

Knowledge, Attitude and Acceptance of Dental Implants among Patients Attending Khartoum Dental Teaching Hospital.

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Abstract:

Background: Replacement of lost teeth with dental implants is considered as a positive experience by patients. Dental implants are widely accepted as a prosthetic treatment of completely or partially edentulous patients. The objective of this study was to assess the level of knowledge, attitude and acceptance of Sudanese dental patients regarding dental implant as a treatment modality for replacing missing teeth.

Subjects and Methods:

Descriptive cross sectional hospital based study among 384 adult males and females' patients attended outpatient dental clinics in Khartoum dental teaching hospital in period from 1st April to 1st May 2013. Eligible participants were selected by convenience sampling technique. Questionnaire was used to assess their knowledge, attitude and acceptance of Dental implant as treatment option for replacement of missing teeth. Associated factors; gender, socioeconomic status, level of education, sources of information about implants was assessed using chi square test with P value < 0.05.

Results:

The important of replacing missing teeth was revealed by 74% of the Participants, 68.5% were aware about dental implant as treatment option regarding replacing missing teeth, Of the total participants; 56.8% didn't know how dental implant lasts, more than half (53.1%) did not know the place where the implant inserted. Majority (79.4%) could accept their dentist advice for replacement of missing teeth by implant, but 29.1% said expensiveness was main barrier against this option. Knowledge about dental implant is significantly associated with level of education (P = 0.00)

Conclusion:

Considerable number of patients accepted and aware of dental implant as treatment option for replacing missing teeth. Relatives and friends were the main sources of information about dental implant.

Keywords: Dental implant, Prothodontic, teeth replacement. KAP

I. Introduction

Nowadays, Modern dentistry aims to restore the patient's normal function, aesthetics, speech and health. Dental implantology has developed in recent decades into a prospering component of dentistry in Europe and the USA [1]. Implant supported prosthesis has proven advantages like increased masticatory efficiency, maintenance of the bone, improved function, phonetics, aesthetics, etc. The interest in aesthetically flawless teeth, and also in a nearly natural substitute such as an implant-supported over denture, for example, has grown lately [2].

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. Currently, dental implants are widely accepted as a prosthetic treatment of completely or partially edentulous patients [3]. This led to widespread acceptance and popularity of dental implants within the dental professional community. 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 [4].

Public awareness, positive attitude and acceptance of dental implants were found to be low in a study conducted in Finland (29%) [5]. Also Reports from Saudi Arabia and India found levels of awareness about dental implant were 66.4% and 38% respectively [6,7]. Several studies have been conducted to investigate the

patients' knowledge and awareness about oral implants with varying levels and controversy in different countries [8-13]. To authors' knowledge there are no existing data regarding the patients' awareness about dental implants in Sudan. Considering this, the study was conducted with an aim to evaluate the dental patients' knowledge, awareness and acceptance of dental implants as a treatment option for replacement of missing teeth.

II. Material and methods

2.1: Study design, area and population: A descriptive cross sectional study among adult Sudanese patients attended outpatient clinics in Khartoum dental teaching hospital (KDTH). Data was collected between the dates of April 1, 2013 and May 1, 201. Who met the following criteria were involved: 1) adults 18 year or more; 2) not inpatient; and 3) with no previous dental implant. Excluded were; 1) very old uncooperative patients; and 2) children and mentally or physically disabled.

2.2: Sampling techniques and size: A total of 384 participants fulfilled the required criteria during study period were surveyed. They were selected by non probability convenience sampling technique (as it is difficult to determine the frame and total number of targeted population). The relatively large sample size, the hospital where the study was conducted (KDTH) (reference and the largest dental hospital in Khartoum state) with some limitations, assumed representing the patients from the whole country.

2.3 Survey tool: Closed ended questionnaire was constructed with a total of 22 items in five sections designed to assess the patient's acceptance, awareness and knowledge about dental implants as a treatment modality for replacement of missing teeth. Demographic data, socioeconomic status and level of education were assessed. The questionnaire was prepared bilingually (English and Arabic) to correspond with the reading and comprehension levels of patients with different levels of education. Eligible illiterate patients were interviewed. It took 7-10 minutes to answer all the questions and it filled in the waiting hall of outpatient clinic.

A pilot study was conducted among a sample of 25 patients (fifteen literate patients by self administered and ten illiterate by interview) by using the structured questionnaire to ensure comprehensibility and reliability. These 25 questionnaires were not included in the final study.

2.4: Statistical analysis: The collected data was cleaned, coded, entered in master sheet and analyzed by Statistical Package for Social Sciences SPSS (IBM SPSS Inc., Chicago, version no.20) software. Chi-square test was used to compare two categorical data in contingency table. Frequency tables were used to determine the proportion level of variables among surveyed patients, with the Level of significance set at $P = 0.05$.

2.5: Ethical consideration: The study was approved by Ethical committee in University of medical sciences and technology and permission was taken from hospital directory. Selected patients were requested to participate voluntary after explanation of the purposes of the study. Informed written consent for their participation was obtained and confidentiality of responses was assured. Those patients who had not heard of dental implants as a treatment option were educated in this regards.

III. Results

Out of the total participants females were slightly predominant than males. About 65% of participants were in the age group of 17-27 and 28-38 year. Patients education status was also included, 91.1% of the patients had some kind of formal education. Table 1 summarizes the demographic structures of the interviewed population

Table 1. Demographic characteristics of the participants.

Age	Year	No.	%
	(17-27)	126	32.8%
	(28-38)	135	35.2%
	(39-49)	59	15.4%
	≥ 50	64	16.7%
Gender			
	Male	181	47.1%
	Female	203	52.9%
Educational level			
	Illiterate	34	8.9%
	Basic school	71	18.5%
	Secondary school	110	28.6%
	Graduated	159	41.4%
	Post graduated	10	2.6%

When assessing the level of knowledge in using different approaches in replacing missing teeth, 83.3% were aware about removable dentures and fixed partial dentures and 68.5% were aware about dental implants. Only 34.6% of the respondents know the difference between the implants and other conventional treatments and 33.1% think implant is more successful than other treatment modalities. The main source of information about implants were relatives and friends (38.2%) followed by dentist (35.7%), the percentage of other sources were displayed in (fig 1).

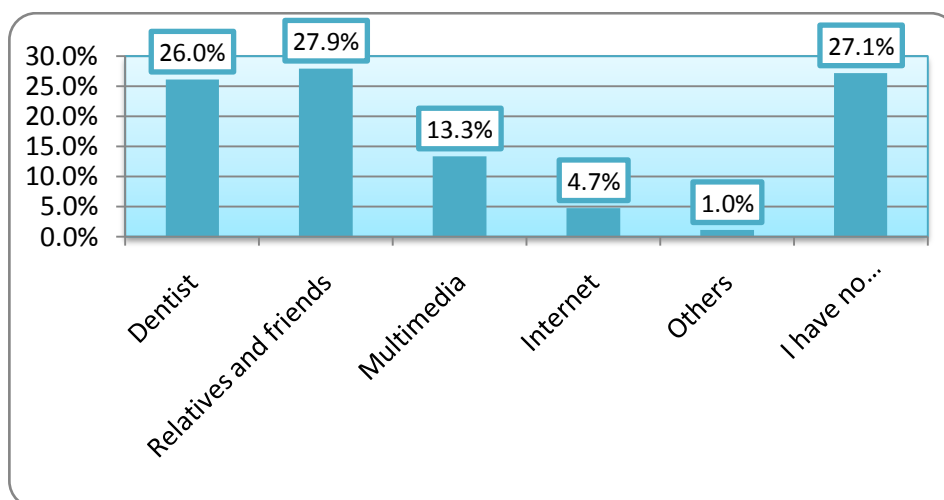


Figure 1. Percentage of different sources of information about dental implants as preferred by the questioned subjects

About 93.2% of those questioned were interested in having more information about dental implants while 6.8% were not. To assess the level of general knowledge about dental implants; a question about the site of implant placement in the oral cavity, 53.1% of the sample did not know where the dental implants are placed comparing to 25.5% who thought that it is placed in the jawbone.(Table 2).

Table 2. Respondent’s knowledge regarding intraoral site of implant.

Where in the oral cavity do you think the dental implant is placed?	Percent
In the jaw bone	25.5%
In the gum	17.7%
On the neighboring teeth	3.6%
I don’t know	53.1%
Total	100.0%

Concerning oral hygiene in the care of implants, 49.7% said that implants should be cleaned similar to natural teeth. 6.8% said it needs more care than natural teeth, while 6.3% said it needs less care than natural teeth and 37.2% don’t know about it. With regard to the durability of implants, 56.8% don’t know for how long the implant last and 19.3% think it last forever. 7.3% think it last more than 10 years and 10.7% said less than 5 years.

The majority of the patients (97,37%) will not choose dental implant for teeth replacement because of lack of information and 29.1% think it’s very expensive (Table 3). And when participants were asked to rate the treatment charges which are involved in dental implant procedure, more than half (52%) didn't know, while 33% felt that it is not affordable. On the other hand, 41.9% of the participants didn't know who is opt for dental implant, and 34.1% felt that implant is expensive and only for rich people.

Table 3: respondents not had taken dental implant as treatment option for replacing missing teeth.

Reasons for not tacking dental implant as a treatment option for replacing missing teeth despite the advice by the your dentist	Frequency	Percent
Very expensive	23	29.1%
Take long time	3	3.79%
Fear	11	13.92%
Needs surgery	12	15.19%
lake of information about implant	30	37.97%
Total	79	100.0%

The association between patients educational level and knowledge about dental implant as treatment option for replacing missing teeth is statistically significant with the P-value = 0.000 (Table 4).

Table 4 : Association between Educational level & knowledge regarding dental implant

Knowledge about dental implant as treatment option for replacing missing teeth		Educational level					Total
		Illiterate	Basic school	Secondary school	Graduated	Post graduated	
Yes	Count	16	36	80	122	9	263
	% within educational level	47.1%	50.7%	72.7%	76.7%	90.0%	68.5%
No	Count	18	35	30	37	1	121
	% within educational level	52.9%	49.3%	27.3%	23.3%	10.0%	31.5%
Total	Count	34	71	110	159	10	384(100%)

P = 0.000

IV. Discussion

In interpreting the findings of the present study, it's important to outline the possible limitations. First; this study was conducted among the patients attending KTDH outpatient clinic regarding knowledge, awareness and acceptance about dental implants as a treatment modality for replacing missing teeth. This specific group was selected for ease of access and to increase the response rate as they are dental patients, who were approached during their dental visits, but it is governmental hospital and most of the patients attending are from low socioeconomic status, which is seem not linked to educational level as a determinant, the result revealed that almost half of the surveyed patients were university graduates and postgraduates. Secondly, because of the self-reported aspect of the data and patients interviewed, it is difficult to determine whether the response is affected by vulnerability, although the patients have their right to refuse participation, some interviewed illerete patient may thinks that participation may be privilege in getting more care. Thirdly, only few studies regionally or locally reported among patients attending dental outpatient's clinics for complaints other than replacing missing teeth that make it difficult for comparing the results of the present study.

As displayed in the result; only 68.5% had heard about the dental implants. This result is close to the previous study done in Saudi Arabia (66.4%) (4), while it differs significantly from that one done in India (4.83%) and this may be attributed to the lower socioeconomic status and educational levels in that region where Indian study conducted (5). As half of the participants did not know the place where implant is inserted or the need for special care and hygiene, this may reflect the poor knowledge about the function and properties of the dental implant.

In this study, 35.7% of patients were informed first by their dentist about the implants compared to 38.2% who received it from family and friends. Studies from other countries show different results: in the Netherlands, 52% received information first from friends, compared with 36% who received it first from the family dentist (14), in Japan only 20% obtained information about dental implants from the family dentist (15). While in a survey done in USA only 17% obtained information about dental implants first from dentist, with media and friends playing much more important roles (77%) (9).

A recent study shows that in public media such as journals and television, some negative reports were given about dental implant (12), additionally, media play a major role in spreading the idea of a forever lasting implant, this lead to unrealistic patient's expectations (13). In this study the main source of information was relatives and friends; this explains the confusion and misunderstanding regarding dental implants. Majority of the participants (93.2%) were interested to know about dental implant which is high when compared to others as in India (85.65%) (7), and in Saudi Arabia (82%) (6). this indicates the real need for dental education about dental implants.

Implant is an increasingly popular treatment modality for teeth replacement with a high success rate. In developed countries, with the help of health programs, implant is becoming the focus of the patients' and dentists' interest. In Sudan, there is major information gap of the public in terms to dental implant. Sudanese dental patients know about the existence of implant but confusion was noticed regarding the implant care, price and the procedure itself. In the present study, the majority thought that dental implant is expensive and only available for rich people. Dentists were the second source of information coming after relatives and friends, thus dentists should be actively involves in informing and counseling potential implant patients to afford the correct scientific information. Awareness amongst patients regarding the dental implants can help in eliminating any incorrect or negative images of the procedure that may have been caused due to lack of adequate information.

V. Conclusion:

The results of this study among the selected sample of patients attended (KDTH) outpatients clinics, showed that the majority knew about the dental implants and accept it as a treatment option for replacing missing teeth. Relatives and friends were the main sources of information about dental implant and most of the patients thought it was expensive and unaffordable, but they were interested to know more. The study also demonstrated that there was an association between educational level and knowledge about dental implant as a treatment modality.

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