

To Assess Prevalence of Edentulism in a Known Population

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ABSTRACT

Background: An adequate dentition is of importance for well-being and life quality. Despite advances in preventive dentistry, edentulism is still a major public health problem worldwide. The aim of the present study was to assess the prevalence of edentulism in a known population.

Material and methods: The present cross sectional study was conducted to determine the prevalence of complete edentulism among 380 completely edentulous patients. Patients were selected on the basis of clinical oral examination. Patient's age was divided into the following groups. Group I – 30–45 years. Group II – 45–60 years. Group III – 60 years and above. A proforma including a structured questionnaire was prepared including name, age, sex, occupation, information regarding the duration of edentulousness and reasons of edentulousness. The collected data were analysed statistically using the chi-square test at the significance level of $p < 0.05$.

Results: In the present study total patients were 380 in which 68.42% were males and 31.57% were females. Out of 260 male patients, 30% patients belonged to 30-45 age group, 55.76% patients belonged to 45-60 age group, 14.23% patients belonged to 60 years and above age group. The distribution of male patients according to duration of complete edentulousness out of 260 patients, 28.07%, 25.38%, 21.15%, 15%, 10.38% were found edentulous in category of up to 6 months, 6 months–1 year, 1–5 years, 5–10 years, above 10 years respectively. Maximum number of patients were in the category of age group up to 6 months and minimum were in the age group above 10 years. The distribution of female patients according to duration of complete edentulousness in out of 120 patients, 10.76%, 13.6%, 16.33%, 2.3%, 3.07%, 3.07% were found edentulous in the category of up to 6 months, 6 months–1 year, 1–5 years, 5–10 years, above 10 years respectively. The distribution of male patients according to reasons of complete edentulousness in 260 patients, 63.07% were edentulous due to periodontal disease, 33.84% were edentulous due to dental caries, 3.07% were edentulous due to trauma. The distribution of female subjects according to reasons of complete edentulousness in 120 females, 62.5% were edentulous due to periodontal disease. 34.16% were edentulous due to dental caries and 3.33% were edentulous due to trauma.

Conclusion: Our study concluded that males were more edentulous than females, maximum male patients belonged to 45-60 age group, maximum female patients belonged to 30-45 age group. The maximum male patients were edentulous up to 6 months, the maximum female patients were edentulous for 1–5 years. The maximum male and female patients were edentulous due to periodontal disease.

Keywords: Edentulous, caries, periodontal disease.

INTRODUCTION

Edentulism is a debilitating and irreversible condition and is described as the “final marker of

disease burden for oral health”.¹ Although the prevalence of complete tooth loss has declined over

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the last decade, edentulism remains a major disease worldwide, especially among older adults.² 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.³ Based on data from the World Health Survey, conducted from 2002 to 2004, the prevalence of self-reported edentulism among persons 50 years and older in countries of the Southeast Asian region were 4.2% in Laos, 22.2% in Malaysia, 2.4% in Myanmar, 14.6% in the Philippines and 5.6% in Vietnam.⁴ Analyzing the causes that lead individuals to lose all their teeth is a complex, multifactorial task involving many objective data (caries, periodontal disease, traumas, iatrogenic effects), as well as factors that are subjective but no less important (ethnic and cultural factors, sociocultural level, diagnoses, uncertainty in therapeutic assessments).⁵ The aim of the present study was to assess the prevalence of edentulism in a known population.

MATERIAL AND METHODS

The present cross-sectional study was conducted to determine the prevalence of complete edentulism among 380 completely edentulous patients, who reported for the first time in the OPD for a complete denture treatment over a period of 6 months. Before the commencement of the study ethical approval was taken from the Ethical committee of the institution and informed consent was obtained from the patients. Patients's were selected on the basis of clinical oral examination. Patient's age was divided into the following groups. Group I – 30–45 years. Group II – 45–60 years. Group III – 60 years and above. A proforma including a structured questionnaire was prepared included name, age, sex, occupation, information regarding the duration

of edentulousness and reasons of edentulousness. The collected data were analysed statistically using the chi-square test at the significance level of $p < 0.05$.

RESULTS

In the present study total patients were 380 in which 68.42% were males and 31.57% were females. Out of 260 male patients, 30% patients belonged to 30-45 age group, 55.76% patients belonged to 45-60 age group, 14.23% patients belonged to 60 years and above age group. Out of 120 female patients, 54.16% patients belonged to 30-45 age group, 28.33% patients belonged to 45-60 age group, 17.5% patients belonged to 60 years and above age group. The distribution of male patients according to duration of complete edentulousness out of 260 patients, 28.07%, 25.38%, 21.15%, 15%, 10.38 were found edentulous in category of up to 6 months, 6 months–1 year, 1–5 years, 5–10 years, above 10 years respectively. Maximum number of patients were in the category of age group upto 6 months and minimum were in the age group above 10 years. The distribution of female patients according to duration of complete edentulousness in out of 120 patients, 10.76%, 13.6%, 16.33%, 2.3%, 3.07%, 3.07% were found edentulous in the category of up to 6 months, 6 months–1 year, 1–5 years, 5–10 years, above 10 years respectively. The distribution of male patients according to reasons of complete edentulousness in 260 patients, 63.07% were edentulous due to periodontal disease, 33.84% were edentulous due to dental caries, 3.07% were edentulous due to trauma. The distribution of female subjects according to reasons of complete edentulousness in 120 females, 62.5% were edentulous due to periodontal disease. 34.16% were edentulous due to dental caries and 3.33% were edentulous due to trauma.

Table 1: Distribution according to gender.

Gender	N(%)`	p-value
Males	260(68.42%)	p < 0.05
Females	120(31.57%)	
Total	380(100%)	

Table 2: Distribution according to age group.

Age group(years)	N(%)		p-value
	Male	Female	
30-45	78(30%)	65(54.16%)	p < 0.05
45-60	145(55.76%)	34(28.33%)	
60 years and above	37(14.23%)	21(17.5%)	
Total	260(100%)	120(100%)	

Table 3: Distribution according to duration of edentulous

Duration of edentulousness (years)	N(%)		p-value
	Male	Female	
Upto 6 months	73(28.07%)	28(10.76%)	p < 0.05
6months-1 year	66(25.38%)	35(13.46%)	
1-5years	55(21.15%)	43(16.53%)	
5-10 years	39(15%)	6(2.3%)	
Above 10 years	27(10.38%)	8(3.07%)	
Total	260(100%)	120(100%)	

Table 4: Distribution according to reasons of edentulousness.

Reasons of edentulousness	N(%)		p-value
	Male	Female	
Periodontal diseases	164(63.07%)	75(62.5%)	p < 0.05
Caries	88(33.84%)	41(34.16%)	
Trauma	8(3.07%)	4(3.33%)	
Total	260(100%)	120(100%)	

DISCUSSION

Studies show that edentulism is closely associated with socioeconomic factors and is more prevalent in poor populations and in women.^{5,6} In 2003, the ratio of edentulism was 6 times higher in low-income than in higher income Canadian families.⁵ Other factors contributing to the prevalence of complete tooth loss are age, education, access to dental care, dentist/population ratios, and insurance coverage.^{7,8}

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Smoking was associated with early edentulism and can be attributed to changes in the oral flora, immune response, and increased predisposition for oral pathology, periodontal disease, and tooth decay.¹⁰

Sex was found to be a significant risk factor for edentulism. Certain studies indicate that sex does not play a role in early edentulism while others suggest that being male may increase the risk for edentulism.¹¹ Males are more likely to engage in poor behavioral habits, such as smoking, as well as participate in more high-risk behaviors that may lead to early tooth loss.¹¹ Also, males may be more likely to demonstrate poor oral hygiene, be less concerned with esthetics, and be less likely to seek dental care.¹¹

Suominen Taipale et al. concluded that in 1978 edentulism was found to be more in females than males but in 1997, the difference between sexes had almost disappeared.¹²

Philips Marcus found no statistically significant difference on the basis of gender.¹³

This study showed that periodontal disease was the major cause for edentulousness and then dental caries and lastly trauma. Some other studies have also shown similar significant findings.^{12,14,15}

Periodontal disease and dental caries have been considered as main determinants for the high occurrence of tooth loss and consequently for the high percentage of edentulism.^{12,14,15}

CONCLUSION

Our study concluded that males were more edentulous than females, maximum male patients belonged to 45-60 age group, maximum female patients belonged to 30-45 age group. The maximum male patients were edentulous upto 6 months, the maximum female patients were edentulous for 1-5 years. The maximum male and female patients were edentulous due to periodontal disease.

CONFLICTS OF INTEREST

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

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