

## Patient's Knowledge Regarding Dental Implants in Tabriz, Iran

Faramarzi, M.\* Shirmohammadi, A. \*\* Chisazi, MT. \*\* Kashefimehr, A. \*\*\*  
Farhoodi, E. \*\*\*\* Omrani, A. \*\*\*\*\*

\*Associate Professor, Dept. of Periodontics, Dental Faculty, Tabriz University of Medical Sciences, Tabriz, Iran.

\*\*Assistant Professor, Dept. of Periodontics, Dental Faculty, Tabriz University of Medical Sciences, Tabriz, Iran.

\*\*\* Associate Professor, Dept. of Periodontics, Dental Faculty, Tabriz University of Medical Sciences, Tabriz, Iran.

\*\*\*\*Post-graduate student of Periodontics, Dental Faculty, Tabriz, Iran.

\*\*\*\*\*Dentist.

### ABSTRACT

**Statement of the Problem:** Replacement of missing or lost teeth with dental prostheses supported by dental implants has been accepted and received positive evaluations from patients who have undergone implant treatment.

**Purpose:** The aim of this study was to evaluate the level of patient knowledge about dental implants among a selected sample of dental patients in Tabriz, Iran.

**Materials and Methods:** A total of 150 patients were selected from among those referring to Tabriz dental school. Patients' knowledge regarding dental implants was evaluated through a questionnaire.

**Results:** The results of this study indicate that 60% of the subjects knew about dental implants. So that in 42% patients, dentists were the main source of information about dental implants.

**Conclusion:** The survey concluded that an acceptable number of patients had heard of dental implants as a treatment option for replacing missing teeth, with dentists being the main source of information.

**Keywords:** Dental Implants, Missing tooth, Patient Medication Knowledge.

### INTRODUCTION

Dental implants were originally used for the treatment of edentulous patients and are associated with improved denture retention, stability, functional efficiency, and quality of life.<sup>(1-6)</sup> Although replacement of lost teeth with dental implants is considered as a positive experience by patients, but patient's awareness of evidence-based treatments is dispersed and data that is given by media doesn't reflect evidence-based information.<sup>(7)</sup>

A recent study shows that in public media such as journals and television, some

**Corresponding Author:** A. Shirmohammadi  
Address: Dept. of Periodontics, Dental Faculty, Tabriz University of Medical Sciences, Golgasht St. Tabriz, Iran. E: mail: shirmohammadi@yahoo.com

negative reports were given about dental implant.<sup>(8)</sup>In a professional society it is necessary that information given to be true. Awareness of cognition of patients about dental implants can help with evaluation of their expectations and those which can be obtained in reality and it can also prevent from a negative image of patient from dentist that is due to communication gap and user's disapproval.<sup>(8)</sup> Many investigations have been done about patient's awareness of dental implants. The level of awareness of dental implant treatment varies among several studies in different countries. In a study by Zimmer et al <sup>(9)</sup> among 120 American subjects, public awareness of dental implants

was found to be high as well. They also reported that implant-supported rehabilitations were esthetically more attractive than removable prosthesis. A survey report from Australia showed that the awareness rate of dental implant procedure was 72% and 42% of those who questioned said that they were not informed at all about dental implants, while only 4% said they were well-informed about dental implant.<sup>(8)</sup> Another survey found an acceptable level of awareness about dental implants among a selected sample of dental patients in Riyadh.<sup>(10)</sup> It showed the need for providing more general and accurate information to the patients about this treatment modality.<sup>(10)</sup> Information about dental implants can be provided by various means. In some countries media can play a major role in public dental education and contribute to an increased level of awareness about dental implants. The study of Tapper et al<sup>(8)</sup> in Australia showed that 77% of people who were asked about dental implants had some information but they got their information from media rather than their dentists. Another study in India showed that only 23.24% of people consider dental implants as a replacement for lost teeth and they have got their information from dentists.<sup>(11)</sup> Considering this fact that such study hasn't been done in Iran yet, thus, the aim of this study was to evaluate the level of patient knowledge about dental implants among a

selected sample of dental patients in Tabriz, Iran.

## **MATERIALS AND METHODS**

This descriptive cross-sectional study is done in Dental Faculty of Tabriz in 2011. A total of 150 people were selected randomly from patients who were referred to Dental Faculty of Tabriz. A standard questionnaire with 10 open as well as multiple choice questions was delivered to patients. The questionnaire was adapted from a previous study performed by Rustemeyer et al.<sup>(12)</sup> the questionnaire comprised some questions to assess the following aspects:

1. Level of information about dental implants as an option in replacing missing teeth.
2. Level of acceptance of dental implants as a treatment option compared to other conventional treatment modalities.
3. Source of information about dental implants.

The validity of questionnaire was approved by three faculties and the reliability of questionnaire determined via Cronbach's alpha. It is proved that this questionnaire has the ability to measure awareness of patient about dental implants. Questionnaire which was answered by more than 70 % were enrolled in this study. Descriptive statistics were generated to summarize the responses we used T-test and Chi-square test to analyze data and significant level was 0.05.

## **RESULTS**

Of the 150 persons approached, 74 male and 76 female answered the questionnaire. The average of age in male patients was  $35.52 \pm 12.20$  and  $35.06 \pm 10.24$  among female patients. There was no significant difference in average of age within two genders ( $p=0.802$ ). Only two of patients had a background of implant use before. The response of patients to questionnaire is listed in the Table 1.

Of the respondents who had heard about dental implants, 60% patients (42 male, 48 female) were positive and 40% patient were negative. There is no significant difference between males and females ( $P=0.424$ ). The most common (42%) first source of information on the subject of implants was the dentist. Friends and media were relatively seldom the first source. Concerning oral hygiene in the care of implant 33.4% of the patients questioned expected an implant to require more care than natural teeth, 25.4% of the patients estimated the care to be similar. Only 6% of the patients expected that less care would be needed and 35.4% of patients had no idea about this question. There is no significant difference between males and females ( $P=0.276$ ).

With regard to the durability of implants, 12% of the patients expected them to last between 10 and 20 years. Only 6% of the patients estimated the durability to be less

than 10 years, 4.7% of the patients expected durability between 21 and 25 years and 70.7% of the patients had no idea. In the most of the patients (70.7%) functional outcome of the dental implants was very important. 44.4% of the patients had an experiences by themselves/relatives and outcome of implant therapy was successful in 8% patients of who had positive experience. 86% of the patients believed that dental implants have no effect on systemic health. Most of patients (42.6%) answered that the effect of implant treatment in comparison with common prosthesis is more.

Table 1: Patient questionnaire to evaluate knowledge and expectations regarding implants

Questions	Answer	Gender		P value
		Males	Females	
1. Have you ever heard anything about dental implants?	Yes	28.0%	32.0%	0.424
	No	21.3%	18.7%	
2. What were your first sources of information about implants?	Newspaper	3.3%	-	0.073
	Television	8.7%	10.0%	
	Dentist	18.0%	24.0%	
	Friends	19.3%	14.7%	
	Patients	-	2.0%	
3. What do you anticipate as oral hygiene for the care of implants compared with natural teeth?	More	16.7%	16.7%	0.276
	Similar	14.7%	10.7%	
	Less	1.3%	4.7%	
	No idea	16.7%	18.7%	
4. What do you estimate as the functional life of an implant (years)?	<10	2.7%	3.3%	0.457
	10-20	6.0%	6.0%	
	21-25	2.0%	2.7%	
	>25	2.7%	4.0%	
	No idea	36.0%	34.7%	
5. Up to which amount are you prepared to pay as an additional payment for implant?	<400	28.0%	37.0%	0.334
	<800	-	7.3%	
	<1000	3.3%	9.3%	
	Covered by insurance	18.0%	3.3%	
6. How important for you is the functional outcome of implant supported prosthesis?	Not very important	5.3%	3.3%	0.356
	Important	10.0%	12.0%	
	Very important	28.0%	32.7%	
	No idea	6.0%	2.7%	
7. Have you heard about experience with implants from your friends?	Yes	16.7%	24.7%	0.064
	No	32.7%	26.0%	
8. When yes, how successful was the implant?	Successful	3.3%	4.7%	0.456
	Partially	4.0%	6.0%	
	Not successful	9.3%	14.0%	
9. Have you ever heard about effects of dental implant on systematic health?	Yes	4.7%	9.3%	0.114
	No	44.7%	41.3%	
10. How are the effects of implant treatments in comparison with common prostheses treatments?	More	23.3%	19.3%	0.096
	Similar	2.7%	4.7%	
	Less	-	3.3%	
	No idea	23.3%	23.3%	

## DISCUSSION

Tooth loss either can due to oral disorders such as caries, gingival and osseous disease or other reasons as well as accidents and iatrogenic procedures, and it can effect on apparent status of persons, more important than that, it effects on their confidence. So using preservative treatments such as implants are received and its success rate is

reported 94%.<sup>(13)</sup>The present survey gives information about subjects' knowledge and their need for more information related to dental implants as an option in replacing missing teeth, in a selected sample of dental patients in Tabriz, Iran. A study showed that much patient believed usage of dental implants increased the quality of life.<sup>(14)</sup> Zimmer et al<sup>(9)</sup> found through a survey in the

USA that only 17% of 120 participants obtained information about implants first from dentists, with media and friends (77%) playing much more important role. Another study in Netherlands showed 52% of patients received their information from written public press or from relatives.<sup>(15)</sup> In our study 34% of patients received initial information from friends and 18.7% of them received from radio and TV. A study in Japan was reported just 20% of patients received their information about dental implants from their family dentists.<sup>(16)</sup> In our study in 42% of cases dentists were first source for their awareness, comparing upper study dentists have the most effective role in awareness of patients.

Tapper et al <sup>(8)</sup> reported 4% of patients believed that using of implants need less care, 46% more care and 44% equal to natural dentition. In our study 33% of patients believed that dental implant need more care, 25.3% of them equal care to natural tooth and 5% believed implants need less care and hygiene than tooth. Tapper <sup>(8)</sup> also showed 54% of patient believed expected mean durability of implant is 10-20 years. In this study 6% of the patients believed durability of less than 10 years and only 12% of the patients believed 10-20 years for durability but most of patient had no idea, this means patients had insufficient information about dental implants.

The cost of implant is a major argument against implant therapy. In the study by Tapper <sup>(8)</sup> the strongest argument was

reported 76% of interviewers to be the high cost. This was supported by Zimmer et al <sup>(9)</sup> the cost is an important and inhibitor factor for choice implant as a proper treatment.

Patient's expectations of improved aesthetic are often a motivation for choosing implant. In the study of Kaptain et al <sup>(15)</sup> functional consideration was clearly the most motive for implant therapy, whereas Zimmer et al <sup>(9)</sup> reported that for USA citizen's function is the most important factor. Similarly in this study functional consideration in 67% was very important.

The results of this study indicate that many patients believed that dental implants need care and hygiene equal even more than natural teeth. Most of them had no idea about durability of dental implants. More patients believed that cost was inhabitant factor for implant therapy. The high costs of the implant indicated that there was a need for dental insurance to cover this option of treatment for better and more acceptance of implant amongst the people. As this survey was conducted in a limited group of people, further studies are needed to be conducted amongst the people to access the level of awareness about dental implants amongst larger strata of people.

## **CONCLUSION**

The results of this study indicate that public awareness and acceptance of implant treatment were moderate. Dentists were the most common source for patients, thus indicating the importance of clinicians in spreading awareness among common people.

Dentists should be actively involves in informing and counseling potential implant patients.

### REFERENCES

1. Adell R, Eriksson B, Lekholm U, Branemark PI, Jemt T. Long-term follow-up study of osseointegrated implants in the treatment of totally edentulous jaws. *Int J Oral Maxillofac Implants* 1990; 5:347–59.
2. Adell R, Lekholm U, Rockler B, Branemark PI. A 15-year study of osseointegrated implants in the treatment of the edentulous jaw. *Int J Oral Surg* 1981; 10:387–16.
3. Albrektsson T, Blomberg S, Branemark A, Carlsson GE. Edentulousness— an oral handicap patient reactions to treatment with jawbone-anchored prostheses. *J Oral Rehabil* 1987; 14:503–11.
4. Albrektsson T, Dahl E, Enbom L, Engevall S, Engquist B, Eriksson AR, et al. Osseo integrated oral implants. A Swedish multicenter study of 8139 consecutively inserted Nobelpharma implants. *J Periodontol* 1988; 59:287–96.
5. Albrektsson T, Zarb G, Worthington P, Eriksson AR. The long-term efficacy of currently used dental implants: a review and proposed criteria of success. *Int Oral Maxillofac Implants* 1986; 1:11–25.
6. Albrektsson T. A multicenter report on Osseo integrated oral implants. *J Prosthet Dent* 1988; 60:75–84.
7. Gorgono AL, Lancaster D, Finger IM. Dental Implants: A survey of patient's attitudes. *Prosthetic Dent* 1986; 62:573-76.
8. Tapper G, Haas R, Mailath G, Teller C, Zechner W, Watzak G, et al. Representative marketing oriented study on implants in the Austrian population. Level of information, source

of information and need for patient information. *Clin Oral Implants Res* 2003; 14: 621-33.

9. Zimmer CM, Zimmer WM, William J, Liesener J. public awareness and acceptance of dental implants. *Int J Oral Maxillofac Implants* 1992; 7:228-32.
10. 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. *The Saudi Dental J* 2010; 22:183–88.
11. Chowdhary R, Mankani N, Chandraker NK. Awareness of dental implants as a treatment choice in urban Indian populations. *Int J Oral Maxillofac Implants*. 2010; 25:305-8.
12. Rustemeyer J, Bremerich A. patient's knowledge and expectation regarding dental implants: assessment by questionnaire. *Int J Oral Maxillofac Surg*. 2007; 36:814-17.
13. Bonde MJ, Stokholm R, Isidor F, Schou S. Outcome of implant-supported single-tooth replacements performed by dental students. A 10-year clinical and radiographic retrospective study. *Eur J Oral Implantol* 2010; 3:37-46.
14. De Bruyn H, Besseler J, Raes F, Vaneker M. Clinical outcome of over denture treatment on two nonsubmerged and nonsplinted Astra Tech Microthread implants. *Clin Implant Dent Relat Res* 2009; 11:81-9.
15. Kaptein ML, Hoogstraten J, de Putter C, de Lange GL, Blijdorp PA. Dental implants in the atrophic maxilla: measurements of patients' satisfaction and treatment experience. *Clin Oral Implants Res* 1998; 9:321-26.
16. Akagawa Y, Rachi Y, Matsumoto T, Tsuru H. Attitude of removable denture patients toward dental implants. *J Prosthet Dent* 1988 Sep; 60:362-64.