

Assessment and Evaluation of Reasons for not replacing Missing Teeth in Karad Population: A Cross-sectional Survey

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ABSTRACT

Aim: The aim of this study is to find the reasons for not replacing the missing teeth.

Materials and methods: A total of 100 patients who had visited with complaints other than replacement of their missing teeth to the School of Dental Sciences, Krishna Institute of Medical Sciences Deemed University, Karad, were selected. This was a questionnaire-based survey given to the patients to find why they did not take any prosthetic treatment. A questionnaire consisting of 19 questions based on various factors was formulated to interview such patients.

Results: Statistical analysis shows that the main reasons for not replacing the missing teeth were financial problem and lack of awareness among the patients.

Conclusion: From this cross-sectional survey, conclusion can be drawn that financial problem and lack of awareness about the different treatment options were the main reasons for not replacing the missing teeth.

Implication: If we know the various problems faced by patients, we can help them by creating community-based programs and low-cost treatment for such patients. Also, at the institutional level, more dental awareness camps should be arranged for patients who come for dental treatment.

Keywords: Missing teeth, Partial edentulism, Prosthetic replacement, Removable dental prosthesis, Survey.

How to cite this article: Kore AR, Kore SA, Gosavi S, Siddiqui M, Gosavi S. Assessment and Evaluation of Reasons for not replacing Missing Teeth in Karad Population: A Cross-sectional Survey. *Int J Prev Clin Dent Res* 2016;3(3):167-172.

Source of support: The present study is approved and funded by the ICMR (Indian Council of Medical Research).

Conflict of interest: None

INTRODUCTION

Oral health plays an important role in the maintenance of the overall health of a person. Healthy teeth are essential, not only for physical but also for psychological well-being. This is because, tooth loss is psychologically a very traumatizing and upsetting experience and is considered to be a serious event in the life of a person, requiring significant psychological readjustment.¹⁻³ Many developed countries have experienced a dramatic reduction in the prevalence of edentulism and partial tooth loss.^{4,5} But the proportion of partially or completely edentulous individuals is significantly high, especially in developing countries like India. Epidemiological data on the incidence and prevalence of tooth loss vary considerably, making comparisons difficult among countries.^{5,6}

Patients may suffer real or perceived detrimental effects following the loss of one or more teeth. This, in turn, may substantially reduce the quality of life affecting the patient functionally, emotionally, socially, physically, and psychologically.^{2,7,8} Edentulism not only results in reduced oral and social functions but also remains a major public health issue.^{9,10} When a tooth is lost, the integrity of the dental arch is impaired. Loss of one or more teeth is known to disrupt the balance of the stomatognathic system and trigger several structural and functional changes. These include impaired chewing ability, changes in occlusal stability, and occurrence of temporomandibular disorders.¹¹ Tooth loss is an early indicator of accelerated aging.

In the last decade, significant advances have been made in approaches used to replace missing teeth.^{10,12} In today's technologically advanced era, many treatment options are available to replace the missing tooth or teeth as removable partial dentures, fixed dental prosthesis, and complete dentures or overdentures depending upon the clinical situation. These options basically depend on the number of missing teeth and choice of the patient. Advanced treatment options, such as dental implant-supported prostheses are also available to achieve better esthetics and functional comfort. Unfortunately, in spite of all these options, substitution of missing teeth with prosthesis is infrequent in developing countries, even though a high proportion of individuals require some sort of prosthetic

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replacement.^{5,13,14} Generally, patients visit dentists only in emergencies with acute problems like pain, swelling, etc., and not for replacing teeth. This may be because of lack of awareness toward the importance of teeth and consequences of nonreplacement of missing teeth.

It has been observed that despite all these masticatory problems associated with missing teeth, prosthetic treatment is often avoided. So, the present study is done in search of reasons for nonreplacement of missing natural teeth with any sort of prosthesis in partially edentulous patients. This cross-sectional questionnaire-based survey will also help to assess the level of knowledge, attitude, and awareness among patients toward ill-effects of missing teeth and the options available for tooth replacement.

AIMS

The aim of the study is to find the reasons for not replacing missing teeth in partially edentulous patients.

OBJECTIVES

- To understand the reasons and/or associated problems for not replacing the missing teeth.
- To assess the level of knowledge, attitude, and awareness among patients toward the options available for tooth replacement.
- To make an attempt in reducing the possible cause of not replacing missing teeth.

MATERIALS AND METHODS

This cross-sectional survey was carried out on a sample of 100 patients who visited the outpatient department of School of Dental Sciences, Krishna Institute of Medical Sciences Deemed University, Karad, Maharashtra, India, from July 15, 2013, to September 2013. Patients with at least one missing tooth (excluding third molars) were selected in the study. Patients who had visited with complaints other than replacement of their missing teeth to the School of Dental Sciences, Krishna Institute of Medical Sciences Deemed University, Karad, were selected randomly. Patients who were not willing to participate in the study and those below 18 years were excluded from the study. Completely edentulous patients were also excluded from the study.

The study was explained to each subject in their own language and consent was obtained. A single trained investigator explained each question to the patient and recorded answers from the patients. The study involved a predesigned and structured questionnaire containing 18 close-ended questions. The questionnaire included questions regarding reasons for not visiting a dentist in

spite of missing teeth and awareness toward the available prosthetic options. The feedback received helped us understand the way of thinking of these patients.

The collected data were entered in a master sheet and analyzed by Statistical Package for Social Sciences (SPSS; IBM SPSS Inc., Chicago) version 20 software.

RESULTS

A total of 100 patients participated in this study, of which 38% were males and 62% were females, with a mean age of 18 to 80 years. Results of this questionnaire-based study were tabulated and analyzed statistically.

The study showed that majority of the patients had missing posterior teeth (78%) for a duration of more than 1 year in 81% patients, as shown in Tables 1 and 2 respectively. Though patients were with one or more missing teeth, the majority of them (57%) did not want their replacement (Table 3). A busy lifestyle followed by lack of awareness about the treatment options and financial problems were the most common reasons among the present study group for not replacing the missing teeth with a dental prosthesis (Table 4). When asked about the masticatory efficiency, 47% patients reported that they were not satisfied with the chewing efficiency of the dentition, but 51% patients were satisfied, even though they were partially edentulous (Table 5). The study also showed that patients who did not have any previous experience of eventful dental procedure constituted the major part of the study group (86%). However, very few (13%) patients experienced eventful

Table 1: Distribution of missing teeth

Teeth missing	Female (62%)	Male (38%)	Total (100%)
Anterior	4	3	7
Posterior	50	28	78
Both	8	7	15
None	0	0	0

Table 2: Duration of missing teeth

Duration of missing teeth	Female (62%)	Male (38%)	Total (100%)
2 months	5	1	6
6 months	2	1	3
1 year	7	3	10
More than 1 year	48	33	81

Table 3: Willingness toward teeth replacement

Do you want replacement of your missing teeth?	Female (62%)	Male (38%)	Total (100%)
Yes	11	8	19
Yes, but afterward	15	9	24
No	36	21	57

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Table 4: Reasons for nonreplacement of missing teeth

Reasons	Female (62%)	Male (38%)	Total (100%)
a Financial problems	12	13	25
b Busy lifestyle	24	13	37
c Lack of awareness	23	12	35
d Any other	3	0	3

Table 6: Past history of eventful dental procedure

Past history of eventful dental procedure	Female (62%)	Male (38%)	Total (100%)
Yes	7	6	13
No	54	32	86
May be	1	0	1

Table 8: Cost of dental treatment

Too costly procedure	Female (62%)	Male (38%)	Total (100%)
Yes	30	17	47
No	19	10	29
May be	13	11	24

Table 10: Awareness about clinical procedures

Aware of the procedure that clinicians will do on you	Female (62%)	Male (38%)	Total (100%)
Yes	13	5	18
No	48	33	81
May be	1	0	1

Table 5: Efficiency of masticatory function

Masticatory function	Female (62%)	Male (38%)	Total (100%)
Yes	29	22	51
No	31	16	47
May be	2	0	2

Table 7: Convenience to reach the hospital

House too far from the hospital	Female (62%)	Male (38%)	Total (100%)
Yes	33	18	51
No	29	20	49

Table 9: Esthetic satisfaction about present condition

Present condition is esthetically satisfied	Female (62%)	Male (38%)	Total (100%)
Yes	42	32	74
No	20	6	26
May be	0	0	0

Table 11: Choice of treatment

Want fixed prosthesis	Female (62%)	Male (38%)	Total (100%)
Yes	43	26	69
No	5	5	10
May be	14	7	21

procedure (Table 6). So, maybe this is the reason why the majority of patients had no fear related to the failure of dental treatment related to missing teeth.

Responses to question eight represented that the majority of the patients (51%) stayed far from the hospital (Table 7). Totally, 47% of the patients thought that the teeth replacement procedure was costly (Table 8); 78% of the subjects did not feel aged by wearing a denture. A total of 73% patients feel that wearing denture will not lead to painful ulceration. Very few patients (11%) had a bad effect due to their neighbors undergoing faulty treatment resulting in irritation and ulceration. According to 70% of people, denture care is not a difficult task. A total of 76% of patients did not have any fear of the denture falling down while performing oral functions. When asked whether the present condition was esthetically satisfying, 74% patients answered yes (Table 9) and 74% subjects agreed that the materials used for dental prosthesis do not lead to toxicity or allergy. Unfortunately, the majority of patients (79%: Female 48%, male 31%) were not aware of the procedure that clinicians will perform during treatment (Table 10). A total of 65% patients wanted fixed prosthesis (Table 11), while responses to question 18 showed that 79% subjects did not feel shy to wear dentures.

DISCUSSION

Attitudes are not taught but caught or acquired by social interaction. Previous literature showed that media and dental professionals were the main sources of information regarding oral health.¹⁵ Health behavior as defined by Steptoe et al¹⁶ is "the activities undertaken by people in order to protect, promote or maintain health, and to prevent disease." Some factors that could influence a community's behavior regarding health include common beliefs, knowledge, values, skills, finances, time, and the influence of family, friends, and coworkers.¹⁷

The present study is based on the observation that many people visiting the dental college were partially edentulous, but only a few of them choose to get their teeth replaced. There are many studies to support this observation.^{2,13} This is the scenario even after the availability of various treatment options for the replacement of missing teeth. So, this study is formulated to find out the reasons for not replacing missing teeth in partially edentulous patients.

There are hardly any studies regarding this topic, particularly in the Indian population. The study was carried out among the patients who reported on their own to the institute for reasons other than the replacement of teeth. Surprisingly, the majority of the patients (57%) did

not want their missing teeth to be replaced, while some of them wanted a replacement but at a later date. As per the findings of the present study, busy lifestyle followed by lack of awareness about the treatment options and financial problems were the common reasons among the present study group for not replacing the missing teeth with dental prosthesis in decreasing order. When asked whether the present condition is esthetically satisfying, majority (74%) of the patients answered yes. This can be related to the observation of the study that majority of the patients (78%) had few posterior teeth missing as compared with only 7% patients with missing one or more anterior teeth. Because of the same finding, 47% patients agreed that their dentition did not have satisfactory masticatory efficiency. Amjad and Aziz² studied trends toward the replacement of missing teeth. They showed that majority of partially edentulous patients had not replaced their missing teeth, which is the basic observation of our study. They also found that majority of male patients included in the study wanted to improve function, while the females also had esthetic concerns in addition to function alleviation. Results of the present study are in accordance with the study done by Amjad and Aziz.²

Raj et al¹³ studied knowledge, attitudes toward prosthodontic rehabilitation, and utilization of dental services among Songadh and Amargadh population. They found that out of 249 people studied, 84.4% people had missing teeth but only 47.4% people were willing to undergo treatment, if needed. Elias and Sheiham¹⁴ conducted a review of the literature and found that, in general, patients were more likely to seek replacement of a missing anterior tooth than a posterior tooth and rated esthetics above function in their priority for tooth replacement. It is easy to appreciate the negative effects of loss of an anterior tooth in terms of self-confidence and esthetics.¹⁸ Mukatash et al¹⁹ in their study "Needs and demands of prosthetic treatment among two groups of individuals" found that 80% of subjects gave importance to anterior than posterior teeth replacement. The Adult Dental Health Survey of 1998 in the UK also noted that patients with a reduced dentition were more likely to seek replacement of an anterior tooth, but a significant proportion felt that they would also prefer to have missing posterior teeth replaced.²⁰ Osterberg et al²¹ reported that an individual's subjective need for the replacement of missing teeth was based mainly upon esthetic rather than functional factors. Therefore, the demand of tooth replacement is strongly associated with the location of the absent tooth. The patient's perception and also cosmetic dental treatment play a major role in the decision for replacement of posterior teeth. According to Leake et al,²² patient's subjective needs for replacement of

teeth, especially posteriors, are mostly low as they rarely improve the social status. In a similar study by Macek et al,²³ busy lifestyle and cost were the main barriers to obtaining prosthesis.

According to results of the present study, we can interpret that "fear of dental treatment" is not a reason for nonreplacement of missing teeth. But, at the same time, convenience to approach the hospital is one of the factors for unwillingness toward dental treatment as many patients stay far from the hospital. This also suggests a lack of dental facilities in the rural area around Karad city. A total of 47% patients thought that the teeth replacement procedure is costly. Hence, expensiveness of dental treatment is another important factor that needs to be considered. Fear of wearing the denture or prosthesis, fear of trauma because of the prosthesis, fear of prosthesis falling down, and fear of toxic material were also checked among the patients. But there was no apprehension among patients regarding any of these issues. Unfortunately, one of the important findings of the study is that majority of the patients (79%: Female 48% and male 31%) were not aware of the procedure that the clinician will perform on them or how the treatment will be carried out.

Though there are many studies showing a lack of awareness among the general population about the replacement of missing teeth, there are some studies showing opposite results, particularly in developed countries. Akeel²⁴ studied attitudes of Saudi male patients toward the replacement of teeth and found that almost 82% of the patients in his study expressed the need to replace their missing teeth, which led to the conclusion of increasing awareness in Saudi males about the replacement of teeth. We, as dental health care providers, should put in conscious and determined efforts to change this scenario in order to enlighten the negative effects of missing teeth on oral health and in turn to achieve oral health. According to the study done by Amjad and Aziz,² dentists were found to be the most important driving force for patient awareness regarding replacement of teeth, while magazines and newspapers were the sources providing least information about the importance of tooth replacement. The study should consider that this is the responsibility of not only the dental professionals, but also of media and administration to stimulate the development of awareness toward the importance of replacement of missing teeth and the options available for the same.

Though the study is carried out to find the reasons for nonreplacement of missing teeth, there are some limitations of the study. The sample size was less. A similar study can be carried out with a larger population. Patients visiting the dental college were included in the study. But there may be a larger population who may not

be visiting the hospital, particularly patients from rural areas. The findings of the survey cannot be applied to the whole Indian population as the study was carried out on the rural population (Appendix 1).

CONCLUSION

Within the limitations of the study we can conclude that

- Busy lifestyles and lack of awareness about the importance of dental treatment are major reasons for nonreplacement of missing teeth.

- Financial problems and lack of dental facility in rural areas are few other important reasons.
- “Fear of dental treatment” is not a reason for nonreplacement of missing teeth.

ACKNOWLEDGMENT

Authors would like to thank the Department of OMDR, School of Dental Sciences, Krishna Institute of Medical Sciences Deemed University, Karad, for giving all the cooperation for carrying out the study.

Appendix: A cross-sectional survey

PATIENT NAME: _____	AGE/SEX: _____
<ol style="list-style-type: none"> Which teeth are missing? [Investigator will confirm] <ol style="list-style-type: none"> Anterior Posterior Both None For how long your tooth/teeth are missing? <ol style="list-style-type: none"> 2 month 6 months 1 year More than 1 year. Do you want replacement of missing tooth/teeth? <ol style="list-style-type: none"> Yes No Not now If no, why you don't want replacement? <ol style="list-style-type: none"> Financial problem Lack of awareness Busy lifestyle Any other reason Whether you enjoy satisfactory masticatory function with present set of teeth? <ol style="list-style-type: none"> Yes No May be Do you have any past history of eventful dental procedure? <ol style="list-style-type: none"> Yes No Do you have fear of failure rate? <ol style="list-style-type: none"> Yes No Is your house too far from the hospital? <ol style="list-style-type: none"> Yes No Do you think tooth/teeth replacement treatment is too costly? <ol style="list-style-type: none"> Yes No May be 	<ol style="list-style-type: none"> Will you have a feeling of aged person by wearing denture? <ol style="list-style-type: none"> Yes No Do you think wearing of denture will lead to painful ulceration? <ol style="list-style-type: none"> Yes No May be Do you think caring for the denture is too difficult? <ol style="list-style-type: none"> Yes No May be Do you have fear of the denture falling down while performing oral functions? <ol style="list-style-type: none"> Yes No May be Whether the present condition is esthetically satisfied? <ol style="list-style-type: none"> Yes No May be Do you think the materials used in denture will lead to toxicity or allergy? <ol style="list-style-type: none"> Yes No May be Are you aware of the procedures that the clinician will do on you? <ol style="list-style-type: none"> Yes No May be Do you want fixed prosthesis? <ol style="list-style-type: none"> Yes No May be Do you feel shy to wear denture? <ol style="list-style-type: none"> Yes No May be

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