



PREVALENCE OF EDENTULISM AND PREFERRED PROSTHESIS AMONG YOUNG ADULTS - A QUESTIONNAIRE STUDY

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ABSTRACT **Background:** We conducted this study to gather baseline data on tooth loss and preferred prosthesis as there were only few epidemiological studies on tooth loss, especially in young adults (18–26 years). **Aim:** The aim of the study is to analyze the prevalence of tooth loss and their preferred prosthesis among young adults (18-26years) who arrived to the private dental institutions for treatment or to accompany them. **Materials and methodology:** A total of 634 young adults (18-26 years) were included in the study, individual questionnaire were given for assess the oral health followed by examination of edentulism. **Results:** Out of total samples 28.7% had tooth loss, 71.3% don't. The causes of tooth loss are 67.9% tooth decay, 13.6% trauma, 10% congenital missing, and 8.6% mobility. The population with treatment needs 30.5%, 12.8% underwent treatment for tooth loss and 56.8% are not in need of treatment/not willing for treatment. The population preferred fixed prosthesis is 49.8%, 10.2% removable prosthesis, 40% implant. **Conclusion:** The need for prosthetic care among young individuals and the associated risk factors for tooth loss are highlighted in this study. The purpose of this study was to inform participants about the effects of tooth loss, the significance of replacing missing teeth, and the many treatment choices that are accessible to them.

KEYWORDS : Edentulism, Prosthesis, Young adults, treatments

INTRODUCTION:

Oral diseases are public health problem which has high prevalence and it has impact on life along with it edentulousness which is the loss of natural teeth is also an important public health issue globally. (Exceeding 10% in adults aged ≥ 50 years) and associated disability. Nowadays edentulism is commonly observed in young adults due to lack of proper oral hygiene and psychological problems^{1,2}. Edentulism may lead to difficulty in chewing and improper digestion of food added to which it has serious social, psychological, and emotional consequences which impacts the quality of life of patient's self-image and self-esteem around 7.6 million leading DALY (disability-adjusted life years)³. Dental caries, periodontal disorders, and oral trauma are the leading contributors to tooth loss, according to the WHO Global Oral Health Programme¹. Patient-based outcome measures are frequently utilized to get insight into people's thoughts and emotions regarding their health status in order to provide therapy for oral disorders and tooth loss rehabilitation⁴. The Global Burden Disease research identified significant tooth loss as one of the 100 health disorders that harm populations in 2010¹. A crucial surveillance indicator used to track the state of oral health is the loss of permanent teeth among the population⁵. To better understand how treatment affects patients' quality of life, researchers have recently started to pay more attention to patients' perceptions of oral health and treatment⁶. According to World Health Organization (WHO) in the year 2020 stated that the functional dentitions of the individuals has to be increased between age group 35-44 and 65-74 years and it included the need of perceiving dental treatment by patients³. Young adults are considered as the principal workforce of a nation to contribute to productivity and GDP growth. Increased oral health burden, especially in this age group population, may hinder nations' progress and past evidence have concluded that tooth loss was an effect of multi-variable interactions^{7,8}. Edentulism can be treated with various different prosthodontic options depending on patients need. Replacement with various prosthesis according to predetermined success criteria based on technical standards for each individual is important in attaining quality of life⁹. Conventionally, the success of these treatments has been evaluated from a clinicians' point of view, the use of patient-centered outcome measures may help facilitate a more appropriate, patient-oriented prosthetic solution. However, a technical and clinically satisfactory prosthesis is not only necessary factor for good patient satisfaction⁶. In the past few decades, there has been a reduction in the prevalence and incidence of tooth loss in the world, but this condition

is still amongst the top hundred conditions that had the highest impact on the health of the world population⁹. The aims of this study were to determine effect of oral hygiene habits sugar consumption on tooth loss and normative treatment needs and the percentage of subjects in need of a prosthodontic rehabilitation. Epidemiological studies on tooth loss, particularly in young adults (18-26 years), are very sparse, and its nonexistence in tamilnadu encourages us to conduct this study to derive the baseline data on tooth loss and preferred prosthesis¹. Hence, this study was conducted with the aim to assess prevalence of tooth loss among the young adults and their preferred prosthesis.

MATERIALS AND METHODOLOGY

A descriptive cross sectional study was conducted in the private dental institution located in Melmaruvathur, Chengalpattu district, in the year 2022. This study was conducted among the adults who attended the private dental institution for treatment or as accompanying persons. Young adults of age group (18-26) were included in the study. Tooth loss due to therapeutic extraction for orthodontic correction and prophylactic extraction of wisdom teeth that do not need replacement were excluded. The self-administered questionnaire was prepared in the English language first and later translated to Tamil. Before commencing the study, permission from the institutional review board was obtained. The purpose and procedure of the study was explained to the individual.

Patients were provided with self-administered questionnaire included information about their age and gender, questions on oral hygiene practices, sugar consumption and tooth loss, followed by intraoral examination of individuals with tooth loss. The intraoral examination (Microsoft excel) record sheets with standard codes were prepared to evaluate missing teeth and their preferred prosthesis. After examining the participants they were explained about the treatment options available for that individual by the examiner. The examination was carried out by the single examiner in the Department of Prosthodontics, bridge and crown.

RESULTS

There were 65.5% women and 34.1% men overall in the sample population. Out of the total samples 46.8% were between the age group 18-20, 41.9% were between the age group 21-23, 11.2% were between the age group 23-26.

In the total samples 97.6% does brushing, only 2.4 does

finger/floss.97.2% uses tooth brush and tooth paste,2.8 tooth powder.58.5% does brushing in mornings only.41% does brushing both morning and night,78.8% uses fluoridated tooth paste,15.9% uses non fluoridated tooth paste,5.3 were not aware of the tooth paste they use. Other cleaning aids commonly used are 36.5% tongue cleaner,29.4% mouth wash,4.3% dental floss,29.8% used no other cleaning aids. Cleaning time- 80.6%-brushes 2-3 mins,9.8% brushes 1 min, 9.6% brushes more than 5 mins.

In the total sample 91.3% people consumes sugar whereas 8.7% don't, out of 91.3% 61.6% consumed sugar occasionally,31% consumed frequently 7.4%.51.8% consumed sugar during meals,33.5% consumed sugar in between meals.45.3% consumes chocolates,8.8% consumes candy/toffee.23.5% consumes dairy sweets,22.3% consumes other sweets.

Out of total samples 28.7% had tooth loss; the causes of tooth loss are 67.9% tooth decay, 13.6% trauma, 10% congenital missing, and 8.6% mobility. The population with treatment needs represent 30.5%, 12.8% underwent treatment for tooth loss and 56.8% are not in need of treatment/not willing for treatment. The population preferred fixed prosthesis is 49.8%, removable prosthesis is 10.2 and implant is 40%

Discussion:

In previous studies Barman J et al, stated that complete edentulous is not common but partial edentulism is seen in young adults and also there was not particular about age and gender variations⁷. In our present study 28.7% of young adults have partial tooth loss also we have more particular about age and gender variations. In some studies shown that females has less partial edentulousness compared to males. In our study more females are partial edentulous compared to males. The study conducted by Bhandari A et al; they stated that Kennedy's class III was common classification among young adults¹³. Similar to that our study common prevalence is Kennedy's class III classification. According to study conducted by Barman J et al, most common reason for tooth loss in young adults is dental caries followed by periodontal problems⁷. In our study similar to previous study most common problems are dental caries followed by trauma, congenital missing and periodontal problems. According to Jain et al, oral hygiene practices most common methods of brushing was done with tooth brush comparing with other mode of cleaning⁷. In our study similar to previous study most common method of cleaning was done using tooth brush and tooth paste, most common brushing frequency was once daily for 2-3min, most commonly used are fluoridated toothpaste also tongue cleaner was most commonly used cleaning aid. In previous study Sen et al, stated that dietary habit has direct effects on tooth loss in particular the type, frequency and combination of sweet consumption. According to Lula et al, the high the intake of added sugars is likely to be related to a greater prevalence of periodontal disease in adults aged 18–25 years, our study population has majority of sugar consumers, which is a risk factor for them leading to dental caries/periodontal diseases. Among 150 Icelandic teenagers, Arnadóttir et al. found a correlation between sugar intake frequency (rather than quantity) and dental caries which is in agreement with the observation made in this study.

In this study the population who needed treatment was higher than the population who completed their treatment indicating the lack in of awareness among the population regarding dental treatment which is in contrary to the observation given by sen et al⁷. After examining the participants of the study they were explained about the treatment options available. The results exposed the participants' susceptibility to edentulism brought on by poor dental health care and dietary habits. Mouz et al, concluded that there was a larger demand for simple therapies that might have been provided through basic oral healthcare at the early stages of dental caries. Though the people believed they need to replace their teeth for improved function and appearance due to lack of knowledge of different treatment modalities and financial considerations there is a decrease in the population who is willing to undergo treatment. Most of the population preferred fixed prosthesis followed by implant and removable prosthesis. These results support the swelem et al's clinical experience that FDPs are a more natural means of replacing missing teeth and require shorter adaptation periods than RDPs, especially in younger individuals. There are several limitations, since all information except partial edentulism was based on self-report, reporting bias may have existed which introduces the participants' perceptions of their own oral health status into the data. The study can be done in wider population to generalize the result.

Limitations: The study lacks socio behavioral and psychological analysis of patient which also has role in tooth loss. Further, information on socioeconomic status and deleterious habits were not obtained in this study.

Conflict of interest: Nil

Conclusion:

This study highlights the prosthetic treatment needs in young adults and the risk factors for tooth loss among them. Conducting this study made the participants know the consequences of tooth loss, importance of replacement of missing tooth, and various treatment options available for them. There are also other modalities of preventive measure to combat this such as oral health policies, programmes and camps specially formulated for young adults.

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