

Awareness and knowledge of patients toward dental implants as an option in replacing missing teeth: A survey in Kerman, Iran

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Abstract

Background. The present study was undertaken to evaluate the level, sources and quality of information on implant treatment as an option for replacement of missing teeth, among a selected sample of dental patients in Kerman, Iran.

Methods. A cross-sectional study was conducted on 305 subjects who attended the 6 main dental clinics in Kerman, Iran during January and February 2014. A standardized self-administered closed-ended questionnaire, pretested through a pilot survey, was used in the study. The questionnaires were distributed among the subjects during their regular dental visits. Data obtained from the questionnaires were scored and analyzed with SPSS 16.0.

Results. The results showed that 76.7% of the subjects had heard about dental implant as a treatment modality. Regarding dental implants, dentists were the main source of information (40.7%), followed by the relatives and friends (17.0%). Lack of precise knowledge about implant therapy was the major factor preventing the subjects from choosing this kind of treatment in 35.7% of the subjects and the high cost of implant procedure (31.5%) was the second obstacle. Concerning the subjects' opinion about the quality of implant therapy, 73.1% of the subjects indicated "excellent" or "good" and just 14.1% of them mentioned "poor" or "very poor" option.

Conclusion. The results of this survey showed that the majority of the participants were aware about dental implants as an option for replacing missing teeth. It also showed the important role of dentists in providing accurate information for the patients about this treatment option.

Key words: Awareness, dental implants, patients.

Introduction

Since the introduction of intraoral use of titanium implants in the late 1950s, long-term clinical studies have confirmed the efficacy of implant therapy.¹⁻⁴ Dental implants were originally used for the

treatment of completely or partially edentulous patients and are associated with functional efficiency, stability, and improved denture retention and quality of life.⁵⁻⁸ Based on the high success rates and predictability of dental implants, their prevalence in the rehabilitation of partially or completely edentulous

patients is increasing on a yearly basis.⁹ In a literature search about dental implants, approximately 6000 citations were found. This shows a wide spectrum of research on basic and clinical implantology, but what the public thinks about dental implants has largely been neglected.¹⁰

As reported in previous studies, the level of awareness about dental implants varies among the general public in different countries. A study by Tepper et al, among Austrian subjects, showed a high level of awareness (72%) about dental implant procedures.¹¹ They also reported that 42% of those questioned said that they were not informed at all about dental implants, while only 4% said they were well informed about dental implants.¹¹ Zimmer et al conducted a survey among 120 US citizens and concluded that public awareness and acceptance of dental implants are high.¹² Another investigation among a selected sample of dental patients in Saudi Arabia reported that 66.4% of subjects were aware about dental implants.¹³

Reports from Australia and Finland have shown 64% and 29% awareness rates about oral implant treatment among selected patient samples, respectively.^{14,15}

Information about dental implants can be obtained from several sources. The main sources of information are different in various countries.¹⁶

In the United States, Zimmer et al reported in 1992 that dentists and physicians play only a minor role as sources of information.¹² They concluded that the main source of information about dental implants was media.¹² Similarly, in Japan, a study showed that dentists provided no more than 20% of the information about dental implants.¹⁷ Other studies found the media to be the main source of information, while dentists played a secondary role at best.^{14,17} In another study, Tepper et al reported that for 68% of those questioned the main source of information about dental implants was dentists, followed by print media (23%), friends and acquaintances (22%).^{10,11} Based on a survey in Saudi Arabia, the subjects' friends and their relatives were the main source of information about dental implants (31.5%), and dentists were the secondary source of information (28.3%).¹³

What the public thinks about dental implants may to some extent reflect the total impact of information.¹⁹ Tepper et al showed that 34% of a sample of the general population of Austria believed that the implants lasted for a lifetime, which reveals misinformation or incomplete information of the public.¹¹ In another study from Japan, only 28% of the sub-

jects thought that their implants would last forever.¹⁷ Kent reported that the treatment cost, fear of surgery, and long post-surgical period may prevent people from undergoing dental implant treatment.²⁰

To the best of our knowledge, there are no data available in the literature on the dental patients' awareness and knowledge about dental implants in Iran. Hence the aim of this study was to evaluate the awareness and acceptance of dental Implants and also related information sources, among a selected sample of dental patients in Kerman, Iran.

Methods

A descriptive cross-sectional survey was performed to assess the level of awareness regarding dental implants among a sample of 305 dental patients referring to 6 dental clinics in Kerman, Iran, during January and February 2014.

A self-administered structured questionnaire was designed to assess the patient's knowledge and awareness about dental implants. The questionnaire was adapted from a previous study performed by Tepper et al.^{10,11}

In stage 1, the source version of the questionnaire was translated separately by two independent translators. In stage 2, the two resulting translations were reviewed by a committee in the university that included the two translators, the principal investigators and three professors of the relevant department. The committee members reviewed and discussed each line until consensus was achieved. The two translators at stage 3 (back-translation) did not participate in the first stage. The back-translations were entirely independent and were performed without knowledge of the source version of the questionnaire. To develop the pre-final version, the back-translations of the questionnaire were compared with the source version.

A pilot survey was carried out among 20 subjects to develop the final version of the questionnaire. Questions which were answered by more than 70% were enrolled in this study. To evaluate the internal consistency reliability of the questionnaire, the Cronbach's alpha was calculated. The questionnaire utilized here showed good internal consistency, with a Cronbach's alpha of 0.83. It was shown that the questionnaire was able to measure awareness of patients about dental implants.

Before distribution of the questionnaire a written informed consent was obtained from all the participants. The final questionnaire was used to collect the demographic criteria and contained 11 specific questions to assess the following aspects:

1. The quality and level of information about dental implants.
2. Source of information regarding dental implants.
3. Level of acceptance of dental implants as a treatment option compared to conventional removable and fixed prostheses
4. The main obstacle to choosing dental implant as a treatment option for replacing missing teeth.

The questionnaires were distributed among the subjects during their regular dental visits. The data obtained from the questionnaires were scored and analyzed by using the SPSS 16.0 (SPSS Inc., Chicago, IL). Descriptive statistics were generated to summarize the responses.

Results

Of 330 questionnaires distributed, 305 were returned (92.4%); 47.5% of the respondents were female and 52.5% were male. Table 1 presents the demographic data of the participants. Most of the subjects indicated “excellent “or” good” economic status in the answer sheets and only 19 had poor economic status (Figure 1).

In this survey, it was found that 76.7% of the subjects were aware of dental implant as a treatment option. In relation to the sources of information regarding implants, dentists were the main source of information (40.7%), followed by relatives and friends (17.0%) (Figure 2).

When asked about the role of oral hygiene in the care of implants, 47.4% replied that implants needed more care than natural teeth; 25.9 % of the subjects

Table 1. Demographic data of the subjects

No.	Percentage	
Age		
Under 30 Years	168	56.1%
30-50 Years	102	33.6%
Above 50 years	31	10.3%
Gender		
Male	160	52.5%
Female	145	47.5%
Educational level		
Diploma or below	51	16.7%
Associate	65	21.3%
Bachelor	132	43.3%
PhD / Master	56	18.4%

estimated the care to be similar and only 10.5% replied it needed less care than natural teeth. Concerning this question, 49 subjects (16.1%) had no idea about implant hygiene requirements.

With regard to survival rate of dental implants, 28.5% of the patients expected them to last less than 10 years, 15.7% expected 10–20 years, 6.2% believed they survived 20–25 years and 11.1% indicated more than 25 years. 37.7% of the subjects in this study had no idea about the durability of dental implant treatment.

Lack of precise knowledge about implant therapy was the major factor (35.7%) preventing the participants from choosing dental implants, followed by high cost of implant procedure, long treatment time, need for surgery and fear (Figure 3).

When asked about best treatment option in replacing missing teeth, regardless the cost of treatment, most of the subjects mentioned implant as the first treatment option (57.7%), followed by fixed partial dentures (31.1%) and removable dentures (10.5%).

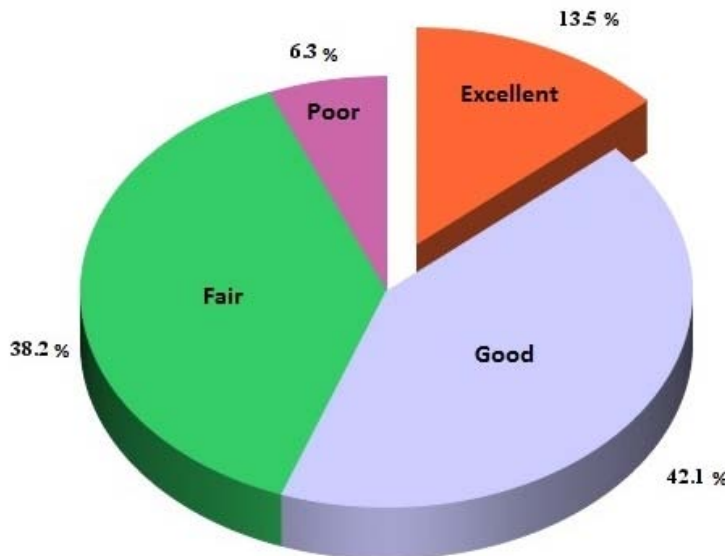


Figure 1. Economic status of the subjects.

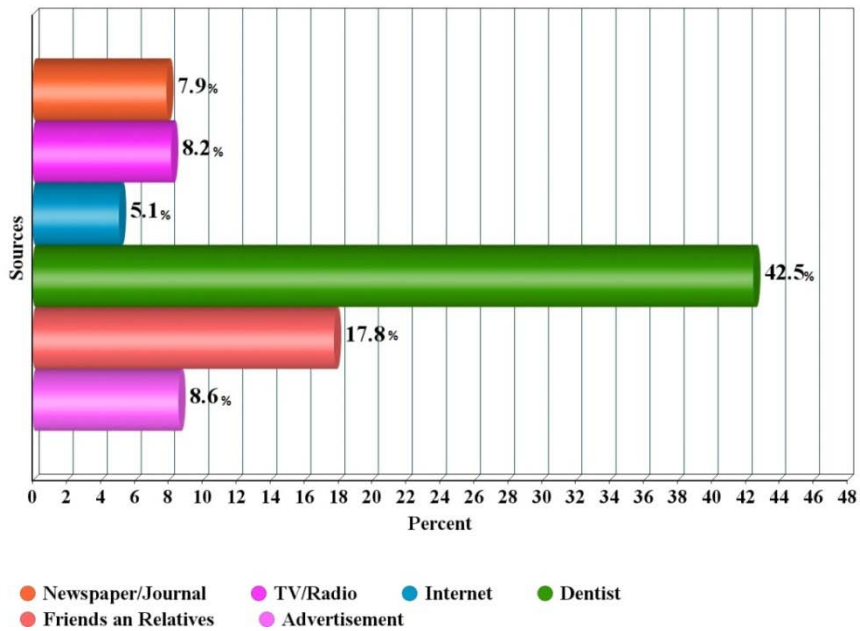


Figure 2. Sources of information regarding dental implants.

The final question dealt with the patients’ viewpoint about the quality of oral implants as a treatment modality. Regarding this question, the majority of respondents (48.9%) rated the method as “good” and 23.6% chose “excellent”, while 10.8% and 3.3% indicated “poor” and “very poor”, respectively. Of a total of 301 subjects who replied this question, 38 patients (12.5%) had no idea about the quality of oral implants.

Discussion

This study provided information about the awareness and acceptance of dental implants as a treatment option for replacing missing teeth among a selected sample of dental patients in Kerman, Iran.

The patient’s level of information about dental implants varied, but 76.7% of the subjects were aware of dental implant as a treatment option. This is not different significantly from the results reported by

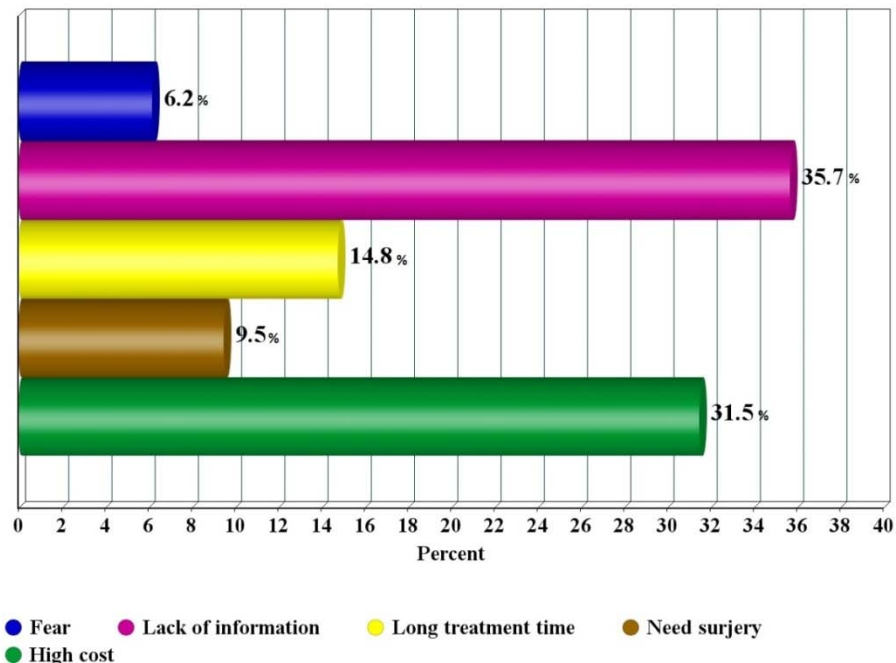


Figure 3. Percentages of different factors preventing the patients from choosing implants.

Zimmer et al, Berge and Tepper et al, who reported the level of awareness at 77%, 70.1% and 72%, respectively.^{12,18,10} The level of awareness about dental implants in the current study was higher than the results of similar studies in India and Saudi Arabia, which reported knowledge levels of 41.7% and 66.4%, respectively.^{21,13}

The main source of information about dental implant in the current survey was the dentists, followed by relatives and friends, advertisements, and lastly the internet. This is significantly different from what was reported in European countries and the USA. A survey by Berge et al showed that the media were the main source of information about dental implants, while dentists played a secondary role at best.¹⁸ Zimmer and Best also found that the media were the main source of information regarding implants.^{12,14} Zimmer reported that the dentists were the source for such information in not more than 17% of the cases.¹² However, the results of studies in India and Saudi Arabia showed that the dental professionals were the first and second sources of information, respectively, and the internet was the last one, consistent with the results of the current study.^{21,13}

Most of the subjects (57.7%) in this survey mentioned implant as the first treatment option regardless of the cost of treatment. Approximately 10% of the patients selected removable prosthesis and 31% chose fixed prosthesis as the best option for replacing missing teeth, which shows the fact that most patients do not prefer removable prosthesis for replacing their missing teeth. These results confirm the results of previous studies in different countries.¹²⁻¹⁸

Lack of precise knowledge about implant therapy was the major factor (35.7) preventing the subjects from choosing dental implants, followed by high cost of implant procedures (31.5%). These results are different from those of most of the previously mentioned studies that indicated the high cost of implant therapy as the first preventing factor.^{12,16,18, 21} Regarding the results of the current study, only 6.3% of the subjects mentioned fear of surgery as the main preventing factor, which is significantly less than that in previous reports in different countries.^{12,13,20,21}

Implant treatment was positively evaluated by approximately 73.1% of the subjects and only 14.1% of the patients indicated “poor” or “very poor” for the quality of this treatment modality. Several reports have indicated the same or better evaluation about dental implants among the people in different countries.¹²⁻¹⁶

Tepper et al reported that 54% of patients believed the mean durability of implants to be 10–20 years.¹⁰

In the current survey, 28.5% of the subjects expected durability of less than 10 years and only 15.7% of the patients indicated 10–20 years for durability of dental implants. More than one-third of the respondents had no idea about the durability of dental implants, indicating lack of sufficient information regarding this sample.

This study was conducted on a sample of patients attending dental clinics in Kerman, Iran. To the best of our knowledge, the current survey is the first report from Iran about the public awareness and knowledge about dental implants. Further studies are needed with larger sample sizes to evaluate the level of information of the public in different urban and rural areas across Iran.

Conclusion

The results of this survey showed that public awareness and acceptance of implant treatment were moderate in this sample and were not below the global average. It also showed the important role of dentists in providing more accurate information for the patients about this treatment option.

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