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Original Research Article

Knowledge, attitude, and awareness regarding dental implants in a Saudi subpopulation

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ABSTRACT

Background: The aim of the present study evaluated and elevated the knowledge, attitude and awareness of people life in Hail region to dental implants as option of treatment to replace the missing teeth.
Methods: The present study was conducted in dental clinics in Hail region. Study sample was consisted of total 428 individuals. Individuals, who were meted the determined inclusion criteria in this study, will be selected for answer the structured questioners. Chi-square test to determine the significant differences of the study parameters
Results: Among of participants, females were 161 (37.6%) and males were 267 (62.4%) of the participants. The subjects that heard about dental implants from internet was 126 (29.4%). Majority of the subjects 207 (48.4.2%) had a friend treated with an implant. Around 326 (76.2%) responders want to learn more about implants. Most of subjects 206 (48.1%) thought that dental implant require 6 months from the first examination until your prosthesis is finished. About of 148 (34.60) believed that survival rate will be life. Around 326 (76.2%) responders wished to get dental implants inserted from a specialist. Majority of the responders 281 (65.7%) thought implants required superior cleanliness and care and that it cannot be cleansed like natural dentition.
Conclusions: Patients have little information and awareness regarding dental implants.

Keywords: Dental implant, Prevalence, Knowledge, Saudi subpopulation

INTRODUCTION

Dental implants are a fast-growing procedure in the world of dental specialty. Implant dentistry has grown into an essential component of prosthetic treatments during the last five decades, as well as the most notable development in dentistry globally. There are several treatment methods available to mimic natural teeth, including removable partial dentures, cast partial dentures, permanent partial dentures, and dental implants. From the standpoint of occlusal support, preservation of neighboring teeth, excellent predictability, and avoidance of a removable partial denture, implant supported prosthesis is regarded the top choice of rehabilitation solution for a lost tooth or teeth in modern dentistry.[1-5] In today's world, it is usual to see patients visiting dental clinics to seek advice about dental implants. Aside from the increased number of dental implants implanted each year in developing

countries, the information accessible to patients about the operation and success rate is more complicated. People in some countries have poor levels of understanding about dental implants and their use; there is a scarcity of information about patient awareness about dental implants. As a result, there is a need to increase patient knowledge of various treatment options, as well as the benefits and drawbacks of each option, so that they may make an informed decision. Because patients rely on their dentists for more trustworthy information and service, private dental practitioners must have solid expertise and a thorough comprehension of the entire implant treatment process. General dentists have received extra training, earning the knowledge and competencies required to promote implant dentistry in their practice. Implants are becoming more widely used in clinical practice due to increased demand and applicability. Currently, the practice of implant dentistry is not regarded primarily as a specialist sector.[4-7]

The problem with the available training courses is that they are neither standardized nor regulated and validated, and the majority of them differ significantly in duration, their aims and objectives, course contents, and the quality of education may lack detailed theoretical inputs and deliberations. Furthermore, dental practitioners must be conscious of their limitations in terms of appropriate knowledge and technical abilities while dealing with advanced and difficult situations. Many more general dentistry practitioners will certainly wish to give dental implant treatment as dental implant sales continue to climb, as public knowledge and demand increases.[8] Although implant dentistry has developed to become an essential component of dental practice, undergraduate curriculum coverage of dental implant research has been sluggish, unstructured, and certainly restricted. To prepare students to become competent and skilled dental practitioners, undergraduate education must keep up with the speed of innovation while remaining in touch with day-to-day professional practice. Overall, the future of implant dentistry appears to be bright and hopeful. As a result, our objective was to analyze the degree of knowledge and need for information regarding dental implants, which might shed light on the area where we need to focus in order to enhance the quality and accessibility of dental implant practice to the general public.

METHODS

A cross-sectional questionnaire based descriptive study was conducted from June 2020 to December 2020 after taking ethical approval from the research committee of university of hail. The data was collected by self-administered online questionnaire. The total number of questions is 18 questions, both of them multiple choice as follows: first part: personal information. second part: questions related to the factors that lead to select the treatment with a dental implant. Third part: questions related to level and source of participant information. Fourth part: questions related to the expectation before start treatment. 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 40 participants and a sample size of 428 patients was finalized. The inclusion criteria were Saudi people greater than or equal to 15 years, who live in the Hail region. However, people were not live in hail, or live in hail but less than 15 years or not communicate with our questionnaire, as well as non-Saudi people. All the patients who attended the. 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 collection was done during the clinical postings of the interns and an effort was made to include a maximum number of interns. The statistical package for the social sciences, version 22.0, was used to examine the results (SPSS Inc., Chicago, IL, USA). Descriptive analysis was performed and the association between the variables will analyzed using chi squared test and other statistical tests will be performed as needed.

RESULTS

A total of 428 participants answered the questionnaire. Among of participants, females were 161 (37.6%) and males were 267 (62.4%) of the participants. The highest number of subjects (50.7%) were aged between 15 years and 25 years. The highest number of participants (78.3%) were graduated from university. About 70.1% of the subjects were single. Around 55.8% of the subjects had low-level income. The distribution of questions and scores related to knowledge and awareness are as shown in (Table 1).

Among 428 participants, 254 (59.3%) had selected the implant for both esthetic and function. The subjects (20.1%) thought dental implant were very expensive. The subjects that heard about dental implants from internet was 126 (29.4%) and from dentist only 72 (16.8). The source of data related to dental implants of the responders was provided by friends for 15.2% participants. Majority of the subjects 207 (48.4.2%) had a friend treated with an implant. Regarding, the friends/ relative's experience with dental implants, around 156 (36.4%) had positive experience about dental implant.

Regarding level of percipients knowledge about implants, the majority 156 (36.4%) of the subjects had poor knowledge, however the excellent knowledge 44(10.3%). Around 326 (76.2%) responders want to learn more about implants. Most of subjects 206 (48.1%) thought that dental implant require 6 months from the first examination until your prosthesis is finished. About of 148 (34.60) believed that survival rate will be life.

Around 326 (76.2%) responders wished to get dental implants inserted from a specialist. Majority of the responders 281 (65.7%) thought implants required superior cleanliness and care and that it cannot be cleansed like natural dentition. Around 213 (49.8%) responders said that dental implants inserted in the jaw bone. A round 288 (67.3%) of the responders stated the best option to replace the missing teeth is dental implant.

Table 1: Distribution of awareness and knowledge questions and score.

Questions		Response N (%)
Reason for choosing implant treatment	**Chewing/function**	121 (28.3)
	Esthetics	53 (12.4)
	Both	254 (59.3)*±
Disadvantages of implant treatment	**Cost**	86
	Fear of surgery	57 (13.3)
	Treatment time	12 (2.8)
	Lack of information	36 (8.4)
	Other	14 (3.3)
	More than answer	223 (52.1)
Getting first information about implant treatment	**Dentist**	72 (16.8)
	Friend	57 (13.3)
	Relative	37 (8.6)
	newspaper / journal	6 (1.4)
	Internet	126 (29.4)
	More than answer	130 (30.4)* $±
Getting most information about implant treatment	**Dentist**	68 (15.9)
	Friend	65 (15.2)
	Relative	5 (1.2)
	newspaper / journal	1 (0.2)
	Internet	119 (27.8)
	Acquaintances	19 (4.4)
	More than answer	151(35.3)
Have your friend treated with an implant	**Yes**	207 (48.4)+±
	No	100 (23.4)
	Don't know	121 (28.3)
Have you heard about friends/ relative's experience with dental implants	**No**	191 (44.6)+
	yes, positive experience	156 (36.4)
	fairly positive experience	53 (12.4)
	Yes negative experience	28 (6.5)
Level of your knowledge about implants	**Excellent**	44 (10.3)
	Good	160 (37.4)
	Poor	156 (36.4)
	Don't know	68 (15.9)
Do you want to learn more about implants	**Yes**	326 (76.2)
	No	102 (23.8)
How long do you think implant treatment will require from the first examination until your prosthesis is finished?	**One day**	14 (3.3)
	6 months	206 (48.1)
	One year	62 (14.5)
	Don't know	146 (34.1)
How long do you think you can retain your implants? (years)	**1-5**	92 (21.5)
	5-10	115 (26.9)
	10-20	73 (17.1)
	The rest of my life	148 (34.60)*$±
What do you believe about the care of dental implants as compared to natural teeth?	**Similar to natural teeth**	62 (14.5)
	Require more care than natural teeth	281 (65.7)*±
	Don't know	85 (19.9)

Continued.

Questions		Response N (%)
Where do you believe in the placement of the implant?	**In the jaw bone**	213 (49.8)[+ #]
	In the gums	79 (18.5)
	On the adjacent teeth	32 (7.5)
	Don't know	104 (24.3)
What is the best option to replace the missing teeth?	**Removable denture**	18 (4.2)
	Crown/Bridge	57 (13.3)
	Dental implant	288 (67.3)[$#]
	Don't know	65 (15.2)

*Statistically significant difference ($p<0.05$) between gender, [+]Statistically significant difference ($p<0.05$) among age, [$]Statistically significant difference ($p<0.05$) among the level of education, [±]Statistically significant difference ($p<0.05$) between social status, [#]Statistically significant difference ($p<0.05$) among the level of income.

DISCUSSION

Each individual's dental health state has a significant impact on his or her psychological and social well-being. The presence of teeth greatly assists to the preservation of this advantage. The absence of teeth causes masticatory difficulties and impairs esthetics, lowering one's quality of life. Missing teeth can be caused by a variety of factors, including poor dental hygiene, periodontal disease, and developmental abnormalities such as Down syndrome and ectodermal dysplasia. Teeth are often replaced to meet the cosmetic and/or functional demands of the patient.[9] Dental implants are now widely acknowledged as a prosthetic treatment option for people who are completely or partly edentulous.[10] A significant increase in the number of implant treatments performed each year is occurring worldwide; it is increasingly being used in general dental practice, including in developed countries; and it is clear that implant dentistry will occupy a significant portion of modern general dental practice. As a result, there is a need to give more knowledge on dental implants to interns so that they can at least advise patients in the selection of the appropriate treatment method. In our study, we assessed the attitude and knowledge related to dental implants and age, gender, education, and marital status of people residing at Saudi Arabia.

The major rationale for choosing an implant is the patient's anticipation of increased function. Following that, acceptance and comprehension of the surgical process were assessed. Approximately 58.33% of participants were willing to go through the surgical procedures required in the installation of dental implants. The more educated the volunteers were, the better their comprehension of the surgical procedures involved. In retrospect, the rationale for refusing surgical treatments was not evaluated. This was a study's weakness. There might be a variety of reasons for refusing to accept surgical treatments including dental implants. Some of them include the high expense of operations, surgical procedure apprehension, and host acceptance. Another study should be carried out to assess the same. This finding was consistent with the findings of the current investigation. Individuals may obtain information on dental implants through a variety of sources, including the media, dentists, and friends.[10] In the United States, it was estimated that 77% of people obtained their information from the news, with minimal help from their dentists.[11] Furthermore, Japanese research found that dentists did not offer patients with more than 20% of the information they needed concerning dental implants.[12]

The present survey showed that the most common source of information was dentist, and this is in agreement with the studies of Esfahani et al, Kohli et al and Tomruk et al (40.7%, 53.6%, and 44.5% respectively).[13-15] However, Awooda et al, Al-Johany et al, and Suwal et al found that the main source of information about implants were relatives and friends (38.2%, 31.5%, and 30.2%, respectively).[16-18] Zimmer et al found through a survey conducted in the USA that media and friends (77%) play a much more important role.[19] In Austria survey, it was found that awareness of dental implant was 72%, while 4% only were well informed. However, 42% were not informed about dental implant.[19] In the present study, high percentages were found regarded poor knowledge about the dental implant, where 10.3% and 37.4% of individuals were very well and good informed about this strategy.

In a study on the general public, it was found that more than 50% of patients thought that implants need the same care as natural teeth and 61% expected an additional payment.[20] In the present study, we found that 66% of participants thought that implants need more oral hygiene than healthy teeth, while only 7.4% thought that caring of implants as the same natural teeth. In an Austrian study, it was found that 44% of subjects thought that implants needed special oral hygiene or dental care.[21] In another study patients thought that implants needed more rigorous oral hygiene.[22] Tapper et al, Faramarzi et al and Alanazi et al reported that most of patients believed that using of implants needs more care (46%, 33%, and 66%, respectively).[19,23,24] The present study showed that 65.7% that the implants need more care compared with natural teeth while 19.9% respondents do not have any idea regrading dental implant treatment. The patients were asked about their preferred source to know more about dental implants. In the present study, we found a very high attitude to dental implants with 76.2% responders demonstrating interest to learn more about implants. This

is in accordance to findings from Awooda et al in which 93.2% showed similar interest; Al-Johany et al and Tomruk et al found 82.4% showing interest to know more about dental implants.[15-17] Regarding expected mean of durability of dental implants, Tapper et al showed 54% of patient believed expected mean durability of implant is 10-20 years.[19] Esfahani and Faramarzi et al reported that 37.7% and 70.7%, respectively, of the subjects had no idea about the durability of dental implant treatment.[13,23] In the present study, 34.60% of the respondents believe that durability of implants will be whole of life. Generally, the information, which is available to the patients regarding the procedure and its success, is often fragmentary. It could be due to low level of education in the study sample as most of the people belong to rural community. Acceptance of the patients toward the waiting period from implant placement to implant prosthesis was evaluated. We found that 48.1% participants considered the waiting period to be 6 months. This helped us understand that dentists should take active efforts in explaining to the patients the specifications and the surgical procedures involved in the placement of dental implants. In current times, there are many options available for the replacement of teeth. The options available are a removable dental prosthesis, fixed dental prosthesis, and dental implants. Out of these, dental implants are a relatively newer modality of treatment. According to the American Academy of Implant Dentistry, 3 million people already have dental implants. This number is usually higher in developed countries than developing countries. The reason can be availability of more resources, more income of the population, more concern about esthetics, and more awareness. This study found that 67.3% of the participants want for replacing their teeth with dental implants.[24]

Limitations

Some of the limitations of the present study are related to its cross-sectional design and comparison with another research. Longitudinal designs might enhance our understanding of sociodemographic and dental implant knowledge. Last but not least, the present study may be less similar to other studies because they use various markers to determine socioeconomic class.

CONCLUSION

Under the limitations of the present study, it can be concluded that patients have little information and awareness regarding dental implants. This poll emphasizes the importance of delivering accurate information to patients through a variety of media to raise knowledge about this treatment method. In the future, dental surgeons should provide patients with more thorough information regarding dental implants. Aside from that, efforts should be made to bring the cost of dental implants down to a more accessible level.

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