

Awareness and Knowledge of Dental Implants as an Option for Replacing Missing Teeth: A Survey in Hyderabad, India

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ABSTRACT

Introduction: Awareness among patients regarding use of implants is in need and for which effective and adequate communication is vital. Aims and Objectives: To gauge the awareness and knowledge regarding dental implants as an option of treatment to replace missing teeth among patients in Hyderabad, India.

Material and Methods: A standardized self-explanatory questionnaire was prepared and distributed in five dental clinics of Hyderabad. The questionnaires were handed to the patients during their regular dental visits. A total of 450 subjects were included in this survey.

Results: We found that 62.5% (250) patients had some knowledge about dental implants. The main source of information regarding dental implants was from their friends and relatives (35%; 140 subjects) and dentists being the secondary source for 30% (120) of the sample. The major hindering factor that prevents patients from choosing implants was cost effectiveness in 87.5% (350) of the cases.

Conclusion: The awareness and knowledge about dental implants in the subjects were acceptable among a selected sample of dental patients in Hyderabad, India. Still there is a need for providing more general and accurate information to the patients about this latest treatment modality.

Keywords: Implant, Missing Teeth, Complete Denture, Removable Partial Denture, Fixed Partial Denture.

INTRODUCTION

For practicing dentists, it is imperative to know whether patients today are aware of dental implants as a treatment option and whether the information that they have is close to reality. For many years, the most commonly used prosthetic option to replace missing tooth was fixed dental prostheses (FDPs). However, the preparation of the two abutment teeth causes unnecessary hard tissue loss. Subsequently, implant supported FDPs have been developed as an effective solution for this situation. Currently, dental implants are widely accepted as a prosthetic treatment of completely or partially edentulous patients. This led to widespread acceptance and popularity of dental implants within the dental professional community. The level of awareness of dental implant treatment varies among several studies in different countries.¹⁻³

The awareness was 60.9% in Turkey, 39.8% in Pakistan, 52.6% in Nepal, 85% in America, and 79% in Austria.⁴⁻⁸ In India, different surveys resulted in different percentages (25%–33%).^{9,10}

Knowing what the patients know about implants helps to match the patients' expectations with what can realistically

be achieved to ward off a negative image of implant dentists caused by a communications gap and by consumer discontent. Hence, the present study was carried to evaluate the awareness and knowledge regarding dental implants as an option of treatment to replace missing teeth among patients in Hyderabad, India.

MATERIAL AND METHODS

A standardized self-explanatory questionnaire was prepared and distributed in five dental clinics of Hyderabad. The questionnaires were handed to the patients during their regular dental visits. A total of 450 subjects were included in this survey. The questionnaire was based on Tepper et al.¹¹ The final questionnaire comprised of 17 questions to assess the following aspects:

Level of information about dental implants as an option in replacing missing teeth.

Level of acceptance of dental implants as a treatment option compared to other conventional treatment modalities.

The questionnaires were handed to the patients during their regular dental visits.

STATISTICAL ANALYSIS

Data were expressed as mean±SD and analyzed by software SPSS Version 20 (IBM SPSS Statistics for Windows, IBM Corp., Armonk, NY: USA). Chi-square test and independent two sample 't'-test for unpaired samples were used. A P value < 0.05 was considered as significant.

RESULTS

Out of 450 distributed questionnaires, 400 responded (88.88%). Majority of the subjects were between 30-40 years (45%), followed by 26.25% in the subjects between 40-50 years (Table 1).

71% (284) were males and 29% (116) were females (Table 2).

Regarding the questions for assessing knowledge and awareness about different ways of treatment in replacing

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S no	Age range in years	Number of subjects	Percentage of subjects
1	20-30	80	20%
2	30-40	180	45%
3	40-50	105	26.25%
4	Above 50	35	8.75%
5	Total	400	100%

Table-1: Distribution of Subjects according to Age

S no	Gender	Number of subjects	Percentage of subjects
1	Male	284	71%
2	Female	116	29%
3	Total	400	100%

Table-2: Distribution of Subjects according to Gender

S no	Modality of treatment	Number of subjects	Percentage of subjects
1	Removable dentures	345	86.25%
2	Fixed partial dentures	325	81.25%
3	Dental implants	252	63%
4	Total	400	100%

Table-3: Distribution of Subjects according to their Awareness about Various Modalities of Replacing Missing Teeth

S no	Site of dental implant placement	Number of subjects	Percentage of subjects
1	The jawbone	225	56.25%
2	In the gingiva	85	21.25%
3	Neighbouring teeth	35	8.75%
4	Did not know	55	13.75%
5	Total	400	100%

Table-4: Awareness Among Subjects About Site of Dental Implant Placement

S no	Life span of dental implant	Number of subjects	Percentage of subjects
1	Less than 5 years	40	10%
2	5 To 10 years	75	18.75%
3	10 To 15 years	150	37.5%
4	15 To 20 years	125	31.25%
5	Did not know	50	12.5%
6	Total	400	100%

Table-5: awareness among subjects about life span of dental implants

S no	Cause implant failure	Number of subjects	Percentage of subjects
1	Poor oral hygiene	180	45%
2	Quality of the dental implant and treatment provided by the dentist	120	30%
3	Did not know	100	25%
4	Total	400	100%

Table-6: Awareness among subjects about causes of implant failure

S no	Ideal care and hygiene of dental implants	Number of subjects	Percentage of subjects
1	Implants should be cleaned similar to natural teeth	80	20%
2	Implants need more care than natural teeth	260	65%
3	Implants need less care than natural teeth	60	15%
4	Total	400	100%

Table-7: awareness among subjects about the ideal care and hygiene of dental implants

missing teeth, 86.25% (345) were aware about removable dentures, 81.25% (325) were aware about fixed partial dentures, and 63% (252) were aware about dental implants (Table 3).

Regarding the questions assessing about the level of general knowledge about dental implants, 56.25% (225) of subjects were of opinion that dental implant is placed in the jawbone, whereas 21.25% (85) thought that it is placed in the gingiva, 8.75% (35) thought that it is placed in the neighbouring teeth and 13.75% (55) of the sample did not know where the dental implants are placed (Table 4 and Graph 4).

The question regarding the life span of dental implants gave varied answers, with 40 (10%) of subjects thought that it is less than 5 years, 75 (18.75%) from 5 to 10 years, 150 (37.5%) from 10 to 15 years, 125 (31.25%) from 15 to 20 years and 50 (12.5%) did not know (Table 5 and Graph 5).

Regarding the causes of implant failure, 45% (180) of the subjects were of opinion that that implant failure could be due to poor oral hygiene, 30% (120) due to the quality of the dental implant and treatment provided by the dentist, and remaining 25% (100) did not know the cause of implant failure (Table 6 and Graph 6).

Regarding the question about the ideal care and hygiene of dental implants, 20% (80) said that implants should be cleaned similar to natural teeth, 65% (260) said it needs more care than natural teeth, while 15% (60) were of opinion that implants need less care than natural teeth (Table 7 and Graph 7).

Regarding the source of information, the main source of information regarding dental implants was from their friends and relatives (35%; 140 subjects) and dentists being the secondary source for 30% (120) of the sample. The major hindering factor that prevents patients from choosing implants was cost effectiveness in 87.5% (350) of the cases.

DISCUSSION

The positive outcomes of dental implants have been confirmed by various studies conducted ever since dental implants were introduced. Thus, it is important to know the knowledge and awareness of patients toward the use of dental implants as a choice for treatment of extracted teeth. In developing countries, people's awareness and knowledge about different options for replacement of missing teeth is still growing, and this was confirmed by the result of this

survey.^{4,6}

In this study, the patients were examined face to face by our investigators, and hence the results were more accurate as compared with other methods of data collection, such as using mails, handouts, or phone interviews. The oral maintenance of healthy tissue around the dental implants is a key factor to obtaining long-term success. Dental hygiene and care including using soft toothbrushes, interproximal brushes, specially designed cleaning instruments made from hard plastics, and mouth rinses help to prevent peri-implant disease.⁵⁻⁸

We found that 63% (252) had some knowledge about dental implant as an option in replacing missing teeth. This is similar to the findings of Zimmer et al. (1992), Berge (2000) and Tepper et al. (2003a) who reported the level of awareness as 77%, 70.1% and 72%, respectively.¹¹⁻¹³

Our study also showed that the main source of information about dental implant was from their friends and relatives (35%; 140 subjects) and dentists being the secondary source for 30% (120) of the sample. This is different than what were published before. The survey made by Zimmer et al., showed that, the 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.¹³ Berge (2000) also found that, the media was the main source of information; while dentists played a secondary role at best Akagawa et al. (1988) in their study concluded that, dentists provided not more than 20% of the information.^{12,14,15,16,17}

CONCLUSION

The results of this survey among a selected sample indicated that the majority of the questioned participants were aware about dental implants, their uses, or their advantages and disadvantages. Still there is a need for bringing more awareness about dental implants by implementing various public awareness campaigns and establishing counseling centers in the patient outpatient ward of private dental clinics and dental colleges. Special effort is needed to improve the knowledge among females and less educated population. Efforts should be made to lower the cost of the implants so that they can be made affordable to all.

REFERENCES

1. Sulieman Al-Johany, Hamad A. Al Zoman, Mohannad Al Juhaini, Mohannad Al Refeai. 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: 183–188.
2. Hussain M Kinani et al. Awareness and knowledge of the general public at southern region of Saudi Arabia regarding dental implants. *Journal of International Medicine and Dentistry* 2018; 5: 63-71.
3. 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.
4. Tomruk CO, Ozkurt-Kayahan Z, Sencift K. Patients' knowledge and awareness of dental implants in a Turkish sub-population. *J Adv Prosthodont* 2014; 6: 133-137;
5. Malik A, Afridi JI and Ehsan A. Knowledge, perception and choice of dental implants as a treatment option for patients visiting the University College of Dentistry, Lahore- Pakistan. *Pak Oral Dent J* 2014; 34: 560-563.
6. Suwal P, Basnet BB, Shrestha B, Parajuli PK and Singh RK. Knowledge, attitude, and awareness regarding dental implants among patients visiting a university hospital and its teaching districts. *J Dent Implant* 2016; 6: 57-61.
7. Deeb G, Wheeler B, Jones M, Carrico C, Laskin D, Deeb JG. Public and Patient Knowledge about Dental Implants. *J Oral Maxillofac Surg* 2017; 75:1387-91.
8. Pommer B, Zechner W, Watzak G, Ulm C, Watzek G and 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: 223-9.
9. Kumar S, Chauhan A. Knowledge and Awareness of Dental Implants in India: An Exploratory Study. *Int J Oral Health Med Res* 2015; 2:29-33.
10. Suprakash B, Ahammed AR, Thareja A, Kandaswamy R, Kumar N and Bhondwe MS. Knowledge and Attitude of Patients toward Dental Implants as an Option for Replacement of Missing Teeth. *J Contemp Dent Pract* 2013; 14:115-8.
11. Tepper G., Haas R., Mailath G., Teller C., Zechner W., Watzak G. 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;14:621–633.
12. Berge, T.I. Public awareness, information sources and evaluation of oral implant treatment in Norway. *Clin. Oral Implants Res.* 2000;11:401–408.
13. Zimmer, C.M., Zimmer, W.M., Williams, J., Liesener, J. Public awareness and acceptance of dental implants. *Int. J. Oral Maxillofac. Implants* 1992;7: 228–232.
14. Akagawa, Y., Rachi, Y., Matsumoto, T., Tsuru, H. Attitudes of removable denture patients toward dental implants. *J. Prosthet. Dent.* 1988;60:362–364.
15. Tun kz, Oo MC, Ko KK, Aung PL oral health related quality of life & a number of remaining teeth among elderly in Tha-bar-wa centre Thanlyian township, Yangon, Myanmar. *J Int oral health* 2018;10:293-8
16. Alqefari J, Albelaihi, Elmoazen R, Bilal R. three dimensional assessment of the oral health related quality of life undergoing fixed orthodontic therapy, *J Int soc prevent communit dent* 2019;9:72-6
17. Bennadi D, Reddy C. Oral health related quality of life. *J Int Soc Prevent Communit* 20133:1-6

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