

Original Research Article

Awareness, knowledge, and attitude of the patients about dental implant as a treatment option for replacement of missing teeth in Mehsana district of Gujarat

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Abstract:

Context: Lack of awareness is present in the population for dental implants, especially in some areas of Gujarat, especially towards the North side.

Aim: To assess patients' awareness, knowledge, and attitude about the dental implant for missing teeth replacement in the Mehsana district of Gujarat, to assess their information source about the same.

Settings and Design: A self-explanatory questionnaire-based study

Methods and Material: Total 532 patients visited the dental colleges of North Gujarat were asked to fill the questionnaires, 276 patients who were from the Mehsana district of Gujarat were included in the study.

Statistical analysis used: The Pearson Chi-Square Test is used.

Results: Forty-four percent of participants knew about the dental implant treatment. From this, the age group A, that is between 18 and 40 years showed more amount of awareness with the marginal difference between males and females. Only 23.1% of patients wanted the replacement of missing teeth with the treatment of dental implants.

Conclusions: We concluded that less awareness is marked about the treatment of dental implants in the population of the Mehsana district of Gujarat. It required a need provision of proper education to them. Therefore, the patients were provided an education related to the dental implant treatment that helps them in the choice about a proper treatment option for missing teeth replacement.

Key-words: Knowledge, Attitude, Questionnaire

Introduction:

The goal of modern dentistry is to restore the patient to normal function, speech, health, and aesthetics regardless of the atrophy, disease, or injury of the stomatognathic system.^[1] A healthy oral condition has a direct effect on the quality of a patient's life and well-being. As prosthodontists, our main motto is to restore the missing teeth of the patients and provide the best aesthetics, function with the preservation of oral structures.^[2] The loss of natural teeth is associated with functional, cosmetic, and psychological morbidities for a long time.^[3] Removable partial dentures, fixed partial dentures, and dental implants can replace missing teeth. An implant prosthesis often offers a more predictable treatment than conventional dentures and it may also return the function to the near-normal limit.^[1] The use of dental implants for the replacement of missing teeth has been increased since the concept of osseointegration has been accepted.^[4]

As dental implants become popular in different areas, the requirement arises to assess their awareness, knowledge, and attitude in the population, especially in the Northside districts of Gujarat. This study also aims for the evaluation of source of information about dental implant among them and tries to increase the awareness in the participants by the provision of education among them.

Subjects and Methods:

For the present cross-sectional study, we selected the patients who visited the department of Prosthodontics of dental colleges of North Gujarat. Among 432 patients, 276 patients were from the Mehsana district of North Gujarat included in the study while patients coming from other districts of North Gujarat were excluded from the study. The patients at and above the age of 18 years, willing to fill the questionnaire, and at least having a single missing tooth were included in the study. Patients below the age of 18 years and not willing to fill out the questionnaires were excluded from the study. Mentally retarded patients, medically compromised patients, seriously ill patients were also excluded from the study. Written consent forms prepared in the Gujarati language were obtained from the patients. Ethical approval was taken from the institutional ethics committee.

The study was conducted in the patients by asking patients to fill out the questionnaire form that is prepared in the Gujarati language for their actual understanding. It consisted of questions related to the demographic information, questions to find the awareness, knowledge, and attitude of the patients about dental implants, questions related to evaluating the source of information about the dental implant in aware patients. The participants grouped depending on their demographic information in male and female and age group A, B, and C. Age group A notified the age of 18- 40 years; B defined the age from 41-60 years and C was the age above 61 years.

In the beginning, we asked the patients to fill the demographic information, questions related to awareness, knowledge, and source of information related to the dental implant in the questionnaire. Then the patients were made aware by educating them from the education material containing photographs to enhance their understanding and knowledge for the treatment of dental implants. Rest of the questions related to knowledge and attitude for dental implant were asked following their education.

From the completed questionnaires, data related to the responses given by the participants to various questions tabulated by using MS Excel Program and counted as per frequencies and percentages. The Pearson Chi-square test is used for statistical analysis.

Results:

The results showed that 44.2% of the patients are aware and they have knowledge about the dental implant while 55.8% of patients are not aware and they do not know about the dental implant as a treatment option for the replacement of missing teeth (Table-1) (Figure-1). There was a presence of more awareness in age group A (18 to 40 years) as stated in Table-2 (Figure-2). Approximately thirty percent participants showed willingness for dental implant treatment (Table-3). Almost ninety percent participants accepted positive and satisfactory education regarding the dental implant (Table-4).

Only four percent participants have undergone for the dental implant treatment (Figure 3) while 27% of participants know the person who have undergone the dental implant treatment (Figure 4). Sixty seven per cent of the participants agreed for the high cost of the dental implant treatment (Table 5).

Table 1: Gender wise distribution of awareness and knowledge of dental implant

Gender	Participants who are aware and knowing about dental implant		Participants who are not aware and do not know about dental implant		Total	
	n	%	n	%	n	%
Male	n=63	43.4%	n=82	56.6%	n=145	100%
Female	n=59	45.0%	n=72	55.0%	n=131	100%
Total	n=122	44.2%	n=154	55.8%	n=276	100%

(P-Value: 0.791)

Table 2: Age wise distribution of awareness and knowledge of dental Implant

P-Value: 0.001

Age group	Participants who are aware and knowing about dental implant		Participants who are not aware and do not know about dental implant		Total	
	n	%	n	%	n	%
A - From 18 to 40 years	n= 34	77.3%	n=10	22.7%	n=44	100%
B - From 41 to 60 years	n=50	39.7%	n=76	60.3%	n=126	100%
C - 61 years and above	n=38	35.8%	n=68	64.2%	n=106	100%
Total	n=122	44.2%	n=154	55.8%	n=276	100%

Table 3: Willingness of all the participants to opt for dental implant after education

P- Value: 0.001

Age group	Participants who are willing		Participants who are not willing		Total	
	n	%	n	%	n	%
A - From 18 to 40 years	n= 24	54.5%	n=20	45.5%	n=44	100%
B - From 41 to 60 years	n=28	22.4%	n=98	77.6%	n=126	100%
C - 61 years and above	n=12	11.3%	n=94	88.7%	n=106	100%
Total	n=64	23.1%	n=212	76.9%	n=276	100%

Table 4: Satisfaction Rate of all the participants about the information they have received

Satisfied participants		Participants who are not satisfied		Total		P-Value
n=246	89.2%	n=30	10.8%	n=276	100%	0.919

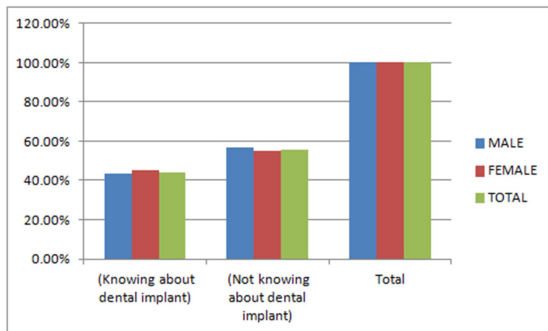


Figure 1: Genderwise distribution of awareness and knowledge of dental implant

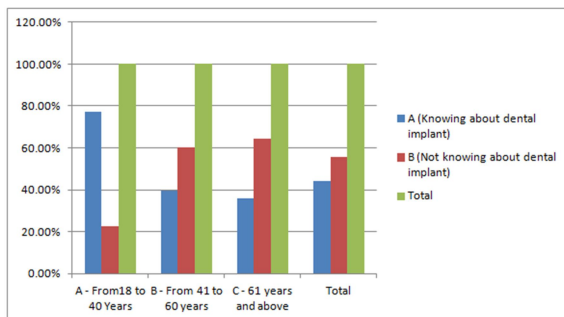


Figure 2: Age wise distribution of awareness and knowledge of dental implant

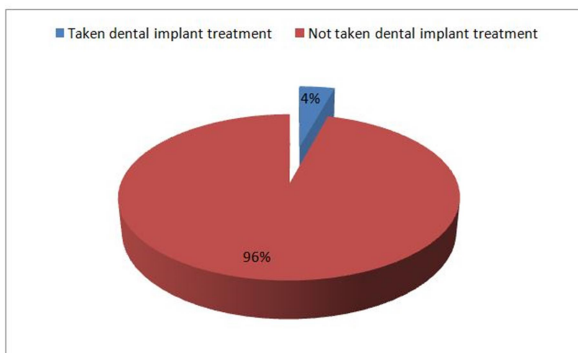


Figure- 3 Participants who have undergone dental implant treatment

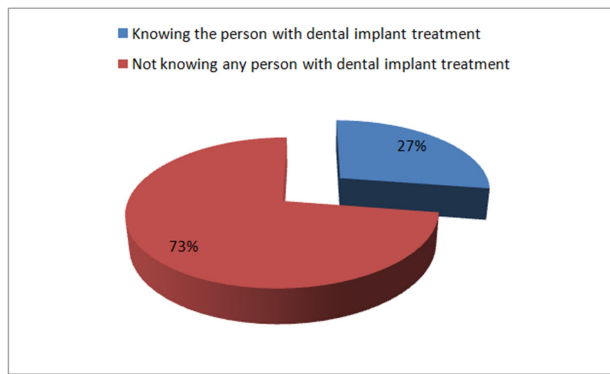


Figure- 4 Participants knowing the person who have undergone dental implant treatment

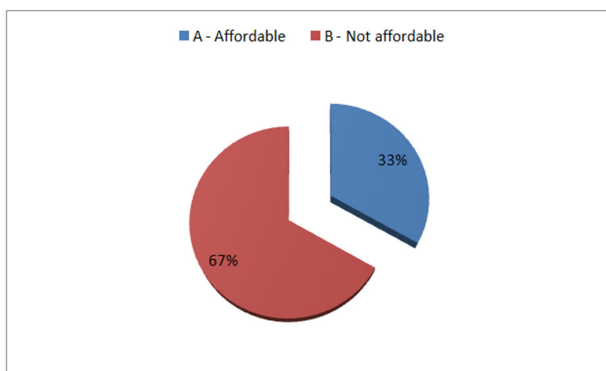


Figure - 6 Response of participants regarding the cost of dental implants

Discussion:

Lack of information is present in the patients about the dental implant as a treatment option to replace the missing teeth, especially in the population of North Gujarat districts. Therefore, the provision of proper education about dental implant treatment is necessary to help the patients in the selection of the most reliable option for the replacement of missing teeth.

Different authors carried out several studies in different areas worldwide by using different tools like questionnaires and interviews. In the present study, a cross-sectional study was conducted by using self-explanatory questionnaires in the Mehsana district of North Gujarat population to evaluate the awareness, knowledge, and attitude about dental implant treatment. Among 532 patients, 272 patients who were from the Mehsana district of North Gujarat were included in the study. From them, 44.2% of patients were aware and knew about dental implant treatment for replacement of missing teeth which is quite higher than the previous studies done by Chaudhary et al, Satpathy A et al, Bhat AM et al in the Indian population in different states. [4], [5],[6] This is because these studies had been done before around ten years of period. The previous studies reported by Suprakash B et al, Gharpure AS et al, Kaurani P et al showed less awareness than the present study. [2],[7],[8] The findings of this study are similar to those cited in studies conducted by Tomruq et al, Devraj CG et al and Shah RJ et al. [9],[10],[11]

Kelala-Kazadi E et al, Baqar et al and Gbadebo OS et al cited less awareness in their studies in Congolese, Karachi patients, and Nigerians respectively. [12],[13],[14] However, the findings of our study are much lesser than

the studies done by Zimmer et al. in Americans, Berge TI in Norwegians, Tepper, et al, Pommer et al in Austrians, and Aboung et al in Saudi Arabians. The awareness reported by them is 77, 72, 70, 79, and 60.44 percent respectively.^{[15],[16],[17],[18],[19]} India is a developing country and we have still a low level of education and awareness as compared to the foreign countries.

Similar to most of the previous studies, this study also reported a marginal difference in the awareness between males and females.^{[7],[20],[21]} Only a study done by Suprakash et al. showed more awareness in males.^[2]

Our study showed more awareness in the age group A that is 18 to 40 years which is similar to those studies reported by Devraj CG et al, Shah RJ et al and Divya et al.^{[9],[11],[22]} The reason behind it may be the inquisitiveness of the young generation.

In this study, 37 percent of patients got information about dental implants from the dentists followed by friends and then by social media. Most of the studies also stated dentists as their main information source.^{[2],[4],[5],[6],[7],[8],[9],[10],[11],[12],[14],[17],[18],[19],[23],[24]} Some previous studies which are done by Baqar A et al, Al-Johani et al and Alajlan A et al. stated friends and relatives as the main source of their information about dental implants.^{[13],[25],[26]} Berge et al reported News media as a major source of information for their awareness and knowledge.^[16]

Just only 4.2% of patients had undergone dental implant treatment (Figure 3). Around Twenty-seven percent of patients knew a friend or relative who has undergone dental implant treatment (Figure 4). From them, 70.9 % reported that they are satisfied with the dental implant treatment. The study conducted by the Supraksh et al showed 3.4 percent and 13.3 percent respectively.^[2] Gharpure AS et al showed 15.91 percent of patients whom themselves had taken the treatment while 55.11% of patients knew the person who had undergone dental implant treatment. From them, 92.24 percent reported satisfaction with the treatment.^[7]

This variation can be due to the area included in the study being the metropolitan city, Mumbai. Other studies were done by Tepper et al and Pommer et al showed a 65% and 83% satisfaction rate in Austrian patients.^{[27],[28]} Forty-nine per cent patients told that the dental implant treatment is not affordable because of its high cost (Figure 5). Various previous studies noted the high cost as a main barrier in opting the dental implant treatment.^{[2],[5],[6],[7],[8],[9],[10],[11],[12],[13],[20],[20],[22],[23],[26]}

Only about twenty-three percent of patients wanted to replace the missing teeth with dental implant treatment. They will think about it and will opt for the treatment in the future. Studies done by Suprakash et al, Devraj CG et al and Kaurani P et al showed similar results accordingly.^{[2],[8],[10]} The studies carried out by Gharpure et al, Satpathy et al, Shah RJ et al Bhat AM et al, Tepper et al, Pommer et al, Shakshi et al, and Thillainayagam D et al, cited quite higher percent of patients willing to opt the dental implant treatment.^{[7],[5],[6],[11],[27],[28],[29],[30]}

In the present study, eighty-nine percent of patients were satisfied by the given education of the dental implant and they felt having sufficient knowledge about dental implant.

The results of this study are influenced by the involvement of a limited population and a short period. A further detailed study is required involving more patients from the wider demographic area.

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