

ORIGINAL ARTICLE

Prevalence of Various Kennedy's Classes in Partially Edentulous Patients Visiting in Prosthodontics Department of Isra Dental College Hyderabad

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ABSTRACT

Objective: To determine the prevalence of various missing teeth pattern among the partially edentulous patients who are undergoing treatment for the replacement of missing teeth.

Methods: This descriptive study was conducted in the department of Prosthodontics, Isra Dental College Hyderabad, from January 2012 to March 2016. A total of 3603 patients age ranging from a minimum of 15 years to 75 years (1890 Males and 1713 females) were involved in the study. Detailed clinical examination of the patients were done and recorded in proforma. Data were analyzed using Statistics SPSS 21 version.

Results: The results showed the patients with Kennedy's Class III were found to be the most prevalent type among all the patients (73.8%). The most common modification in all patients was Class III modification I (19.8%). It was also found that Kennedy's Class III were more commonly found in the age group of 40-49 years with 51.2% in the maxillary arch and 48.8% in the mandibular arch.

Conclusion: In the conclusion, the partially edentulous condition exists common prevalence in the maxillary arch as compared with the mandibular arch. Kennedy's Class III remains the most common classification.

Keywords: Prevalence, Kennedy's Classes, Partial edentulous, Missing tooth.

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INTRODUCTION:

Tooth loss is the teeth absent in the maxillary or mandibular arch, called edentulous space.^{1,2} Partial edentulous arch is a dental arch in which one or more but not all teeth are missing.³ Tooth loss has a major effect on an individual's oral health related quality of life at biologic, physical, psychological and social levels,

however, the prevalence and extent of tooth loss have significantly decreased in many countries during recent decades.^{4,7}

There are number of causes responsible for tooth loss, most commonly dental caries and periodontal problems.^{1,8,9} Bruce observed that the major reason for tooth loss in all age groups were due to dental caries (83%) and periodontal problems (17%).^{4,10} First molar was the tooth, to be the most commonly missing tooth because of its early eruption in the arch.¹ Similarly it has proved that the mandibular arch tooth loss is more common prevalent than maxillary arch.¹² Edentulousness compromises lifestyle, because partially edentulous patients restricts dietary options, which leads to weight loss and also lack of confidence and confined social activities, which

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may adversely affects the quality of life and lead to psychological dissatisfaction.^{3,13} The primary objective of the classification is to facilitate the communication about the combination of missing teeth to edentulous ridges among students, dental practitioners and laboratory technicians.¹³⁻²⁰ According to Miller, the most popular classification is the Kennedy's Classification.^{21,22}

Kennedy's classification is widely accepted due to its advantages of immediate visualization and recognition of prosthesis support.^{23,24} So, the aim of this study is to evaluate different schemes of edentulous state based on Kennedy's classes of partial edentulousness, to assess the gender ratio, age and socio-economic parameters in partial edentulousness and their poor replacement.

METHODS:

This study was carried out from January 2012 to March 2016 among 3603 patients attended the Out Patient Department of Prosthodontics, Isra Dental College Hyderabad, Sindh. Informed consent was taken from all the subjects for using their data in this research. Demographic information like age and gender were recorded and detailed Clinical examination of the Patients was done. All basic information like arch of missing teeth, site of missing teeth and the Kennedy's class were recorded in proforma. Inclusion criteria involved both the genders, aged between 15-75 years having partially edentulous areas in either or both the jaws and only permanent dentition were considered. Completely edentulous patients, deciduous dentition, mixed dentition and those with only missing maxillary and mandibular 3rd molars were excluded from the study.

Data analysis was carried out by using SPSS 21 version, to estimate the percentage of predominantly occurring Kennedy's classification within the gender and according to the age as well.

RESULTS:

Out of 3603 patients included in this study 1890 were males (52.5%) and 1713 were females (47.5%) (Table1). There was wide variation of age ranging from a minimum of 15 years to 75 years

having partially edentulous areas in either or both the jaws (Table 2). Clinical examination of patients revealed mostly teeth were missing in the maxillary arch 1846 (51.2%) patients, while in mandibular arch were 1757 (48.8%) patients. According to the Kennedy's classification, this study was revealed that class-I in 101(2.8%) cases, class-II in 131(3.7%) cases, class-III in 2657(73.8%) cases and class-IV in 714(19.8%) cases (Table 3).

Table-1: Gender Distribution

Gender	No. of Patients	Percentage
Male	1890	52.5
Female	1713	47.5

Table-2: Age Group

Age of Patients Years	No. of Patients	Percentage
15-19	150	4.2
20-29	531	14.7
30-39	823	22.8
40-49	978	27.1
50-59	655	18.2
60-69	369	10.2
70-75	97	2.7

Table-3: Kennedy's Classification

Kennedy's Classes	No. of Patients	Percentage
Class-I	101	2.8
Class-II	131	3.6
Class-III	2657	73.7
Class IV	714	19.8

DISCUSSION:

It is increasingly recognized that the impact of the disease on quality of life should be taken into account when assessing health status. Tooth loss in most of the cases being a

consequence of oral diseases, which affects the oral health related quality of life.²⁵ The prevalence of various patterns of partial edentulism differs from country to country. Such patterns can be explained by differences in socio-economic status, education, attitudes towards dental health and the importance of dental health compared with other concerns.¹

The prevalence of the partial edentulous adults in Iasi was 66.5% and was estimated that the rate of tooth loss was higher in the rural area and number of missing teeth were found more in the male population.²⁶ In our study gender ratio showed predominance of males. Out of 3603 patients 1890 were male (52.5%). However, in the study of Zaigham AM, 157 (43%) male and 210 (57%) females were reported.²³ In our study, age ranged from 15 to 75 years and most commonly missing teeth in the patients of 40-49 years of age group. In a recent national survey of a United States population found the missing teeth in subjects aged 30-34 years and 60-64 years and in a United Kingdom population 35-44 and 45-54 years old.²⁷

The results of our study indicate that the frequency of maxillary edentulous arch 1846 (51.2%) was higher than the mandibular edentulous arch 1757 (48.8%) among the study population. Clinical findings described by Butt AM in their study show higher frequency of mandibular arch partial edentulism being 60% as compared to 40% in maxillary arch.¹ In a study carried out on a Saudi population, conducted by Sadig and Idowa concluded that out of 422 partially dentate arches examined, Kennedy's class III was the most common pattern of the partial edentulism in both the maxillary and mandibular arches and Kennedy's class IV was the least common pattern encountered.¹⁷ In the study of Tanasic and Sojic conducted in Serbian elderly population, concluded that the most common type of partial edentulism among the Serbian elderly population was Kennedy's class-I.²⁸ In our study, Kennedy's class III most commonly occurred in 2657 (73.8%) cases followed by class IV in 714 (19.8%) cases, class II in 131 (3.7%) cases and class I in 101 (2.8%). The most common

modification occurs in our study was Kennedy's class III modification 1 in 712 (19.8%) cases.

The data obtained from the present study on the frequency and distribution of tooth loss are very important to provide the information to the practitioners to address the various factors implicated in tooth loss, not only to reduce it but educate and motivate the patients as well, to save the teeth is very important.

CONCLUSION:

This study reported that the prevalence of missing tooth in different age groups and gender showed existence of Kennedy's class III followed by class III modification 1 were predominant among the population of 40-49 years of age group. The partial edentulousness was common in maxillary arch as compared to the mandibular arch. The main cause of tooth loss is because of the literacy level and off course because of poor oral hygiene. Modification spaces for Kennedy's classification, prosthetic status, prosthetic need of the subject and their preference of the type of prosthesis are the topics could be prioritized by dental care experts in future studies and oral hygiene status of locality would be helpful.

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