



“KNOWLEDGE, AWARENESS & ATTITUDE TOWARDS REPLACEMENT OF MISSING TEETH WITH VARIOUS TREATMENT MODALITIES IN PROSTHODONTICS”

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Abstract:

Aims: To evaluate the knowledge, awareness & attitude among the patients visiting a dental college in replacing their missing teeth.

Settings and Design: The study was conducted over a period of 3 months at department of Prosthodontics, Kerala.

Methods and Material: A cross-sectional survey was conducted to know the patient's awareness and preference for the treatment options. A list of the closed-ended questionnaire was used to record the patient's response about being edentulous.

Statistical analysis used: The collected data were statistically analysed. SPSS, Version 2.1, statistical software was used. The descriptive statistics were done using frequency and percentage. Bar graphs and tabular columns were used wherever applicable

Results: The need to replace the missing teeth for function such as mastication of food was 52.8% and 34.1% of the patients wanted to replace their missing teeth for improving their appearance. The most preferred method of the replacement is fixed partial denture (FPD) as it was cost-effective and affordable for them. 16.8% of the patients wanted an implant as a treatment option as it did not involve the adjacent teeth.

Conclusions: The awareness and knowledge about the treatment options among the patients visiting the dental college have increased, but still, the awareness about the consequences of being edentulous for a long time should be improved through social media and online platforms by the practitioners.

Key-words: Awareness, Edentulousness, Missing teeth, prosthetic rehabilitation.

Introduction:

Teeth plays a very important role in maintaining dental health. The harmonious relationship between the teeth, surrounding soft tissues, and the temporomandibular joint creates a healthy stomatognathic system. Function, comfort and esthetics are the most common priority when a patient opts for a denture.

Losing one or more natural teeth often results in disability, as it affects essential activities of daily living, such as speaking and eating, and social interactions due to the embarrassment associated with edentulousness.^(1,2)

The main goal of prosthodontics is the rehabilitation of patients after loss of teeth and oral function. However, in most situations, there are no generally accepted rules for assessing the need, demand, or utilisation of prosthetic services, as personal preference plays a very important role. People with lower educational attainment and lower incomes tend to have worse dental conditions due to their poor economic situation. Therefore, these people won't even consider treatments knowing that they can't afford it.⁽¹⁾

Additionally, many patients have difficulty adapting to removable dentures, and a minority are unable to accept removable dentures at all. This can be explained by anatomical, physiological, psychological, and/or prosthetic factors. Functional tests showed that subjects with removable dentures had worse masticatory performance than with dentate subjects. Even with good dentures, many patients have problems with them like retention, language , comfort and reduced masticatory efficiency.⁽³⁾

However, with the advent of new technologies, more restorative options are available and the demand for prosthetic treatment has changed. Among these, implant therapy has attracted attention due to its excellent long-term results in the rehabilitation of partially or completely edentulous patients.⁽⁴⁾

Therefore, a questionnaire was developed to assess patient knowledge regarding tooth loss , perceptions and preferences for specific treatment options and patient satisfaction with not having their teeth restored in a timely manner. Therefore, this study was conducted to access the awareness and knowledge about the consequences and treatment plans of missing teeth in patients reporting to our dental college.

Subjects and Methods:

A descriptive cross-sectional study was conducted over a period of 3 months attending our outpatient department, to access the knowledge, awareness and attitude of patients towards replacement of missing teeth with the ample choices in treatment options available in rehabilitation. The Institutional Ethics Committee (IEC) approval number is IEC NO: IECKDC/2024-02/004. The study was conducted between August 2023 and October 2023.

Prior to data collection ethical approval was obtained from the college and informed consent was taken from all the participants.

The questionnaire for this study consisted of 13 questions and was divided into 3 sections. The first section was used to record the patient's edentulism and the impact of being edentulous. The second and third sections consisted of questions each to access the awareness and knowledge towards consequences of missing teeth and attitude towards replacement of missing teeth respectively.

The questionnaire was validated by the experts. Two investigators were trained for conducting the study.

The estimated sample size value is approximately 124, the sample size can be calculated using the formula:

$$t^2 \times p(1-p) \div m^2 = N$$

A non-probabilistic convenient sampling method was used to select the participants for this study. Informed consent was obtained from the patient. The questionnaire was explained to the patients by

the investigator on a one-to-one interview basis in their mother tongue, Malayalam, to avoid any ambiguity. The filled questionnaire was collected on the same day and the patients not willing to give consent were excluded from the study. All partially edentulous patients with a completely healed extraction site, with more than 1 month healing period and in the age range of 18–60 years were randomly selected for the study. It included both single and multiple missing anterior and posterior partially edentulous conditions. The patients with extracted third molars, patients with intellectual disability or physically challenged patients, and those from dental-related professionals, and those who were not willing to participate in the survey were excluded from the study. The collected data were analysed using a statistical package for social sciences, SPSS (Version 21, software package). The descriptive statistics with frequency and percentage were used to assess the awareness of patients about edentulism and its impact.

Results:

The questionnaire was answered by all 124 patients (60 males and 64 females). Among them, 10.4% of patients were in the age-group of less than 25. A maximum of 25.1% of patients were in the age-group of 36–45 as shown in table 1. The most common reason for tooth loss is decay 47.2%. Trauma and periodontal problems as reasons for tooth loss were 20% and 31.8%, respectively as shown in table 2. Maximum patients reported dental treatment with less than 1 year period of edentulousness.

Frequency of age - group with missing teeth:

AGE	FREQUENCY	%
< 25	14	10.4
26-35	24	22.5
36-45	38	25.1
46-55	19	18
> 55	29	24
TOTAL	124	100.0

Table :1

Frequency in reason for tooth loss among edentulous patients:

REASONS	FREQUENCY	%
DECAY	58	47.2
TRAUMA	22	20
PERIODONTAL CONDITIONS	44	31.8
TOTAL	124	100.0

Table: 2

Primary need for replacement of missing teeth:

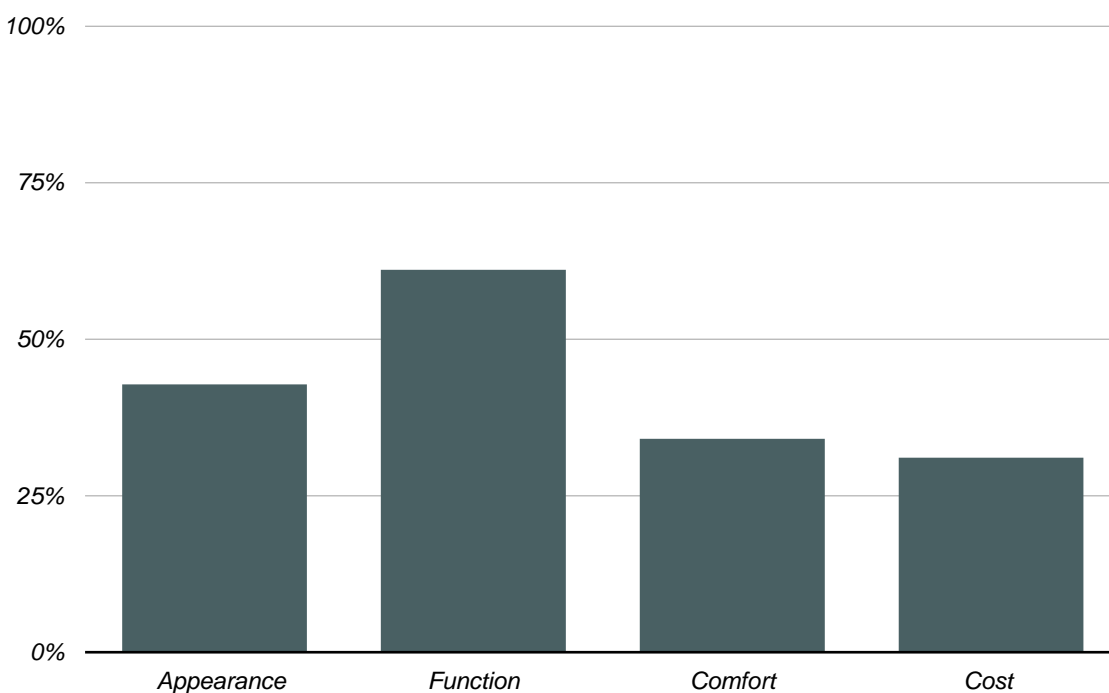


Figure:1

Preferred treatment modality for replacement of missing teeth:

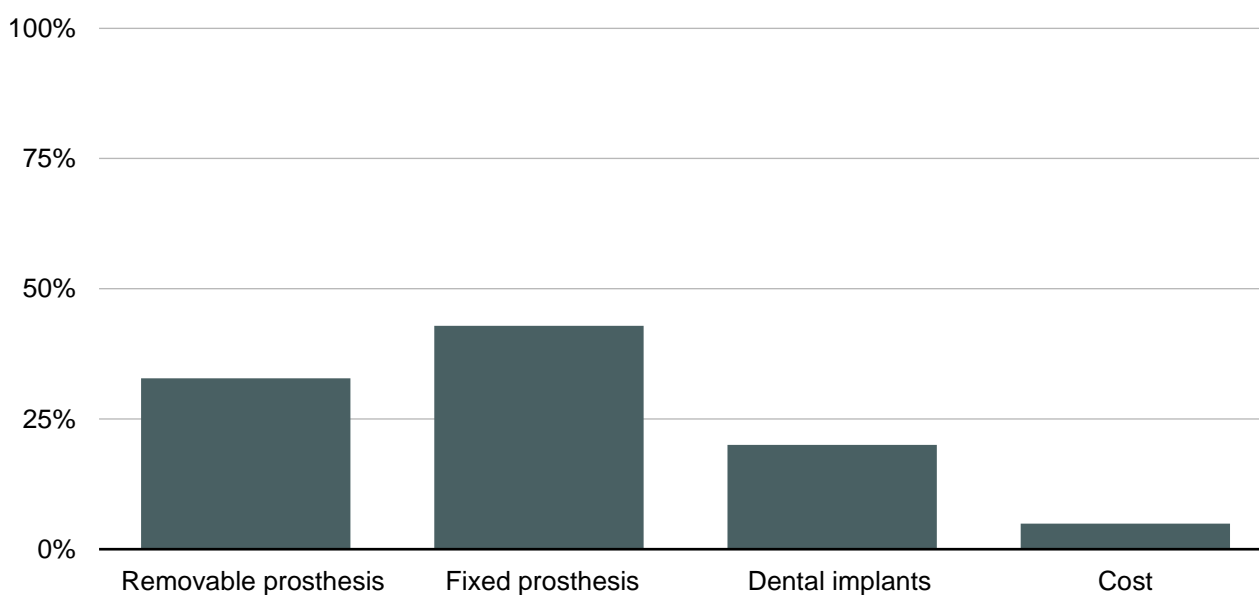


Figure: 2

Life Expectancy of prosthesis:

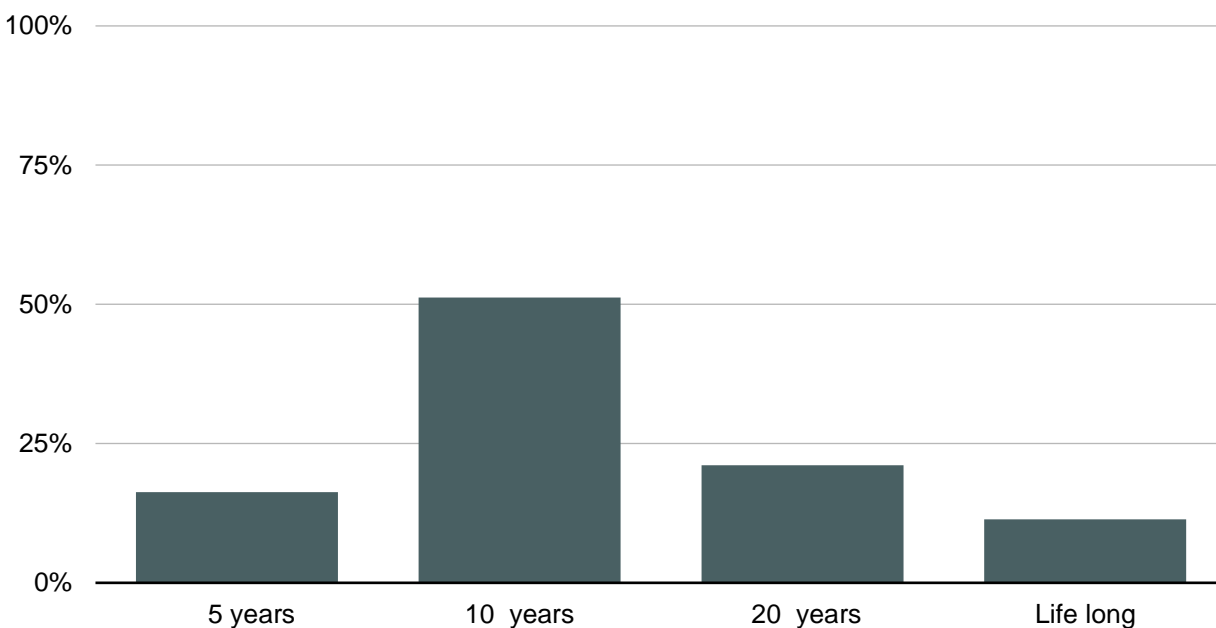


Figure: 3

This directly indicates an increased awareness among the patients with the need to replacement of missing teeth among patients with tooth loss. The primary need for the replacement of the missing teeth was a function such as mastication of food for 52.8% of patients and 34.1% of the patients want to replace their missing teeth for improving their appearance. This is depicted in the bar diagram as shown in figure 1.

A comparison of responses obtained based on the preferred treatment options as shown in figure 2 ,conveys that the FPD is the most preferred method of replacement as it is cost-effective and affordable for them. Due to awareness of recent treatment options, 16.8% of patients wanted implants as it does not involve adjacent teeth. Almost 100% of patients believe in regular maintenance of teeth and 90.4% of patients are willing to spend money. The expectations of the patient about the longevity of the prosthesis of varied opinions showing a majority of 10 years among 42.7% as shown in figure 3.

As per the results of this study, it is inferred that some proportion of patients lack awareness about not replacing the missing teeth and being edentulous over a long period. Though awareness and knowledge about the treatment options among the patients are good, the awareness about the consequences of being edentulous for a long time should still be improved. Although 73.4% of patients are aware of the consequences, only 57.8% of patients have reported to the dentist before 1 year. The remaining 48.4% reported after 1 year. By then, the space for the replacement of missing teeth is lost which is not good for maintaining the integrity of the stomatognathic system.

Discussion:

This study was conducted to evaluate the awareness among the partially edentulous patients about the need to replace the missing teeth and the preference for treatment options.

In this study, a total of 124 patients were asked about their awareness of replacing their missing teeth, the treatment preferences, the reasons for their choice of treatment, and the source of information.

A total of 52.8% of patients felt that they are unable to chew their food properly and the need for replacement is masticatory function.

This is similar to the findings in a study by Shah et al., who found that 60% of his study population need the replacement of missing teeth due to their inability to chew food.^(7&11) Out of the 124 patients, 41.4% preferred FPD, as it is cost-effective and affordable by them, 31.2% preferred RPD due to its cost-effectiveness, and 16.8% preferred implants as it does not involve adjacent teeth. This was

contrary to a study by Rahman et al. in 2016, who found that 74.66% of patients preferred RPD, 56.66% preferred FPD, and 13.33% wanted implants.^(5&7)

Although a total of 90.4% of patients were willing to spend felt that their poor socioeconomic status was the prime reason for not replacing the missing teeth. This was following Macek et al. and Pallegedara in 2005 who observed that cost was a hindrance in seeking dental treatment.⁽⁶⁾ The expectations of the patient about the longevity of the prosthesis of varied opinions showing a majority of 10 years among 42.7%. Almost all the patients believe in regular maintenance of artificial teeth for their longevity which needs to be appreciated.

Restoring lost teeth requires a multidisciplinary approach in both patient education and treatment planning. More emphasis should be placed on oral medications and the role of radiologists in patient diagnosis and education at the initial consultation. Knowledge and awareness through various orientation methods and camps regarding public health dentistry can provide a significant change in encouraging further outreach. The interdisciplinary involvement of the orthodontist in restoring lost space and the periodontist in lengthening the crown allows the prosthodontist to efficiently replace the missing tooth during subsequent treatment.

Therefore, dentists should utilise the power of multidisciplinary participation and the media to understand the consequences of not replacing lost teeth, especially molars, in a timely manner, and in maintaining a healthy occlusion. The public needs to be educated about the essential role of teeth and its surrounding soft tissue.

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