

A Survey to Evaluate the Awareness of Various Treatment Modalities to Replace Missing Teeth among Patients Visiting Kasturba Hospital, Manipal: A Prosthodontic Perspective

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ABSTRACT

Background: The disabilities associated with oral health; like missing teeth, are many. The management of these disabilities is of utmost importance to any dental practitioner.

Materials and methods: This study was conducted at the outpatient department (OPD) of Manipal College of Dental Sciences, Manipal, located in Udupi district of South-West Karnataka, with a population of 11.7 lakh of whom 305 patients (146 females and 159 males) took part in the study to assess their awareness to various treatment options available to replace missing teeth.

The subjects filled out a close-ended questionnaire of 11 questions; clinical examination of the oral cavity then followed. They all had at least 1 missing tooth (3rd molars excluded). The data were analyzed using SPSS Version 2.0, with a Chi-square test significance level of $p < 0.05$.

Results: Of the 305 patients who participated, 69.2% of males and females wanted to get their teeth replaced.

The remaining 15.2% males and 12.6% females who did not want to get their teeth replaced stated that the lack of time prevented them from doing so. A total of 5% of females and a 1.4% of males said that previous traumatic dental experience prevented them from getting treatment.

Majority of both men and women were aware of the removable partial prosthesis as a treatment option (71.9% males and 74.9% females). A small portion of the study group, 21.9% males and 25.2% of females were aware of dental implants.

The most preferred treatment option, chosen by 53.5% females and 49.3% males was the fixed partial prosthesis (tooth supported).

These findings indicate that 56% of women were more inclined to avail treatment for missing teeth, and only 44% of men felt the need to avail treatment.

A total of 76.7% males and 76.1% females felt that their masticatory functions were affected.

Conclusion: The findings indicate that awareness regarding implants is lacking, and that motivation brought about by outreach programs has not yet reached most sections of the Indian society.

Keywords: Awareness, Motivation, Partial edentulism, Preferences, Treatment modalities.

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INTRODUCTION

We live in a country of 1 billion people, of which, 7.7% of the population is above 60 years. The remaining 77 million people are either partially or fully edentulous. The number of patients that should be visiting a dentist for dental prosthetic rehabilitation treatment should be high, but, due to various reasons, such as lack of awareness, poor socioeconomic status, lack of a specialized dental clinics, etc. this number is still unknown. According to a study conducted by Shah N et al (2004), out of 1240 subjects (716 urban and 524 rural), 60% of the subjects were not happy with their quality of life when it came to chewing, due to lack of teeth, or lack of dentures. Also, it was ascertained that <50% of the study population that were in dire need of complete dentures actually wore them, and <13% of the total study population that required partial prosthesis, actually had them in their oral cavity.¹

The majority of patients that visited our dental outpatient department (OPD) are from the rural areas in and around Manipal. Most of these patients still follow ancient traditions passed down from generations, with more emphasis on general health rather than oral health. Hence, formulating a treatment plan that satisfies both the patient's expectations and the treatment plan laid out by the dentist is difficult. Going along these lines, a study conducted among Chinese people living in the UK found that, the older the population living there gets, the more susceptible they are to dental disease and that there is little they can do to prevent the loss of their teeth.²

The presence of teeth in the oral cavity helps maintain a positive outlook in life.³ The loss of the same, would have a major say in his/her social activities. Nowadays,

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people consider a loss of teeth as a serious life event, both at a social as well as at a psychological level.^{4,5} Hence, ascertaining whether the patient has had any adverse reactions on being edentulous for a long time, as well as his/her feelings to the new dentures would go a long way in helping the patient accept the new dentures.⁶

The perceptions and attitude that patients have nowadays regarding tooth loss is undergoing a change.⁷ Adults have a greater sense of dental expectations as compared to the past. Several factors, such as the attitude, the motivation to seek dental treatment as well as the monetary incentives being provided by the government for the rural folk, play an important role in the patient's life when becoming edentulous.⁸

AIM

To assess the general awareness and motivating factors of patients of Manipal College of Dental Sciences, Manipal (MCOADS), about the various treatment options to replace missing teeth.

OBJECTIVES

To compare and evaluate the:

- Awareness of patients to the various dental prosthetic restorative procedures.
- Preference of patients regarding their choice of treatment. Motivating factor that drives them to avail dental prosthetic replacement therapy.

MATERIALS AND METHODS

A cross sectional survey was carried out with a sample population of 305 patients presenting to the Outpatient Department of Manipal College of Dental Sciences, Manipal, between March and July 2015. Ethical clearance was obtained from the Kasturba Hospital Ethics Committee prior to the initiation of the study. Patients with at least one tooth missing (3rd molars excluded), and older than 19 years of age were given an opportunity to participate. Subjects were informed of the aims of the survey and consent was taken. Patients with complete edentulism were not included. A questionnaire with 11 close ended questions was presented to the patients.

Of the 11 questions, the first two were to ascertain if the subjects were aware of the fact that they had missing teeth in their mouth, and if so, what was their period of edentulism. This was followed by a question that was used to ascertain the cause for the loss of tooth/teeth. Also included were questions used to ascertain if the lack of tooth/teeth affected the patient's ability to chew and if it affected their overall appearance. The knowledge about the various prosthodontic treatment modalities and their

motivation to get the teeth replaced was also recorded using the questionnaire. The data obtained was analyzed using the SPSS Version 2.0 for Windows 8.

RESULTS

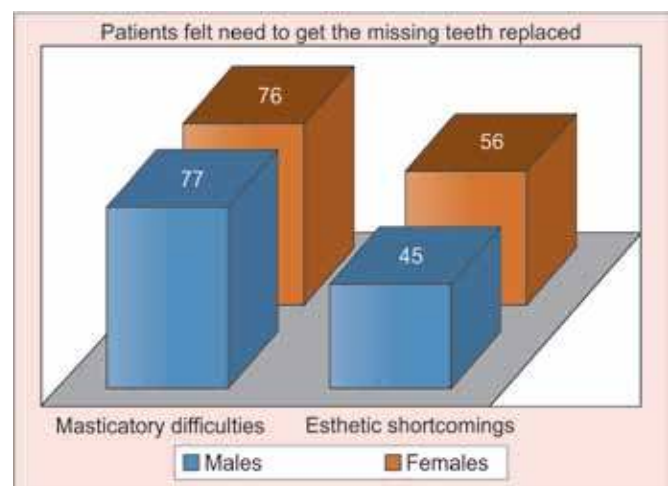
In the first question, when asked if they knew of the absence of teeth in their oral cavity, surprisingly 2.7% of the males and 1.9% of the females responded in the negative.

In the second question, they were asked to identify the duration of their being edentulous and it was seen that a majority of males (56.8%) and females (47.8%) had been edentulous for greater than 1 year and less than 5 years. A total of 17% of females and 15.8% of males were partially edentulous for more than 5 years. Only 15.7% of females and 10.3% of males had been partially edentulous for less than 6 months.

When asked further, 61% of the males and 64.8% of females stated that tooth loss was due to caries, 13.2% females and 14.4% males stated natural causes (may include periodontal problems also) and the other major cause of tooth loss was trauma (17.1% male and 8.2% female) and the remaining were unaware of the cause for their tooth loss.

The patients were asked to state if they had difficulty in mastication and/or if they felt their esthetics were compromised, (Graph 1). Most women felt that loss of teeth led to loss of esthetics whereas, men felt that their masticatory capabilities had been compromised.

Only 70% of males and females felt that they wanted to get their teeth replaced, and of the remaining 30% who said no, 15.8% of men and 12.8% females said that lack of time was a major reason for them in not availing dental treatment. A total of 6.3% females and 8.9% males



Graph 1: When required to state if being edentulous affected their masticatory abilities and esthetic expectations, men and women equally expressed that masticatory difficulties were felt (77% men and 76% women) whereas only 45% males and 56% females felt that it affected the way they looked

mentioned the cost factor. Previous traumatic dental experiences restricted only 5% of females and 1.4% of males. Absence of a dental clinic in the vicinity was stated as a reason by the rest.

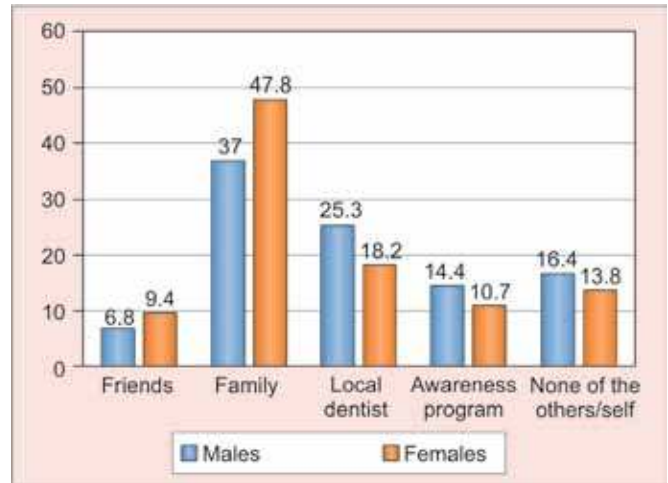
When asked to state which all modes of prosthodontic treatment they were aware of (Graph 2), most of the men and women were aware of the removable and fixed denture. Only around one fourth of the subjects were aware of the implants as a mode of prosthodontic rehabilitation.

Most of the men and women seemed to prefer the fixed denture to implants and even removable dentures. (Graph 3).

Family and the local dentist seem to be factors that motivated the subjects too seek out prosthodontic rehabilitation, as seen in (Graph 4).

DISCUSSION

The needs and preferences of patients in getting their missing teeth replaced continues to baffle dentist in India. Hence this study was conducted to overcome this scarcity



Graph 4: Motivating factors stated by the patients

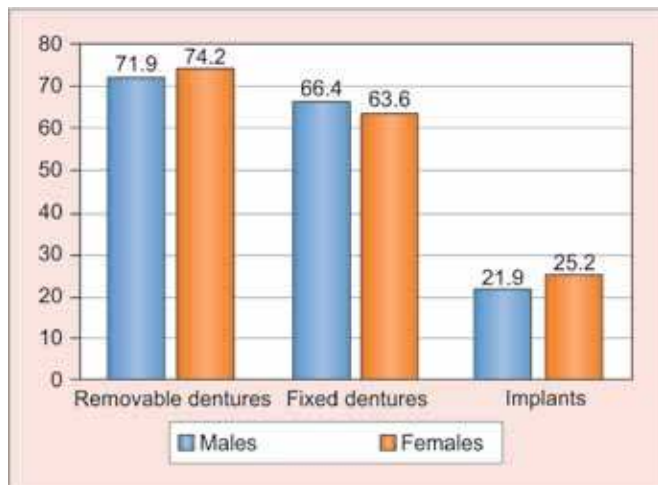
related to the knowledge and preferences of patients to prosthetic dental therapy.

In this study, a total of 305 patients (146 males and 159 females) were asked about their treatment preferences, motivational factors and the reasons for their partial edentulousness.

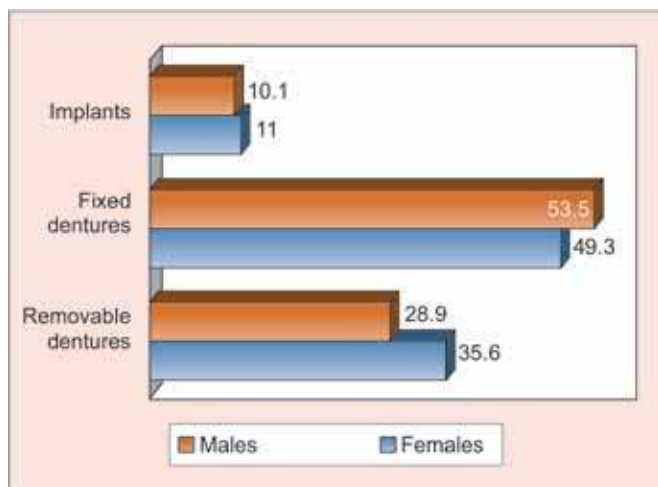
A total of 97.3% males and 98.1% females in our study were aware of their state of partial edentulism. These similar sorts of findings were also documented in a study conducted by Prabhu N et al (2009). In their study they found that females had a higher incidence of partial edentulism as compared to their male counterparts.⁹ Of the subjects interviewed, 56.8% males and 47.8% females had been edentulous for a period greater than 1 year but less than 5 years. A total of 15.1% males and 18.9% females had been partially edentulous for the past 6 to 12 months and 15.8% males and 17% females had been partially edentulous for a period greater than 5 years. This shows a lack of urgency or need to get the missing teeth replaced as soon as possible post exfoliation, hence clearly showing a lack of proper awareness about the sequelae associated with prolonged edentulism.

Most of those surveyed stated that decayed teeth were the main cause for their tooth loss, (61% males and 64.8% females). A study conducted in the UK found that 64% of their study population had lost their teeth to caries, 28% to periodontal reasons and 5% to other unknown factors.¹⁰ In our study, 14.04% males and 13.2% females stated natural causes as their reason for tooth loss, whereas 17.1% males and 8.2% females had a traumatic loss of their teeth with 7.5% males and 13.8% females having no idea as to what caused their tooth/teeth loss. This was in line with a study conducted by Prabhu et al (2009) which showed that periodontal disease was also a causative factor along with dental caries leading to tooth loss.⁹

On questioned about getting their missing teeth replaced, only 69.9% males and 69.2% responded in



Graph 2: Awareness to the different treatment modalities



Graph 3: Preferences to various treatment modalities

the positive, going in line with a study conducted by Akeel et al wherein he concluded that 82% of the study population wanted to replace their lost teeth.¹¹

A total of 76.7% males and 76.1% females felt that missing teeth affect their ability to chew food (Graph 1), which were similar to findings in a study by Shah N et al (2004), where he found out that 60% of his study population had a poor quality of life in their ability to chew food, as they had missing teeth.¹ A total of 44.5% males and 56% females were unimpressed by the space created by the missing teeth (Graph 1). This observation was in line with a study conducted by Teófilo and Leles,¹² who observed that females had greater esthetic expectations compared to males, and the results were also confirmed by a study conducted by Osterberg et al (1984) who reported that esthetic rather than functional factors determined an individual's need for the replacement of missing teeth.¹³ Leake et al concluded that better appearance and functionality were the main factors that drove a patient to a dentist.¹⁴ In a study conducted at Lahore by Amjad and Azeez et al, females were more concerned about their esthetics as compared to males.¹⁵

A total of 8.9% males and 6.3% females felt that their poor economical state was the prime reason for not getting their missing teeth replaced, because in a country like India, more preference is given toward general health rather than oral health. This was in accordance with Macek et al's study (2004) who observed that lack of time and low felt need was the chief reasons amongst men, whereas cost among females was the main reason to not getting teeth replaced.¹⁶ Pallegedara (2005), observed similar findings related to cost being a hindrance to seeking dental treatment.¹⁷ A total of 15.8% males and 12.6% females stated that lack of time kept them from visiting a dental specialist. Previous traumatic dental experiences kept 1.4% males and 5% females away from seeking specialized dental treatment.

A total of 71.9% males and 74.2% females of our study were well aware of the removable partial prosthesis (Graph 2) as a treatment modality, whereas the fixed partial prosthesis was known by 66.4% males and 63.6% females.¹⁵ These results were also confirmed by Firas et al (2011)²⁶, wherein 60% of the study population was aware of the fixed prosthodontic treatment, 47.5% about the removable partial denture and 57% to dental implants.¹⁸ Only a small portion of our study population, 21.9% males and 25.2% females were aware of the dental implant as a treatment option in our study. This was in stark contrast to a study conducted in Norway which showed that 70.1% of the study population knew of Dental implants from their local dentist.¹⁹

It was also observed that 53.5% females and 49.3% males preferred the fixed partial prosthesis to replace their missing teeth (Graph 3), with a higher number of women preferring the same. This fact was corroborated in a study conducted by Napankangas (1996)²⁰ and Casamassimo (2002)²¹ where the largest population in their study that required the fixed prosthodontic treatment were women. Only a minute portion of our population, 10.1% females and 11% males preferred the dental implant as a treatment option. A total of 28.9% females and 35.6% males looked favorably upon the removable partial prosthesis as a treatment option. Similar results were noted in a study conducted in Nigeria, wherein 92.3% of the study population preferred the removable partial prosthesis.²² Tepper (2003),²³ Zimmer (1992),²⁴ Pommer (2011)²⁵ noted in their study that the subjects chose the fixed partial prosthesis and implants as treatment modalities over the RPD. Similarly, Firas et al (2011)²⁶ noted that pain, duration of treatment, cost were noted as the main deciding factors that a patient takes into consideration while selecting a suitable treatment option for him/herself.

When our patients were presented with the question about who/what was their main motivating factor (Graph 4), 37% males and 47.8% females stated that it was their own kin,¹⁵ whereas the remaining 23.5% males and 18.2% females mentioned that their local dentist motivated them into getting their missing teeth replaced, which was in line with Mukatash et al (2010),²⁷ where the dentist was the main source of motivation for both genders to get their missing teeth replaced. Only 14.4% males and 10.7% females stated that the dental outreach awareness programs run by Manipal College of Dental Sciences, Manipal, motivated them into visiting a dentist.

CONCLUSION

As displayed by the results of this study, patients lack the awareness and motivation to replace their missing teeth. Therefore, the focus of the dental outreach camps conducted by MCODS Manipal should be oriented toward understanding the needs of the patients, their preferences and on improving the awareness and knowledge that they have about dental prosthesis.

The above actions should go hand in hand with proper patient education regarding the pros of getting a dental prosthesis early, along with the cons associated with missing teeth.

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