

To Evaluate the Relation Between Sociodemographic Variables and Partial Edentulism in A Known Population

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ABSTRACT

Background: Edentulism is a debilitating condition with a multifactorial etiology, serving as a terminal marker for oral disease. The aim of the study to evaluate the relation between sociodemographic variables and partial edentulism in a known population.

Material and methods: The present cross-sectional study was conducted among 276 patients. A proforma including a structured questionnaire was prepared, followed by an oral examination of the patients. Clinical examinations were conducted in accordance with the procedures and diagnostic criteria recommended by the World Health Organisation (WHO), 1997. A statistical software (SPSS version 22, SPSS Inc, Chicago, IL, USA) was used for data analysis. Chi-square tests were performed and P values were calculated for each characteristic. P value <0.05 were considered statistically significant.

Results: In the present study total participants were 276 in which 48.91% were male and 51.08% were females who were partially edentulous. A peak in the prevalence rates of partial edentulism was demonstrated between the age group of 31-40 years, with females exhibiting the maximum prevalence rates of 28.88%. 52.17% were unemployed and 47.82% participants were employed. 57.97% resided in urban areas. Based on the monthly family income 53.98% belonged to the medium income group, 25% belonged to the high income group and 21.01% belonged to the low income group. Distribution based on educational status indicated that 51.44% belonged to the basic group, 31.52% belonged to the secondary group, and 17.02% belonged to the illiterate group. It was also observed that decay (56.52%) was the most common cause of tooth loss in the study population and function (51.81%) was the most common reason for replacement of missing teeth. It was observed that 53.62% partially edentulous patients preferred fixed treatment, 35.50% preferred removable treatment and 13.76% deemed both options as acceptable.

Conclusion: Our study concluded that females were more partially edentulous. Patients of the age group of 31-40 years were more partially edentulous. Decay was the most common cause of tooth loss in the study population and function was the most common reason for replacement of missing teeth. Maximum patients of partial edentulism preferred fixed treatment.

Keywords: Partial edentulism, fixed treatment, removable treatment.

INTRODUCTION

Tooth loss has a major influence on biologic, social, and psychological levels of the oral health-related

quality of life. The prevalence of tooth loss has declined considerably in various countries in last

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decades.¹⁻³ Edentulism (partial or total) is an indicator of the oral health of a population.⁴ It demonstrates a multifactorial etiology characterized by physical, economic, social, and genetic influences. Tooth loss is attributed to the interaction of systemic and oral health, as well as their interplay with environmental factors.⁵ The prevalence of edentulism involves a complex relationship between culture, attitude, access to care, dental behavior, pathogenesis, and socio-demographic factors.⁵ Age, gender, low family income, and rural domicile have been associated with edentulism.⁶ Tooth loss impairs the quality of life, and also it affects the well-being of the person. Missing teeth can interfere with chewing ability, diction, and esthetics. Low self-esteem related to tooth loss can hinder an individual's ability to socialize, hamper the performance of work and daily activities, and lead to absence from work.⁷ The aim of the study to evaluate the relation between sociodemographic variables and partial edentulism in a known population.

MATERIAL AND METHODS

The present cross-sectional study was conducted among 276 patients who attended the OPD of Prosthodontics over the period of 3 months. Before the commencement of the study ethical approval was taken from the Ethical committee of the institution. The study participants were above 20 years of age, and participant has only permanent dentition were included in the study. A proforma including a structured questionnaire was prepared, followed by an oral examination of the patients.⁸ It included the participants' age, gender, socio-economic status, demographic background, oral health practices, past oral history, purpose for replacement of teeth and preferred treatment option. Clinical examinations were conducted in

accordance with the procedures and diagnostic criteria recommended by the World Health Organisation (WHO), 1997.⁸ Natural daylight, plane mouth mirrors and periodontal probes were used to examine the oral hygiene and the teeth present in the oral cavity. The socio-economic status was evaluated considering three factors: level of literacy, occupational status and monthly family income.⁹ A statistical software (SPSS version 22, SPSS Inc, Chicago, IL, USA) was used for data analysis. Chi-square tests were performed and P values were calculated for each characteristic. P value <0.05 were considered statistically significant.

RESULTS

In the present study total participants were 276 in which 48.91% were male and 51.08% were females who were partially edentulous. A peak in the prevalence rates of partial edentulism was demonstrated between the age group of 31-40 years, with females exhibiting the maximum prevalence rates of 28.88%. 52.17% were unemployed and 47.82% participants were employed. 57.97% resided in urban areas. Based on the monthly family income 53.98% belonged to the medium income group, 25% belonged to the high income group and 21.01% belonged to the low income group. Distribution based on educational status indicated that 51.44% belonged to the basic group, 31.52% belonged to the secondary group, and 17.02% belonged to the illiterate group. It was also observed that decay (56.52%) was the most common cause of tooth loss in the study population and function (51.81%) was the most common reason for replacement of missing teeth. It was observed that 53.62% partially edentulous patients preferred fixed treatment, 35.50% preferred removable treatment and 13.76% deemed both options as acceptable.

Table 1: Sociodemographic variables.

Variables	Partially edentulous patients		P value
	Males N(%)	Females N(%)	
Gender	135(48.91%)	141(51.08%)	<0.05
Age (in years)			
21-30	24(17.77%)	25(18.51%)	
31-40	37(27.40%)	39(28.88%)	
41-50	34(25.18%)	35(25.92%)	
51-60	24(17.77%)	26(19.25%)	
61-70	12(8.88%)	14(10.37%)	

71-80	4(2.96%)	2(1.48%)	
Socioeconomic status			
Occupation			
Employed	132(47.82%)		
Unemployed	144(52.17%)		
Monthly family income			
Low	58(21.01%)		
Medium	149(53.98%)		
High	69(25%)		
Illiteracy			
Illiterate	47(17.02%)		
Basic	142(51.44%)		
Secondary	87(31.52%)		
Residency			
Urban	160(57.97%)		
Rural	116(42.02%)		

Table 2: Etiology causing Partial edentulism.

Etiologic factors	No. of patients (%)
Decay	156(56.52%)
Periodontal disease	40(14.49%)
Trauma	25(9.05%)
Others	5(1.81%)

Table 3: reasons for teeth replacement among partially edentulous patients

Purpose	N (%)
Function	143(51.81%)
Function/esthetics	82(29.71%)
Esthetics	23(8.33%)
Function/esthetics/speech	20(7.24%)
Function/speech	5(1.81%)
Esthetic/speech	3(1.08%)

Table 4: Choice of treatment option for teeth replacement.

Treatment option	N(%)
Fixed	148(53.62%)
Removable	98(35.50%)
both	38(13.76%)

DISCUSSION

Loss of teeth reflects a major public health problem in many countries.¹⁰ Edentulism has a significant impact on health and the overall quality of life.¹¹

In the present study total participants were 276 in which 48.91% were male and 51.08% were females who were partially edentulous. A peak in the prevalence rates of partial edentulism was demonstrated between the age group of 31-40

years, with females exhibiting the maximum prevalence rates of 28.88%. 52.17% were unemployed and 47.82% participants were employed. 57.97% resided in urban areas. Based on the monthly family income 53.98% belonged to the medium income group, 25% belonged to the high income group and 21.01% belonged to the low income group. Distribution based on educational status indicated that 51.44% belonged to the basic group, 31.52% belonged to the secondary group, and 17.02% belonged to the illiterate group. It was also observed that decay (56.52%) was the most common cause of tooth loss in the study population and function (51.81%) was the most common reason for replacement of missing teeth. It was observed that 53.62% partially edentulous patients preferred fixed treatment, 35.50% preferred removable treatment and 13.76% deemed both options as acceptable.

Kathleen D' souza, et al.¹¹ and Nadia Khalifa¹² found that prevalence of partial edentulism is slightly more in females (54.9%) and slightly less in males (45%). According to the study by D'souza, et al.¹¹ reasons for tooth loss predominantly was dental caries i.e., 83.85%, periodontal reason 10.25%, trauma 5.28%. Isha Rastogi, et al. concluded that mastication was the major problem faced by the subjects.¹³

The difference in tooth loss between rural and urban adults might be explained by the fact that meeting dental care needs is more challenging to the people living in the rural areas compared to their urban counterparts. Availability, accessibility, acceptability, and affordability of dental services might be the potential barriers for the rural people to seek timely advice and treatment. In India there is gross disparity in oral health care provision between urban and rural areas.¹⁰

A study done by Davis D M et al where they found a significant association between accepting tooth loss and self-confidence, also most of the edentulous people did not enjoy their food, avoided eating, laughing and going out in public, and avoided forming close relationship as a consequence of losing their teeth.¹⁴

CONCLUSION

Our study concluded that females were more partially edentulous. Patients of the age group of 31-40 years were more partially edentulous. Decay was the most common cause of tooth loss in the study population and function was the most common reason for replacement of missing teeth. Maximum patients of partially edentulism preferred fixed treatment.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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