

# Knowledge and Awareness regarding Dental Implants in Patients visiting Dental College of Udaipur, Rajasthan, India

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## ABSTRACT

**Introduction:** Dental implant is an artificial tooth root that restores a lost tooth so that it looks, feels, fits, and functions like a natural tooth. Dental implants are generally accepted as a prosthetic treatment of edentulous patients currently. The aim of the study was to assess the awareness of the patients regarding implant-retained prosthesis as an option for tooth replacement and the knowledge about tooth replacement.

**Materials and methods:** A cross-sectional survey was conducted among the patients visiting Pacific Dental College & Hospital, Udaipur. The survey was conducted over a period of 2 months. A total of 560 study subjects were participated in the study.

**Results:** The study participants consisted of 54.5% males and about 37.9% were aged between 51 and 70 years. Among the 560 respondents, 87.9% were aware of dental implants; 92.5% were aware of complete dentures; 41.6% mentioned relatives followed by dentists, newspapers, and internet; 97.5% of the respondents were willing to consider dental implant treatment if needed; 87.1% of the respondents stated high costs; 97.5% of the respondents thought that dental insurance is needed in our country for dental implant treatment.

**Conclusion:** This survey showed that many patients were not aware of using dental implants as an option for replacing missing teeth. Efforts must be directed at increasing the awareness levels by using media, newspapers, etc. as a source to achieve the target. Oral health education is essential for developing positive behavior among people regarding dental implants.

**Keywords:** Awareness, Dental implants, Treatment.

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## INTRODUCTION

Art of Modern Dentistry aims to help patients maintain good dental health and restore the patient to normal function, esthetics, and speech. Dental implant is an artificial tooth root that restores a lost tooth so that it looks, feels, fits, and functions like a natural tooth. Dental implants are generally accepted as a prosthetic treatment of edentulous patients currently.<sup>1,2</sup> Dental implant is an artificial tooth root, i.e., inserted into the jawbone surgically.<sup>3</sup>

Its clinical indication is increasing due to its high success rates and predictability. Dental implant treatment is increasing in demand as a treatment option.<sup>4</sup> Less information is available to patients regarding the procedure and its success. This problem is more in developing countries, such as India where there is lack of proper education and awareness among population regarding dental implants as a missing tooth treatment modality. Whole information on dental implant treatment should be provided to guide the patient in the choice of the most accurate option.<sup>5</sup>

Assessing the awareness of the people regarding implants helps in predicting better the need of the patients. Many studies have stated the awareness levels in different populations ranging from 42 to 79%.<sup>6-11</sup>

Various studies have been done in many parts of the world with regard to the awareness of dental implants as a treatment option.

Thus, the aim of the study was to assess the awareness of the patients regarding implant-retained prosthesis as an option for tooth replacement and the knowledge about tooth replacement.

## MATERIALS AND METHODS

### Study Design, Setting, and Population

A cross-sectional survey was conducted among the patients visiting Pacific Dental College & Hospital, Udaipur. The

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survey was conducted over a period of 2 months. A total of 560 study subjects participated in the study.

### Ethical Clearance and Official Permission

The study protocol was reviewed by the ethical committee of dental college and hospital and was granted ethical clearance.

### QUESTIONNAIRE

Figure 1 depicts the survey form which included self-explanatory questions in correspondence to previous studies conducted by Chowdhary et al,<sup>10</sup> Berge,<sup>12</sup> and Kohli et al.<sup>9</sup> A random sampling method with convenient sample size was used. Questionnaire was prepared both in English and Hindi (local language) to improve the participants' understanding of the questions.

The patients took 10 to 15 minutes to complete the questionnaire. Filled questionnaire pro forma was collected and analyzed.

### Statistical Analysis

The data were entered in Microsoft Excel spreadsheet and processed using the Statistical Package for Social Sciences version 20 (SPSS Inc. Chicago, Illinois, USA). Descriptive analysis was done (in percentages).

### RESULTS

Table 1 shows the details of demographic profile of patients including age, sex, and education. The study

Questions asked:	
•	Are you aware of dental implant treatment as an alternative for missing teeth?: Yes/No
•	What alternatives do you know for replacing teeth? <ul style="list-style-type: none"> <li>– Implant-supported dentures/bridges</li> <li>– Complete dentures</li> <li>– Partial dentures</li> <li>– Bridges (fixed partial dentures)</li> <li>– None of the above</li> </ul>
•	If you have heard of dental implants, from where have you heard about it? <ul style="list-style-type: none"> <li>– Newspaper/magazines/articles/journals</li> <li>– Television/radio</li> <li>– Internet</li> <li>– Dentist</li> <li>– Relatives</li> </ul>
•	Are you willing to undergo an implant treatment if needed?: Yes/No
•	What do you think are the limitations of implant-supported crowns/bridges/dentures? <ul style="list-style-type: none"> <li>• High costs</li> <li>• Lack of knowledge</li> <li>• Need of surgery</li> <li>• Long treatment time</li> </ul>
•	Do you think insurance coverage is needed in our country for dental implant treatment?: Yes/No

Fig. 1: Questionnaire

Table 1: Demographic distribution of the study subjects

Demographics	Number (N %)
<b>Age</b>	
Less than 30 years	95 (17%)
31–50 years	124 (22.1%)
51–70 years	212 (37.9%)
More than 70 years	129 (23%)
<b>Gender</b>	
Male	305 (54.5%)
Female	255 (45.5%)
<b>Educational level</b>	
Nil	60 (10.7%)
Primary school	129 (23.0%)
Secondary school	106 (18.9%)
Undergraduate	139 (24.8%)
Postgraduate	80 (14.3%)
PhD	46 (8.2%)

participants consisted of 54.5% males and about 37.9% were aged between 51 and 70 years. Majority of the participants (24.8%) were graduates.

Table 2 shows awareness regarding dental implant as an alternative for missing teeth. Among the 560 respondents, most were aware of dental implants (87.9%).

Table 3 shows alternatives for missing teeth. Among the 560 respondents, most were aware of complete dentures (92.5%).

Table 4 shows information sources regarding dental implant. Among the 560 respondents, most said relatives (41.6%) followed by dentists, newspapers, and internet.

Table 2: Awareness regarding dental implant treatment as an alternative for missing teeth

Question	Yes	No
	Number (N %)	
Are you aware of dental implant treatment as an alternative for missing teeth?	492 (87.9%)	68 (12.1%)
Total	560 (100%)	

Table 3: Alternatives for missing teeth

Question	Number (%)
What alternatives do you know for replacing teeth?	
a. Implant-supported dentures/bridges	0 (0.0%)
b. Complete dentures	518 (92.5%)
c. Partial dentures	0 (0.0%)
d. Bridges (fixed partial dentures)	0 (0.0%)
e. None of the above	42 (7.5%)
Total	560 (100%)

Table 4: Information sources regarding dental implant

Question	Number (%)
If you have heard of dental implants, from where have you heard about it?	
a. Newspaper/magazines/articles/journals	132 (23.6%)
b. Television/radio	52 (9.3%)
c. Internet	78 (13.9%)
d. Dentist	65 (11.6%)
e. Relatives	233 (41.6%)
Total	560 (100%)

**Table 5:** Willingness to consider dental implant treatment

Question	Yes	No
	Number (N %)	
Are you willing to undergo an implant treatment if needed	546 (97.5%)	14 (2.5%)
Total	560 (100%)	

**Table 7:** Insurance coverage needed in our country for dental implant treatment

Question	Yes	No
	Number (N %)	
Do you think insurance coverage is needed in our country for dental implant treatment?	546 (97.5%)	14 (2.5%)
Total	560 (100%)	

Table 5 shows responses of willingness to consider dental implant treatment. About 97.5% of the respondents were willing to consider dental implant treatment if needed.

Table 6 shows limitations of dental implant treatment. About 87.1% of the respondents stated high costs.

Table 7 shows insurance coverage is needed in our country for dental implant treatment. About 97.5% of the respondents thought that dental insurance is needed in our country for dental implant treatment.

## DISCUSSION

This study was conducted to assess the awareness and knowledge of implant-related prosthesis among the patients visiting Pacific Dental College & Hospital, Rajasthan, India.

A total of 560 participants were surveyed and all the willing participants were divided according to different factors as gender, level of education, and age. It was observed that the majority (87.9%) of the respondents had heard about the implants. When these results were compared with other studies, similar findings were observed in the studies done by Saha et al,<sup>8</sup> Kohli et al,<sup>9</sup> and Narayanan et al,<sup>13</sup> but these results were not in accordance with the studies done by Raju et al,<sup>14</sup> Sohail et al,<sup>15</sup> Al-Johany et al,<sup>16</sup> Khosya and Devaraj,<sup>5</sup> and Santhosh Kumar et al.<sup>17</sup>

In this study, participants were not well informed regarding the alternatives of replacement of missing teeth. Participants were only aware about complete denture as an alternative of replacement of missing teeth. Similar results were found in studies conducted by Raju et al,<sup>14</sup> Kohli et al,<sup>9</sup> Al-Johany et al,<sup>16</sup> Narayanan et al,<sup>13</sup> Khosya and Devaraj,<sup>5</sup> and Santhosh Kumar et al.<sup>17</sup> This finding showed the need to increase awareness among the people regarding implant-related treatment options.

This survey noticed that the main information sources regarding dental implants are relatives (41.6%); same

**Table 6:** Limitations of dental implant treatment

Question	Number (%)
What do you think are the limitations of implant-supported crowns/bridges/dentures?	
a. High costs	488 (87.1%)
b. Lack of knowledge	72 (12.9%)
c. Need of surgery	0 (0.0%)
d. Long treatment time	0 (0.0%)
Total	560 (100%)

findings were found in the study done by Al-Johany et al,<sup>16</sup> where relatives (63.2%) were the main source. But other studies done by Kohli et al<sup>9</sup> and Khosya and Devaraj<sup>5</sup> were not in accordance with the present study where dentists were the main source. Other reports indicate media and newspapers as an information source.

Among the participants, 97.5% were willing to undergo an implant treatment if needed, whereas 2.5% refused for implant treatment if needed. This is in agreement with Kohli et al,<sup>9</sup> Santhosh Kumar et al,<sup>17</sup> and Narayanan et al.<sup>13</sup>

Total of 87.1% participants thought high cost as a limiting factor for dental implant treatment. This was in accordance with the study conducted by Saha et al,<sup>8</sup> Al-Johany et al,<sup>16</sup> Kumar et al,<sup>17</sup> and Narayanan et al.<sup>13</sup>

Among the participants, 97.5% stated that insurance coverage is needed in our country for dental implant treatment. Similar findings were found in the study done by Kohli et al.<sup>9</sup>

## CONCLUSION

This survey showed that many patients were not aware of using dental implants as an option for replacing missing teeth. Efforts must be directed at increasing the awareness levels by using media, newspapers, etc., as a source to achieve the target. Oral health education is essential for developing positive behavior among people regarding dental implants. This study also concludes that maximum participants found implant treatment to be very expensive and one of the major factors against the willingness of patients to undergo this treatment. So, efforts should be made to reduce the cost of dental implants to a more affordable rate.

## REFERENCES

1. Naert I, Koutsikakis G, Duyck J, Quirynen M, Jacobs R, van Steenberghe D. Biologic outcome of implant supported restorations in the treatment of partial edentulism. Part I: a longitudinal clinical evaluation. Clin Oral Implants Res 2002 Aug;13(4):381-389.
2. Naert I, Koutsikakis G, Quirynen M, Duyck J, van Steenberghe D, Jacobs R. Biologic outcome of implant supported restorations in the treatment of partial edentulism. Part 2: a

- longitudinal radiographic study. *Clin Oral Implants Res* 2002 Aug;13(4):390-395.
3. Brunski JB. In vivo bone response to biomechanical loading at the bone/dental implant interface. *Adv Dent Res* 1999 Jun;13:99-119.
  4. Lindh T, Gunne J, Tillberg A, Molin M. A meta-analysis of implants in partial edentulism. *Clin Oral Impl Res* 1998 Apr;9(2):80-90.
  5. Khosya B, Devaraj CG, awareness of dental implants as a treatment Modality among people visiting Mahatma Gandhi dental college & hospital, Jaipur. *Natl J Med Res* 2015 Jan-Mar;5(1):61-63.
  6. Sonoyama W, Kuboki T, Okamoto S, Suzuki H, Arakawa H, Kanyama M, Yatani H, Yamashita A. Quality of life assessment in patients with implant-supported and resin-bonded fixed prosthesis for bounded edentulous spaces. *Clin Oral Implants Res* 2002 Aug;13(4):359-364.
  7. Pommer B, Zechner W, Watzak G, Ulm C, Watzek G, Tepper G. Progress and trends in patients' mindset on dental implants. I: level of information, sources of information and need for patient information. *Clin Oral Implants Res* 2011 Feb;22(2):223-229.
  8. Saha A, Dutta S, Vijaya V, Rajnikant N. Awareness among patients regarding implants as a treatment option for replacement of missing teeth in Chhattisgarh. *J Int Oral Health* 2013 Oct;5(5):48-52.
  9. Kohli S, Bhatia S, Kaur A, Rathakrishnan T. Patients awareness and attitude towards dental implants. *Indian J Dent* 2015 Oct-Dec;6(4):167-171.
  10. Chowdhary R, Mankani N, Chandraker NK. Awareness of dental implants as a treatment choice in urban Indian populations. *Int J Oral Maxillofac Implants* 2010 Mar-Apr;25(2):305-308.
  11. Zimmer CM, Zimmer WM, Williams J, Liesener J. Public awareness and acceptance of dental implants. *Int J Oral Maxillofac Implants* 1992 Summer;7(2):228-232.
  12. Berge TI. Public awareness, information sources and evaluation of oral implant treatment in Norway. *Clin Oral Implants Res* 2000 Oct;11(5):401-408.
  13. Narayanan V, Karuppiah P, Rajasekar A, Mayavan LD. Awareness among patients regarding dental implants as a treatment option for replacing missing teeth in Melmaruvathur population. *IJOPRD* 2016 Jan-Mar;6(1):6-9.
  14. Raju CM, Gunupati S, Babu MM, Reddy CSK, Biradavolu S, Saravanan M. Patients' awareness toward Implant-supported prosthesis: an observational study. *J Contemp Dent Pract* 2017 Jan;18(1):49-51.
  15. Sohail M, Aslam H, Ahmed N, Faruqul S, Maqsood A, Ansari MAA, Buksh HA. Awareness, knowledge and reluctance regarding dental implants. *Donn J Dent Oral Hyg* 2016 Nov;2(1):1-4.
  16. 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 Oct;22(4):183-188.
  17. Santhosh Kumar MP, Gayathri MM. Knowledge and awareness among patients about dental implants. *J Pharm Sci Res* 2016 Jan-Mar;8(5):351-354.