



RESEARCH ARTICLE

AWARENESS AND ATTITUDE TOWARD REPLACEMENT OF MISSING TEETH AMONG PATIENTS WHO VISIT DENTAL CLINICS OF QASSIM UNIVERSITY, AL-QASSIM REGION, KINGDOM OF SAUDI ARABIA

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ABSTRACT

Restoring of missing teeth is significant for functional and/or esthetic capacity. Although edentulism is one of the most common problems that the dentist treats, there is lack of knowledge in the community toward replacement of missing teeth. The aim of this study is to check the awareness and the attitude among Qassim's community toward replacement of Missing teeth including: the causes of replacement, obstacles of not replacing teeth and the source of knowledge for the population.

Key Words:

Awareness, Attitude,
Replacement of Missing Teeth,
Prosthesis, Treatment Modalities.

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INTRODUCTION

One of the major causes which require patients to visit a dentist is edentulism either partial or complete. Since that the replacing of missing tooth is important for the individual to return the optimum ability of chewing, maintain muscle tone and esthetic, restore the individual's ability to pronounce words and speak better, and promote the patient self-esteem to overcome the social stigma thus enabling individual to enjoy the quality of life (Rustemeyer, 2007; Hussain et al., 2015). There are various options for modalities which are available for the individual in order to replace the missing teeth. In general, there are two types of dental prosthesis, removable (RPD) and fixed. Fixed dental prosthesis includes fixed partial dentures (FPD) and implants (Kalk et al., 1993). The factors affecting the treatment modality choice of missing teeth are aesthetics, number of missing teeth, anterior or posterior teeth, quality of ridge and alveolar bone, medical or psychological conditions, patient's age, gender, education, socioeconomic conditions, patient's choice (Abdurahiman et al., 2013; Gbadebo et al., 2014)

Consequently it is required to improve the patient's knowledge and awareness regarding available treatment options, advantages and disadvantages of each option, so that patient can choose appropriately (Misch, 2000). Many studies have been conducted to assess the patients attitude and awareness regarding replacement of missing teeth, and the majority of these researches stated that there are lack of knowledge regarding replacement of missing teeth and the low awareness about diverse treatment options (Hussain et al., 2015; Rahman, 2016; Shekhawat, 2016; Shigli, 2007; Faiza et al., 2014). On the other hand, one study stated that the awareness of treatment options for missing teeth replacement is at high level. (Jayasinghe et al., 2017) In between, one study stated that the patients have medium level of awareness regarding prosthodontic treatment options (Azad et al., 2016). Little emphasis was made to assess the awareness and attitude toward replacement of missing teeth in Saudi Arabia. One study which carried in Hail reported half of the respondents were not interested in seeking treatment for their missing teeth although their knowledge of teeth replacement was high (Alshammari et al., 2017). Thus, the main purpose of current study is to assess the awareness and attitude toward replacement of missing teeth among patients who visit dental

clinics of Qassim University, Al-Qassim region, Kingdom of Saudi Arabia.

MATERIALS AND METHODS

This cross-sectional study method was approved by the Dental Ethics Committee, Dental Research Center, Qassim University. A self-administered questionnaire which consists of two parts were collected randomly from 150 partially edentulous patients who attend to dental clinics of Qassim university, the first part included 6 sociodemographic questions and the second part included 11 closed ended questions related to awareness of different treatment modalities to replace missing teeth, and attitude toward missing teeth replacement. The questionnaire is a modified version from that used by previous investigators (Rahman, 2016; Shekhawat, 2016; Shigli, 2007; Faiza *et al.*, 2014; Jayasinghe *et al.*, 2011; Azad *et al.*, 2016; Alshammari *et al.*, 2017). A radiographic investigation was done to each of 143 participants, who returned the questionnaires, as panoramic view to take the dentate status information from it; number of existing prosthesis, number of missing teeth and site of missing teeth if it was anterior, posterior, or both. The number of existing prosthesis was grouped into 3 categories (No prosthesis, 1-2 prosthesis, More than 2 prosthesis). The number of missing teeth divided into 3 groups (1-5 missing teeth, 6-10 missing, More than 10 missing teeth). Being a partially dentate patient, above 20 years of age and willingly agree to participate in the study after a written informed consent have been considered as the inclusion criteria. Completely edentulous patients, patients with missing third molars only, mentally retarded/disabled or physically handicapped patients, and those from dental-related professions/occupations have been excluded from the study sample. Statistical analysis of the results has been accomplished using the SPSS computer soft-ware. The results expressed in frequency distribution. Chi square test was used to evaluate the awareness and attitude of patients according to each of the individual variables. The level of significance was sat at $p = 0.05$.

RESULTS

One hundred and forty-three of our questionnaires were returned (response rate: 84.1%). The female participation was higher than male (83 female, 60 male). Almost all of the respondents were Saudi 109 (76.2%), and 34 (23.8%) were non-Saudi. Also, out of 143, there were 120 (83.9%) married persons and only 23 (16.1%) single persons. Data showed that most of the respondents have high school degree (30.1%), and only (4.2%) of our participants have post-graduate degree. (as shown in table:1), replacement of teeth regarding educational level have strong positive relation. Generally, it is assumed that the communities with low income tend to visit dental institutes ,and according to the study, we found that majority of the patients (57.3%) visiting the dental institute belong to low-income group, followed by the medium-income group which was (32.2%), and only (10.5%) of the participant below to high-income group. The Participant's dentist was the main source of knowledge about different treatment modalities for replacement of missing teeth (53%), followed by relatives and friends (26.5%) (as shown in table:2). Most of the respondents were from persons above 50 years age (30.8%). Almost all of the respondents were Saudi 109 (76.2%), and 34 (23.8%) were non-Saudi. Also, out of 143, there were 120 (83.9%) married

persons and only 23 (16.1%) single persons. Data showed that most of the respondents have high school degree (30.1%), and only (4.2%) of our participants have post-graduate degree. (as shown in table:1), replacement of teeth regarding educational level have strong positive relation. Generally, it is assumed that the communities with low income tend to visit dental institutes ,and according to the study, we found that majority of the patients (57.3%) visiting the dental institute belong to low-income group, followed by the medium-income group which was (32.2%), and only (10.5%) of the participant below to high-income group. The Participant's dentist was the main source of knowledge about different treatment modalities for replacement of missing teeth (53%), followed by relatives and friends (26.5%) (as shown in table:2). Awareness of missing teeth and different treatment modalities to replace missing teeth:

Majority of the respondents (97.2%) aware of the fact that they have missing teeth, and they also know that they can replace them with different modalities, only (1.4%) of the respondents don't know that they have missing teeth. Table:2 source of knowledge about the treatment modalities The majority stated that the main cause of their teeth replacement was combination of multiple reasons, such as enhancement of the mastication as well as the appearance (fig.1). the highest percentage of the respondents with a negative attitude towards teeth replacement was financial constraints and the second reason was that they don't have time for that (fig.2). There were significant variations between Saudi and non-Saudi respondents in replacing missing teeth ($p > 0.05$) where (76%) of the non-Saudi respondent didn't replace their missing teeth ever, the predominant reason was financial restrictions. Approximately almost all of the respondents have poor information on the efficiency of the artificial teeth regardless of their age. (78%) of the respondents were aware that they have missing teeth with a difference ($p > 0.05$) in treatment modalities, where the group who aged between 41-50 knew more than other groups about Complete denture. Followed by RPD was known more for the group of 31-40.

Male respondents had more missing anterior teeth than female by (6%). The highest percentage of males seek the replacement for functional reasons (29%), while female respondents concerned more about aesthetics (11%). Age has a significant relation affecting the number of missing teeth, (45%) of the group who aged >50 years had more than 10 missing teeth, the least missing teeth were mostly found in group who aged between 20-30 years (90%). Regarding the illiterate respondents, (55%) have no information about replacement of missing teeth and also, they have greater number of missing teeth in comparison with educated people.

X-ray Investigations: This table shows the number of existing prosthesis, missing teeth and site of missing teeth for the respondents.

DISCUSSION

For the treatment modalities, a greater part of the respondents know that we can replace their missing teeth by implants and fixed bridges, where the removable prosthesis was known more by the group of older participants. In the present study, the awareness of dental implants was high (30%) which is in contrast to the study conducted in Hyderabad, Rahman M. concluded that there was a low level of knowledge about dental Implants (Rahman, 2016).

Table 1. Frequency of the socio-demographic data

	Frequency	Percent
Gender		
Male	60	42%
Female	83	58%
Age		
20-30 years	31	21.7%
31-40 years	31	21.7%
41-50 years	37	25.9%
>50 years	44	30.8%
Nationality		
Saudi	109	76.2%
Non-saudi	34	23.8%
Marital status		
Single	23	16.1%
Married	120	83.9%
Educational level		
No schooling	11	7.7%
Elementary	29	20.3%
Intermediate	16	11.2%
High School	43	30.1%
Bachelor's degree	38	26.6%
Post-graduate	6	4.2%
Monthly income		
Low (<5,000 SR)	82	57.3%
Medium (5,000-10,000 SR)	46	32.2%
High (>10,000 SR)	15	10.5%

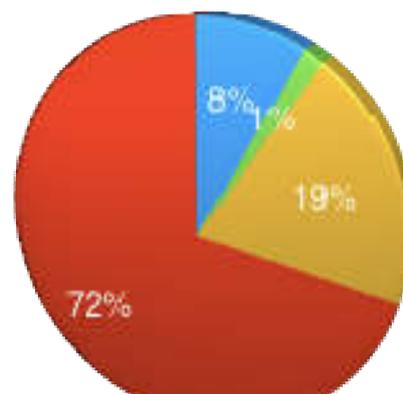
Table 2. Source of knowledge about the treatment modalities

Where did you get to know about these treatment modalities?	
Dentist	62 (53%)
Books/newspaper/magazines	7 (6%)
internet/social media/TV	15 (12.8%)
Relatives/Friends	31 (26.5%)
Others	2 (1.7%)

Table 3. X-ray investigations

X-ray investigation		
Number of Existing prosthesis	No prosthesis	85 (59.4%)
	1 or 2 prosthesis	51 (35.7%)
	More than 2 prosthesis	7 (4.9%)
Number of Missing Teeth	1 to 5 missing teeth	73 (51%)
	6 to 10 missing teeth	35 (24.5%)
	More than 10 missing teeth	35 (24.5%)
Site of Missing Teeth	Anterior	1 (0.7%)
	Posterior	88 (62.8%)
	Both anterior and posterior	54 (37.8%)

- Appearance
- Speech
- Function
- Combination (more than one)



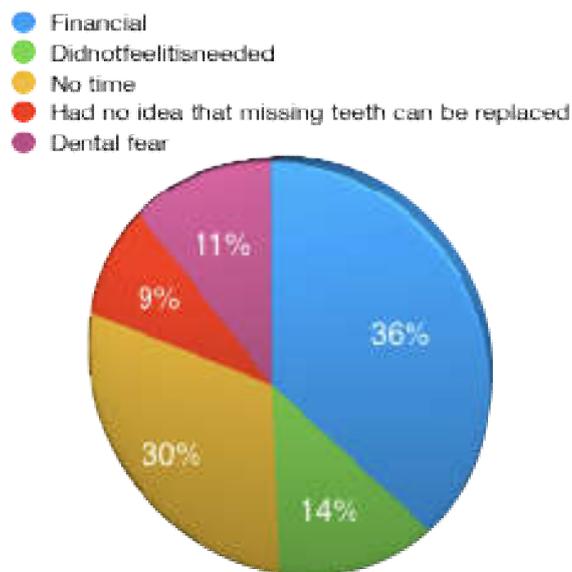


Fig. 2. Reason for Not replacing missing teeth

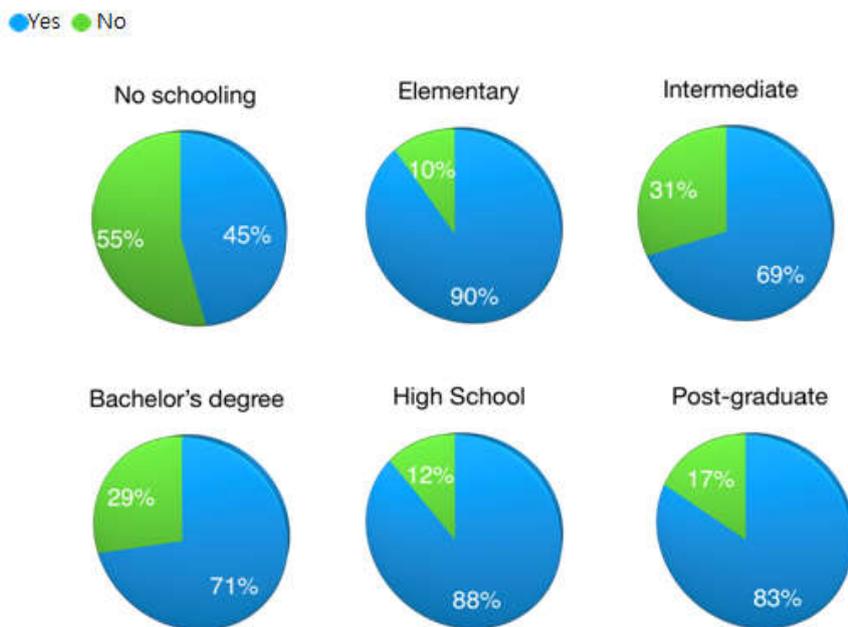


Fig. 3. Significant relationship between educational level and the knowledge of the treatment modalities

Replacement of missing teeth is important since it reestablishes the functional and aesthetic component of the person, it also helps people to be more confident, socialized and acting well in the community. If we have a community who is a well-educated about the importance of replacing missing teeth, this will improve the quality of the life, that will raise the effectiveness of all personnel related business. So, the end result is a highly productive society. The present study aimed to evaluate the perception level about the replacement of missing teeth and what is the different methods that they know. Also, to highlight the attitude toward missing teeth replacement in Qassim city, Kingdom of Saudi Arabia. Our Findings Revealed that there is a big role of the educational level in the knowledge of teeth replacement and number of missing teeth (Fig.3), The finding is consistent with findings of past study by Schützhold *et al.*, which supports our study as well (Patil *et al.*, 2012; Schü *et al.*, 2014).

Fig.3 Significant relationship between educational level and the knowledge of the treatment modalities. Most of the participants in our study were from the group who aged >50 years (30.8%). they replaced their missing teeth before. It gave us a good sign that people's knowledge is getting higher to the importance of missing teeth replacement. Similar findings in a study done in hail 2018, the author showed that the respondents have good knowledge of teeth replacement (Alshammari *et al.*, 2017) Furthermore, there is lack of knowledge in the efficiency of the artificial teeth in replacing natural teeth especially middle-aged group (73%). this gives us a warning to the importance of expanding the knowledge of artificial teeth effectiveness. Most of the recent studies highlighted the role of dentists in educating the patient about the missing teeth replacement, (53%) of our respondents got their knowledge from their dentists (Alshammari *et al.*, 2017; Jayasinghe *et al.*, 2017; Edemayer, 2016) also, a study by

Kuldeep *et al*, found that one of the reasons for not replacing the missing teeth was that the dentist didn't inform the respondents that they can replace their Missing teeth (Shekhawat, 2016). We also found that older age group got their knowledge from their relatives and friends. The findings highlight a strong relationship between age and removable prosthesis where (55%) of the group who aged between 41- 50 know about complete denture and (59%) for the removable partial denture, whereas smaller age groups have less knowledge about it. This can be attributed to their own experience of this treatment.

Attitude toward replacement of missing teeth: Almost all of the respondents did not replace their missing teeth before. The findings split out that the reason for that either financial causes or lack of time. most of the male respondents were unable to replace their missing teeth because they think they don't have time to go to the dentist (56%). While, Females were unable to replace their missing teeth because of financial reasons (41%). Both of them need to replace their teeth mainly for functional causes. (16%) of the female respondents didn't replace because they have dental fear, (20%) of them think that there's no need for that. From the present study, it observed that fifty percent of the respondents had a financial constriction which was the major cause of not replacing missing teeth, this finding was consistent with the finding of Shigli *et al*. (2007). Findings show that financial problem is a considerable cause for not replacing missing teeth, especially for the low-income group. this counteracts a study by jayasinghe *et al* that found that the main cause for not replacing missing teeth was because the respondents think that they didn't need the treatment, secondly the financial causes (Jayasinghe *et al.*, 2017). Considering the need for replacement, the biggest reason for replacement was functional reason , but 72% of the respondent answered by (more than one reason). This can be explaining by the fact that most of the people in Qassim are more concerned about the masticatory function. Also, many studies conducted found that the main reason for replacement was functional.

Investigations: Our study conducts a panorama radiograph for examination which measures the number and site of missing teeth, and if the respondent wears any prosthesis. A large number of our participants had no prosthesis even that they have a missing teeth 85 (59.4%). However, 51 of them (35.7%) were having one or two prostheses and 7 (4.9%) with more than two prosthesis. (51%) of the respondents had 1 to 5 missing teeth, (24.5%) had 6 to 10 and (24.5%) with More than 10 missing teeth. For the site of missing teeth, the majority had posterior missing teeth (62.8%), whereas (37.8%) had both anterior and posterior missing and only (0.7%) had anterior teeth missing. This can be related to the early eruption of permanent molar at the age of 6years. this tooth mostly was missing in almost all the respondent.

Conclusion

The present results found that the knowledge in Al-Qassim region about Missing teeth replacement depends on multi related Factors, it is affected by Age of the participants, socioeconomic status and educational level positively. Replacement of missing teeth difficulties is mostly dependent on financial status for the participants, after that lack of time. The finding provides evidence that first concern for replacing missing teeth among people in Qassim is to restore both

functional and aesthetic capacity. Dentist Role is very critical for educating the patient.

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