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ORIGINAL RESEARCH

Patients' Knowledge and Perceived Barriers toward Replacement of Missing Teeth among Respondents of Hail City, Kingdom of Saudi Arabia

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ABSTRACT

Aim: Teeth maintain the functionality and esthetic of oral cavity, they are also important for psychological and social well-being. This study aims to assess awareness of patients toward replacement of missing teeth. People with unrestored or missing teeth tend to have poor self-esteem and oral health-related quality of life; hence, their knowledge toward restoring and replacing teeth is an important aspect to be measured.

Materials and methods: It was an observational study having a cross-sectional design. Face- and content-validated questionnaire was used as study tool. Nonprobability, convenient sampling technique was employed that yielded information from 183 respondents residing in various areas of Hail city. Data were collected after written informed consent. The study was approved by the University of Hail ethical committee.

Results: Two hundred questionnaires were distributed, out of which 183 were returned. Regarding knowledge of restoring missing teeth, 145 (79.2%) respondents know that function and esthetic can be maintained by replacing missing teeth. Information about the availability of various types of prosthesis was mostly obtained by them through their dentist (70; 48.3%), while books/magazines/Internet was the second source (38; 26.2%) and 37 (25.5%) heard it from someone who has already undergone the replacement of teeth.

Conclusion: The present study indicated that a good number of respondents have the knowledge of teeth replacement, and dentists were the most common source of information to the patients in terms of education about different treatment options.

Clinical significance: Evaluate and plan treatment options based on patients' expectations and perceptions.

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INTRODUCTION

Teeth play an important role in the maintenance of a positive self-image and confidence.[1] Tooth loss is psychologically a traumatizing experience and is considered to be a serious event as it enhances the poor quality of life that may require significant psychological readjustment.[2] Teeth are required for mastication, phonetics, esthetics, structural balance, and for the comfort of an individual. With the loss of teeth, the above functions are impaired resulting in physical and physiological, psychological trauma to the individual.[3] Missing natural teeth predominantly cause disability of oral functions, such as eating and speaking; it may also have a negative impact on social life.[4] Tooth loss not only adversely impacts an individual's personality but also the level of confidence.[5] Unrestored missing teeth not only can restrict social activities but also may have undesirable effect on an individual's personal relationships. A study from the United Kingdom reported that people with tooth loss and unrestored teeth had difficulty in performing their social roles effectively, and their confidence level was found to be low.[6] Prosthodontic replacement of missing teeth is important to restore oral function, appearance, and improve confidence.[7] In the present era of contemporary dentistry, various options are available to replace missing teeth by means of removable

partial dentures, fixed dental prosthesis, and complete dentures or overdentures. Recently dental implants have shown to achieve good esthetic and functional satisfaction. The choice of prosthesis for replacing missing teeth is determined by various factors, such as patient's age, education, gender, medical or psychological conditions, level of income, and primarily the number of teeth being replaced.[8] The level of awareness and perceptions among patients toward dental restorations and replacements vary in different cultures and populations. A study done in the Kingdom of Saudi Arabia reported that subjective perceptions of esthetic and functional treatment needs were highly variable among the male patients.[9] Other survey in Belgaum, India, reported different levels of socioeconomic status reported different reasons for not replacing the teeth, and these differences were statistically significant.[10]

The current study investigated the awareness of patients toward replacement of missing teeth and determined the need for proper source of information about replacement of missing teeth and reasons for refusal of treatment.

MATERIALS AND METHODS

It was an observational study having cross-sectional design. The present study approached 200 respondents residing in various areas of Hail city, Kingdom of Saudi Arabia, out of which 183 responded with a response rate of 91.5%. Nonprobability convenient sampling technique was used. The present study was undertaken in July 2017. The inclusive criteria were all respondent should be above 18 years of age, free from any systematic diseases, and agree to willingly participate in the study after a written informed consent. The samples were collected from various localities in Hail city, Kingdom of Saudi Arabia. Data were collected using face- and content-validated questionnaire, designed by a public health dentist. There were 12 items asked which were classified into two sections. The first section contained questions concerning their age, gender, educational level, and monthly income. The second section contained questions regarding missing teeth, treatment options for missing teeth, source of information, willingness of the patient to undergo treatment, and reasons for refusal of treatment. The internal consistency of questionnaire was checked using Cronbach's alpha test. The score obtained from test was 0.76 that lies in acceptable category. An ethical approval clearance was obtained from institution's ethical committee at University of Hail having an ethical approval number H-2016-047. Data were displayed as descriptive statistics and shown as number and percentages using Statistical Package for the Social Sciences, version 20.

RESULTS

Two hundred questionnaires were distributed, of which 183 were returned (response rate: 91.5%). Most participants were female (103, 56.3%) with 80 (43.7%) male participants. Of these, approximately 100 (54.6%) participants were from 25 to 50 years age group, 58 (31.7%) were from <25 years, and the remaining 25 (23.7%) were of >50 years. Majority of the participants (156, 85.2%) were Saudi, and 27 (14.8%) were non-Saudi. The monthly income of 82 (44.8%) participants was 5,000 to 10,000 SR, while 69 (37.7%) participants had monthly income <5,000 SR, and 32 (17.5%) were earning more than 10,000 SR.

The findings showed that most participants held bachelor's degree (107, 58.5%), followed by High School (59, 32.2%), and then intermediate (11, 6.0%). Only 5 (2.7%) respondents done their masters and 1 (0.6%) had done PhD (Table 1).

Missing Teeth in Various Age Groups

Overall, 134 (73.2%) respondents reported that at least one or more teeth were missing. Of these, approximately 80 (59.7%) participants belonged to 25 to 50 years age group. Participants from age groups <25 years and >50 years with missing teeth were 30 (22.4%) and 24 (17.9%) respectively (Table 2).

Table 1: Characteristics of participants (n = 183)

Parameter	*n (%)*
Gender	
Male	80 (43.7)
Female	103 (56.3)
Age (years)	
<25	58 (31.7)
25–50	100 (54.6)
>50	25 (13.7)
Nationality	
Saudi	156 (85.2)
Non-Saudi	27 (14.8)
Education	
Intermediate	11 (6.0)
High School	59 (32.2)
Bachelor's degree	107 (58.5)
Masters	5 (2.7)
PhD	1 (0.6)
Income	
<5,000	69 (37.7)
5,000–10,000	82 (44.8)
More than 10,000	32 (17.5)

Table 2: Missing teeth in various age groups

	Do you have a missing tooth?		
Age (years)	*Yes, n (%)*	*No, n (%)*	*Total, n (%)*
<25	30 (51.7)	28 (48.3)	58 (31.7)
25–50	80 (80.0)	20 (20.0)	100 (54.6)
>50	24 (96.0)	1 (4.0)	25 (13.7)
Total	134 (73.2)	49 (26.8)	183 (100)

Knowledge about Replacement of Missing Teeth

Majority of respondents (145, 79.2%) were aware that their missing teeth can be replaced. Majority of the participants (70, 48.3%) got information of various treatment options/prosthesis through dentists, while 38 (26.2%) obtained it by means of Internet/books/magazines, and 37 (25.5%) heard from someone in their social circle who had already undergone the treatment for missing teeth (Table 3).

Willingness of Treating Missing Teeth

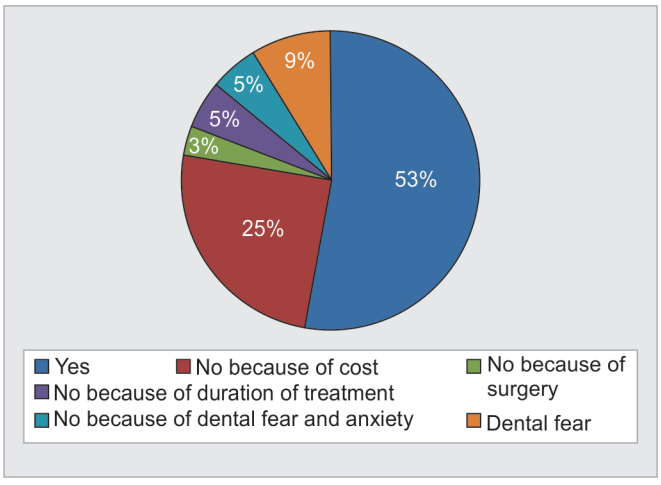
The desire to initiate treatment for missing teeth if required was shown by 53% of the respondents, whereas 47% were not willing to replace their missing teeth. The most prominent reason for avoiding replacement was cost, as pointed by 25% of participants, followed by dental fear and anxiety (9%) and fear alone and lack of time (5%) (Graph 1).

DISCUSSION

The impact of oral health is much beyond just presence of healthy teeth. Good oral health is a major resource for social, economic, and personal development of individuals.[11] Missing teeth need to be replaced not only to maintain the masticatory function and esthetic of patients but also to reinstate the psychological impact of missing teeth on patients' general well-being. The present study aimed to evaluate respondent's knowledge and their perceived barriers toward replacement of missing teeth in Hail city, Kingdom of Saudi Arabia. To the best of our knowledge, the present study is the first of its kind in Hail region. Most of the respondents (80%) in the present study belonged to middle-age group of 25 to 50 years, followed by young adults (30%) of <25 years of age with missing teeth. These findings were in line with a study conducted in Riyadh by Akeel.[9] However, data from only male participants were gathered in that study as compared with the present study which included adequate sample from both genders. The trend of missing teeth among young adults and middle-age population does not seem to have changed much based on the comparison made earlier. To the best of our knowledge, not many studies measured the social impact related to tooth loss at an early age, specifically in Hail region of Kingdom of Saudi Arabia. In view of the present continuing trend of missing teeth among young adults, we recommend further research to analyze the social impact associated with early tooth loss. We further recommend research to measure the knowledge of caries causes and prevention among the concerned age group to minimize the early tooth loss, which may help in reducing work hours related with early tooth loss among young individuals.

Table 3: Knowledge about replacement of missing teeth

	n (%)
Do you know that your missing teeth can be replaced by different treatment methods?	
Yes	145 (79.2)
No	38 (20.8)
If yes, then where did you get to know about it?	
Dentist	70 (48.3)
Books/magazines/Internet	38 (26.2)
Heard from someone who has already undergone this treatment	37 (25.5)



Graph 1: Willingness of treating missing teeth and perceived barriers

The total number of adults and middle-aged participants with missing teeth was somewhat alarming as this reflects on the oral health status of the population. The number and site of individual teeth missing was not considered per participant which was a shortcoming in the present study and could have given a better insight. The choice of replacing a missing tooth is largely dependent on the site and span of space whether anterior or posterior.[12] It is also reported in a study that old patients give a lower priority to dental health.[13] The present study had smaller sample from that age group, thus cannot be generalized for same.

The findings of the present study showed that a high percentage of participants (79.2%) had adequate knowledge of replacement of missing teeth, i.e., in line with a similar study conducted in Riyadh.[9] On the contrary, a study in Hail reported disparity among participants in perception of replacing missing teeth, wherein 28% patients perceived space as a concern, while for 70% it was not.[14] Sort of a similar study on knowledge about oral health showed that teachers of Hail had adequate knowledge of causes and prevention of most common dental diseases.[15] Although the present study did not exactly measure the same, a trend of good knowledge with regards to oral health in Hail population can be seen in general.[16]

The present study showed that several respondents (25%) said no to replacing their missing teeth because of cost. These findings contradicted an earlier study done in Hail in 2016, wherein 78% of population did not perceive cost as a barrier while seeking replacement.[14] This difference may be contributed to the fact that former study was conducted mostly in government clinics as compared with private sector in the present study. According to a study by Tepper et al[17] costs were one of the most important factors for not choosing dental replacement, especially for implant treatment option, which somehow is similar to the findings of present study.

The majority of the participants reported the source of information regarding the various options for the replacement of missing teeth came directly from the dentist (70%) as compared with other sources (37%), such as Internet and mass media. This in fact positively reflects and emphasizes upon the role of the dentist as the primary provider of dental health care in the present era of digital boom where information is available at fingertips from a plethora of sources. Chestnutt and Reynolds[18] have defined the impact of the Internet on dentistry as positive in that there is much benefit for patients from the use of the Internet in allowing them to become empowered in relation to their knowledge regarding dental health. However, people have apprehensions as misinformation or misinterpretation of information remains an issue.

Tooth loss can put an individual at very vulnerable state of mind, as in the present study around 47% of respondents due to various reasons seem not to be encouraged in restoring/replacing missing teeth (Graph 1), which is an alarming sign as ample amount of evidence supports the fact that unrestored teeth can lead to severe limitations socially as well as psychologically.[2-5,15]

CONCLUSION

The present study showed that majority of respondents have the knowledge of teeth replacement, the concerning thing identified by this study is nearly half of the respondents (47%) were not interested in seeking treatment for their missing teeth, despite having knowledge. Cost of treatment is identified to be the main perceived barrier, along with dental fear and anxiety.

Limitation of the Study

Smaller sample size was one of the major limitations of the study. Data were collected using nonprobability sampling technique because of lack of logistics and support. As the present study used questionnaire as its study tool, respondent bias may add into limitation of present study.

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