

Knowledge and Attitude of Patients toward Dental Implants as an Option for Replacement of Missing Teeth

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ABSTRACT

Objective: The present study was undertaken to access the level of knowledge and attitude of patients toward implant treatment as an option for replacement of missing teeth.

Materials and methods: An epidemiological study was conducted among 440 subjects who attended the OPD of two Departments (Prosthodontics and Oral and Maxillofacial Surgery). A self-administered structured closed ended questionnaire pre-tested through a pilot survey was used in the study. The data were analyzed using the SPSS version 15.0. The Student's t-test and ANOVA test were used as test of significance.

Results: Out of 440 subjects asked about the knowledge and attitude about implants, only 33.3% had heard of implants as a treatment modality and dentists were the main source of information. Very few people had undergone implant surgery. The level of awareness increased with education. The main factor for not having implants was due to its high treatment charges. However, they were interested to know more about the implant treatment modality.

Conclusion: The survey was conducted in a dental institute and majority of the participants were unaware about dental implants. It also showed that need for providing more information to the patients about this treatment modality.

Keywords: Dental implants, Knowledge, Attitude, Patients.

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INTRODUCTION

Common oral conditions have been shown to have a substantial effect on well-being and quality of life. The loss of one or more natural teeth often results in disability, as essential daily living activities, such as speaking and eating are impaired, and also in handicap, for example, by

decreased social interaction because of embarrassment associated with denture wearing.¹

The main role of prosthodontics is the rehabilitation of patients after loss of teeth and oral function. However, there are generally no accepted rules about how to estimate need, demand or utilization of prosthodontic services in most situations, since individual preferences play a very important role. Individuals with less education and low income tend to have poorer dental status because of poor finances.² Hence, these individuals do not even consider treatments they know they cannot afford.³ Also, older individuals accustomed to their conventional dentures do not show interest in implant treatment.²

Moreover, a large number of patients experience difficulties in adapting to removable prostheses, while a smaller number are unable to accept removable prostheses at all. This may be explained by anatomical, physiological, psychological, and/or prosthodontic factors.⁴ Functional tests have demonstrated inferior masticatory ability in subjects with removable prostheses in comparison to dentate controls.⁵ Even with excellent prostheses, many patients experience difficulty with denture retention, speech and mastication.⁶

However, with the advent of new technology more restorative options have become available thereby, changing the face of demand for prosthodontic treatment. Among these, implant treatment has come into focus, since it provides excellent long-term results in rehabilitation of partially or completely edentulous patients.⁷

An implant-retained prosthesis provides greater stability, improved biting and chewing forces, and higher client satisfaction than a conventional denture.⁸ Despite of the new available restorative options, it is observed that there are substantial barriers between both need and demand and between demand and utilization.⁹ This is possibly due to the lack of information and awareness among the people.

Also the financial cost lays a question mark in the people who are aware about implants. Thus, this study was planned to evaluate the knowledge and attitude of patients toward implant treatment as an option for replacement of missing teeth.

MATERIALS AND METHODS

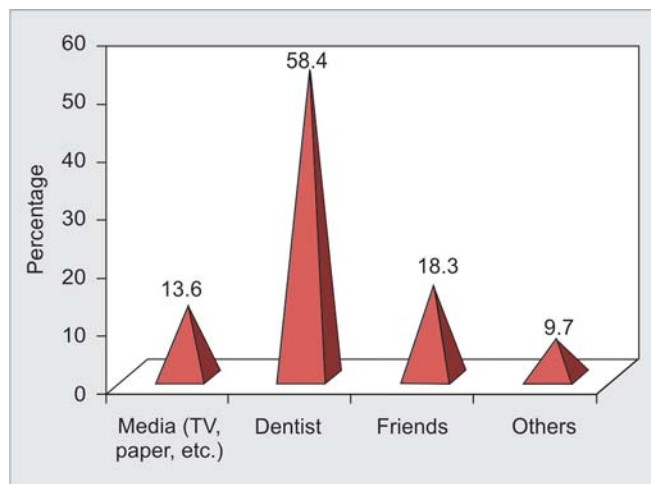
This descriptive cross-sectional study was done over a period of 2 months to access the knowledge and attitude of patients toward dental implants as an option for replacement of missing teeth. Prior to data collection ethical approval was obtained from the college and informed consent was taken from all the participants. A pilot study was conducted among 20 participants and a sample size of minimum 440 patients was finalized. All the patients who attended the OPD of two Departments (Prosthodontics and Oral and Maxillofacial Surgery) and above 15 years of age were included in the study during the mentioned time period. Data was gathered using a self-administered structured closed ended questionnaire. The questionnaire addressed information like; have you undergone treatment for dental implants, knowledge of dental implants, sources of information, have you seen implant in any other patient, choice of treatments regarding replacement of missing teeth, various constraints in implants treatment, etc.

Data Analysis

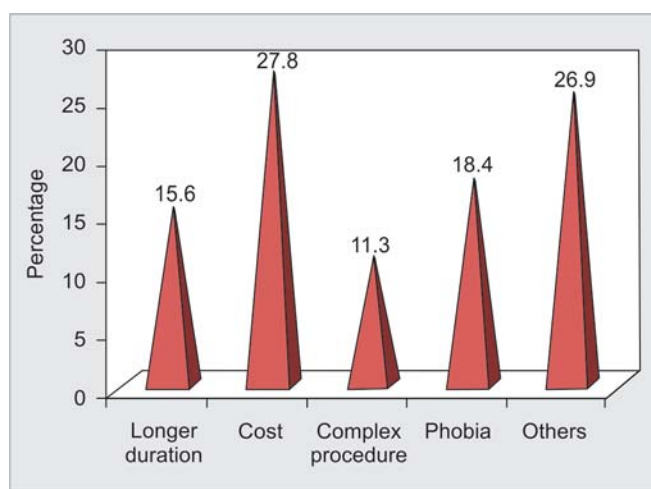
A master chart was created in Microsoft Excel (2007) for the purpose of data analysis. The statistical software namely SPSS version 15.0 was used for the analysis of the data. Descriptive statistics were obtained and frequency distribution, means, standard deviation were calculated using Student's t-test and ANOVA test at $p < 0.05$.

RESULTS

A total of 500 patients were contacted, of whom only 440 agreed to participate. They were further divided according to gender, education, age and location as mentioned in tables. When information was gained regarding knowledge and attitude of patients toward implants only 33.3% were aware of implant treatment and just 3.4% of them had undergone implant surgery. Similarly few participants (13.3%) had seen dental implants in any other person. Most of the participants (70.0%) had shown positive attitude in having information regarding implants and around 16.0% were willing to undergo implant procedures. Dental professionals were the main source of information regarding implants followed by friends, media (TV, radio, newspaper, internet, etc.), and others (Graph 1). Most of the subjects mentioned that high cost is associated with dental implant



Graph 1: Percentages of the different sources of the patients about dental implants



Graph 2: Percentages of different factors for not having dental implants

treatments as a common factor for rejecting this type of care. Some people have different priorities like other prosthesis. Around 18% had fear of it as implantology in many respects touches upon the most complex areas of state-of-the-art dentistry. Few subjects had a perception that the time taken and the number of treatment visits may be a barrier (Graph 2).

A significant gender difference was observed in the knowledge and attitude, with females having a lower mean scores compared with males ($p = 0.000$) (Table 1). Similarly, regarding area urban people showed more positive scores than rural ones ($p = 0.000$) (Table 2). Knowledge and attitude of patients toward implants increased with increase in education and decreased with increased in age as shown in Tables 3 and 4.

DISCUSSION

The present survey gives information about subjects' knowledge and attitude related to dental implants as an

Table 1: Knowledge and attitude of patients toward dental implants as an option for replacement of missing teeth according to gender using Student's t-test

Sex	No.	Mean	Std. deviation	p-value
Male	263	1.3992	0.4906	0.000*
Female	177	1.2486	0.4334	—

Table 2: Knowledge and attitude of patients toward dental implants as an option for replacement of missing teeth according to location using Student's t-test

Location	No.	Mean	Std. deviation	p-value
Urban area	180	1.5000	0.5013	0.000*
Rural area	260	1.2269	0.4196	—

Table 3: Knowledge and attitude of patients toward dental implants as an option for replacement of missing teeth according to education level using ANOVA test

Education	No.	Mean	Std. deviation	p-value
Nil	112	1.0000	0.0000	—
Primary	74	1.2027	0.4047	0.000*
Secondary	149	1.3960	0.4907	—
Graduation	105	1.7143	0.4539	—

Table 4: Knowledge and attitude of patients toward dental implants as an option for replacement of missing teeth according to age groups using ANOVA test

Age	No.	Mean	Std. deviation	p-value
15-30 years	90	1.8333	0.3747	—
16-45 years	150	1.2000	0.4013	0.000*
≥46 years	200	1.2200	0.4152	—

option in replacing missing teeth. Around one million dental implants are inserted each year, worldwide.¹⁰ However, information which is available to the patients regarding the procedure and its success, is often fragmentary. This problem is more compounded in developing nations. In the present study, awareness regarding implants were among 33.3% participants which was very less than other studies done by Zimmer et al (1992),¹¹ Berge (2000),¹² and Tepper et al (2003)¹³ which reported the level of awareness as 77, 70.1 and 72%, respectively. It could be due to low level of education in the study sample as most of the people belong to rural community. But the results of the present study were higher than Chowdhary R et al among Indian population in 2010.⁵

In the present study it was found that dentists were the main source of information regarding implants which was similar to the findings of Johany SA et al¹⁴ (2010) and Chowdhary R et al⁵ (2010). This clearly indicates the lack of efforts by dentists and the governing bodies regarding taking necessary steps for creating awareness amongst the people. However, studies conducted by Zimmer et al¹¹ (1992), showed that media was found to be the main source of information about dental implants, while the dentists were

the source for such information in not more than 17% of the cases. Berge (2000)¹² and Best (1993)⁶ also found that, the media was the main source of information; while dentists played a secondary role at best. Akagawa et al (1988)¹⁵ in their study concluded that, dentists provided not more than 20% of the information.

When questions were asked regarding constraints of implants, most of them mentioned high cost as the major factor. Some patients think that, the implant is a major surgical procedure because of the use of the word surgery. Similar results are obtained in most of the previously mentioned studies (Kaurani P et al (2010),¹⁶ Johany SA et al (2010),¹⁴ Tepper et al (2003),¹³ Kent (1992)¹⁷ and Zimmer et al (1992).¹¹

Considering the influence of education on knowledge and attitude toward dental implants, it was found that all the scores increased from illiteracy level to graduation level. Similar findings were observed in a study conducted by Kaurani P et al (2010),¹⁶ Syed et al (2009) and Hasnain F et al (2009).¹⁸ Age also showed differences in treatment wise as younger people being more enthusiastic and educated were having knowledge for this treatment in large numbers. In general, males had better knowledge and attitude than females which was in contrast with other studies Polychronopoulou et al (2005)¹⁹ and Kawamura et al (2005).²⁰

CONCLUSION

The present study concluded that patients knowledge and attitude towards implants was below average as an option for replacing missing teeth. Dentists were the main sources of information regarding dental implants among all participants. The high treatment charge of the implants is one of the major factor against the willingness of patients to undergo this treatment. It also showed the need for providing more general and correct information to the patients about this treatment modality.

REFERENCES

1. Allen PF, McMillan AS, et al. A patient-based assessment of implant stabilized and conventional complete dentures. *J Prosthetic Dent* 2001;85(2):141-47.
2. Bhat AM, Prasad KD, Sharma D, Hegde R. Attitude toward desire for implant treatment in South Coastal Karnataka population: A short-term epidemiological survey. *Int J Oral Implantol Clin Res* 2012;3(2):63-66.
3. Salonen MA. Assessment of states of dentures and interest in implant-retained prosthetic treatment in 55-year-old edentulous Finns. *Community Dent Oral Epidemiol* 1994;22(2):130-35.
4. Balsi TJ, Wolfinger GJ, Hernandez RE. Patient attitude before and after dental implant rehabilitation. *Implant Dent* 1994;3: 106-09.

5. Chowdhary R, Mankani N, Chandraker NK. Awareness of dental implants as a treatment choice in urban Indian populations. *Int J Oral Maxillofac Implants* 2010;25(2):305-08.
6. Best HA. Awareness and needs of dental implants by patients in New South Wales. *Aust Prosthodont J* 1993;7:9-12.
7. Narby B, Kronstrom M, Soderfeldt B. Changes in attitudes towards desire for implant treatment: A longitudinal study of a middle age and older Swedish population. *Int J Prosthodont* 2008;21:481-85.
8. Eckert S, Koka S, Wolfinger G, Choi Y. Survey of implant experience by prosthodontists in the United States. *J Prosthodont* 2002;11:194-201.
9. Akeredolu PA, Adeyemo WL, Gbotolorun OM, James O, Olorunfemi BO, Arotiba GT. Knowledge, attitude and practice of dental implantology in Nigeria. *Implant Dent* 2007;16(1): 110-18.
10. 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;22(2):223-29.
11. Zimmer CM, Zimmer WM, Williams J, Liesener J. Public awareness and acceptance of dental implants. *Int J Oral Maxillofac Implants* 1992;7(2):228-32.
12. Berge TI. Public awareness, information sources and evaluation of oral implant treatment in Norway. *Clin Oral Implants Res* 2000;11(5):401-08.
13. Tepper G, Haas R, Mailath G, Teller C, Zechner W, Watzak G, et al. Representative marketing-oriented study on implants in the Austrian population. I. Level of information, sources of information and need for patient information. *Clin Oral Implants Res* 2003;14(5):621-33.
14. Johany SA, Zoman HAA, Juhaini MA, Refeai MA. Dental patients' awareness and knowledge in using dental implants as an option in replacing missing teeth: A survey in Riyadh, Saudi Arabia. *The Saudi Dental J* 2010;22:183-88.
15. Akagawa Y, Rachi Y, Matsumoto T, Tsuru H. Attitudes of removable denture patients toward dental implants. *J Prosthet Dent* 1988;60(3):362-64.
16. Kaurani P, Kaurani M. Awareness of dental implants as a treatment modality amongst people residing in Jaipur (Rajasthan). *J Clin Diagn Res* 2010; 4:3622-26.
17. Kent G. Effects of osseointegrated implants on psychological and social well-being: A literature review. *J Prosthet Dent* 1992; 68(3):515-18.
18. Singh K, Kochhar S, Mittal V, Agrawal A, Chaudhary H, Anandani C. Oral health: Knowledge, attitude and behaviour among Indian population. *Educational Research J* 2012;3(1): 66-71.
19. Polychronopoulou A, Kawamura M. Oral self-care behaviour: Comparing Greek and Japanese dental students. *Eur J Dent Educ* 2005;9(4):164-70.
20. Kawamura M, Yip HK, Hu DY, Komabayashi T. A crosscultural comparison of dental health attitudes and behaviour among freshman dental students in Japan, Hong- Kong and West China. *Int Dent J* 2001;51(3):159-63.

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