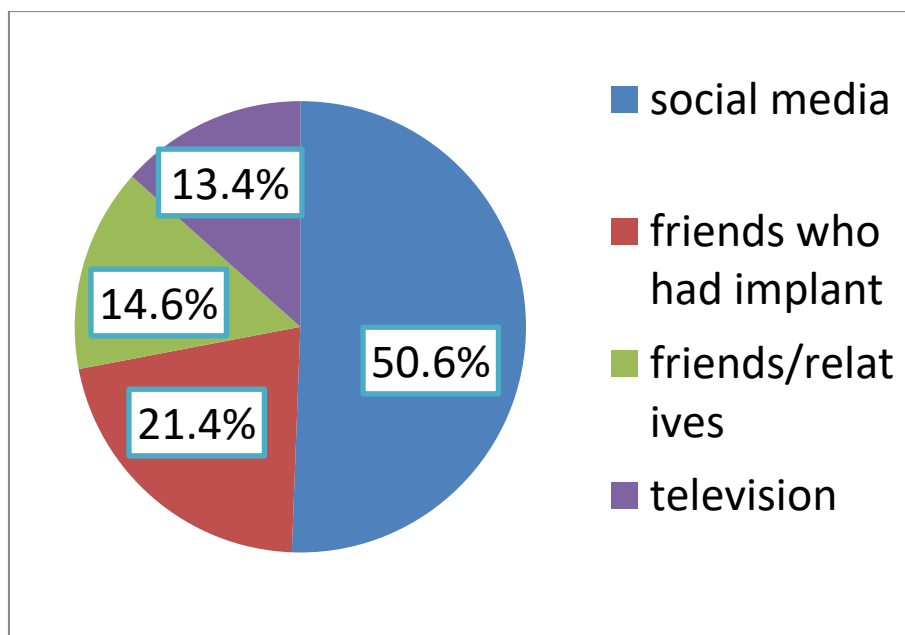
The majority of the participants 271 (94%) knew that lost teeth could potentially be restored in some way. Bridge 101 (35%) was the most widely known treatment, followed by RPD 95 (33%) and Implant 75 (26%). (Table 2)

**Table 2: Knowledge regarding replacement options**

Replacement options	Yes (%)	No (%)	Yes, a bit (%)	Total
Bridge	101 (35)	143 (49.7)	44 (15.3)	288
RPD*	95 (33)	112 (39)	81 (28)	288
Implant	75 (26)	184 (64)	29 (10)	288

RPD (Removable Partial Denture)

Out of these 75 implant-informed patients, 41 (55%) were males and 34 (45%) were females. When asked to name a source of information, social media was chosen by 38 respondents (50.6%), followed by friends who had an implant (16; 21.4%), friends/relatives (11; 14.6%), and television (10; 13.4%). When asked if they were interested in learning (more) about dental implants, 242 (84%) responded positively, while 46 (16%) refused. (Table 3)



**(Figure 01): Source of information**

## Discussion

Present day dentistry attempts to return patients' natural appearance, function, speech, and health.<sup>1</sup> The teeth has critical role in the preservation of a positive sense of self, and losing them can be traumatic and disturbing, leading to severe dysfunction that can substantially interfere with social interactions.<sup>3-4</sup> For more than 15 years, implant surgery has been at the cutting edge of clinical practice. More people are choosing dental implants as the best option to replace lost teeth due to the rising success rate of implant treatment.

Annually, about one million dental implants are placed, worldwide. However, Patients can find limited information on the procedure and its success. The severity of this issue is greater in underdeveloped countries.<sup>10</sup>

Total of 288 patients participated in our survey, of whom 142 (49.30%) were males and 146 (50.70%) were females. Participants were between the ages of 15 and 60, with an average age of 33.4 (11.5) years.

The subjective level of implant knowledge varies, and only 26% of people had heard of dental implants as a replacement for lost teeth. This contrasts sharply with the outcomes mentioned by Zimmer et al., Tepper et al. and Berge et al., indicating the degree of awareness as, 77%, 70.1% and 72%, respectively. A study in an Austrian population reported an awareness level of 71%.<sup>11</sup>

In our survey, a large percentage of participants 271 (94%) were aware that missing teeth can be restored. Fixed partial dentures 101 (35%) were the most popular choice among participants followed by RPD 95 (33%) and then implants 75 (26%). Perhaps as a result of fixed partial dentures being the most well-known and common option of replacement; they are also relatively less expensive for the majority of socioeconomic classes in environments with limited resources and is pleasant to patients in phrases of appearance, stability and retention.<sup>9</sup> The low socioeconomic class and educational level of this area can be blamed for the limited subjective knowledge about implants in our study (26%).

Mously et al., in their research of 905 study participants, found 56% of the individuals had a low, while 44.4% had a good level of knowledge about dental implants. Their degree of know-how improved with an increase in education level and the maximal cognizance of postgraduates.

Family and friends informed the majority of participants (43% and 42%, respectively) about dental implants.<sup>12</sup>

When asked to name a source of knowledge, social media came in first (50.6%), next a friend with an implant (21.4%), family and relatives (14.6%), and television (13.4%). The survey by Zimmer et al. revealed that the media served as the main information source for dental implants, which is consistent with our study. The media, also according to Berge and Best, is the primary source of information.<sup>11</sup> The Indian research by Saha et al. and Suprakash et al., in contrast, revealed that dentists were the primary source of knowledge.<sup>13, 14</sup> Another study conducted in

Saudi Arabia revealed friends and family to be the primary sources of information, which confirmed that family and friends are important motivators for oral maintenance and tooth replacement in general.<sup>15</sup>

Majority of the study participants (84%) expressed an interest in learning more about dental implants. However, the population's interest rate was lower than that of Saudi Arabian research (90.1%). Patients' increasing desire for implant treatment highlights the need for the right implant dentistry training program. Dental implants should always be explained to patients in order to dispel any misconceptions or unfavorable perceptions that may have developed due to a lack of information. Implant therapy is not very common in underdeveloped nations, despite the fact that implants may be the finest and highest-quality treatment option for individuals who are partially or completely edentulous.<sup>1</sup>

## Conclusion

In this study, while the majority of patients (94%) knew that missing teeth could be replaced, only 26% knew about dental implants. Of the total, 84% of patients were interested to know more about dental implants. The dentist's professional responsibility is to educate patients about

the use and advantages of dental implants, and this can be done by carrying out patient education programs using contemporary technologies (social media, the internet, etc.).

## References

1. Arora Jr K, Kaur II N, Kaur III G, Garg IV U. Knowledge, Awareness, and Attitude in Using Dental Implants as an Option in Replacing Missing Teeth Among Dental Patients: Survey-Based Research in a Dental Teaching Hospital in Derabassi, Punjab. *Cureus*. 2022; 14(7).
2. Sunny G, Chowdhary R, Mishra SK. Patient awareness about dental implants and satisfaction with conventional complete dentures fabricated by undergraduate and postgraduate students. *Adv Hum Biol*. 2022; 12(1):65.
3. Mahajan A, Asi KS, Mahajan A, Bhatia V. Public awareness, knowledge, attitude and acceptance of dental implants as a treatment modality among patients visiting dental college setups in the state of Himachal Pradesh, India: A pilot study. *Int J Periodontol Implantol*. 2022; 6(1):18-23.
4. Kumar SP, Singh DK, Awasthi R, Baral S, Pathi J, Jalaluddin M. Assessment of Awareness of Dental Implants among NSS Volunteers of Bhubaneswar City: A Questionnaire Cross-Sectional Survey. *Int J Health Sci*, 6(S1), 2301-2310.
5. Davut U, ÖZYILMAZ ÖY. Evaluation of Patients-Awareness Levels Regarding Implant And Implant-Supported Prosthesis Who were Admitted to Bezmialem Vakif University Faculty of Dentistry. *Bezmialem Sci*. 2022; 10(1):96-104.
6. Agarwal S, Ganapathy D, Maiti S, Agarwal V. Awareness on use of iliac crest graft in implantology among dental practitioners-a question naire based survey. *J Coastal Life Med*. 2022; 10:324-31.
7. Rahman FA, Lin CS, Qing CY, Ying CC, Vien CY, Wei CT. Knowledge, Awareness and Perception of Dental Stem Cell and Their Applications in Regenerative Medicine Among Professional Groups. *The Open Dent J*. 2022; 16(1).
8. Greenstein G, Eskow R. High Prevalence Rates of Peri-implant mucositis and Peri-implantitis Post Dental Implantations Dictate Need for Continuous Peri-implant Maintenance. *Compendium of Continuing Education in Dentistry (Jamesburg, NJ: 1995)*. 2022; 43(4):206-13.
9. Tepper G, Haas R, Mailath G, Teller C, Zechner W, Watzak G, Watzek G. Representative marketing-oriented study on implants in the Austrian population. I. Level of information, sources of information and need for patient information. *Clinical oral implants res*. 2003; 14(5):621-33.
10. Saha A, Dutta S, Vijaya V, Rajnikant N. Awareness among patients regarding Implants as a treatment option for replacement of missing teeth in Chattisgarh. *J Int Oral Health*. 2013; 5(5):48-52.
11. Mayya A, D'Souza J, George AM, Shenoy K, Jodalli P, Mayya SS. Knowledge and awareness of dental implants as a treatment choice in adult population in South India: A hospital-based study. *Indian J Dent Res*. 2018; 29:263-7.
12. Jha A, Aher V, Lath P, Khangembam M, Nishant, Pani P, Singh U. Knowledge and awareness of dental implants as a treatment choice in the adult population in North India: A hospital-based study. *Natl J Maxillofac Surg*. 2021; 12(2):244-249.
13. Saha A, Dutta S, Vijaya V, Rajnikant N. Awareness among patients regarding implants as a treatment option for replacement of missing teeth in Chattisgarh. *J Int Oral Health*. 2013; 5:48-52.
14. Suprakash B, Ahammed AR, Thareja A, Kandaswamy R, Nilesh K, Bhondwe Mahajan S, et al. Knowledge and attitude of patients toward dental implants as an option for replacement of missing teeth. *J Contemp Dent Pract*. 2013; 14:115-8.
15. Al-Johany S, Al-Zoman HA, Al-Juhaini M, Al-Refeai M. Dental patients' awareness and knowledge in using dental implants as an option in replacing missing teeth: A survey in Riyadh, Saudi Arabia. *Saudi Dent J* 2010; 22:183-8