A CROSS-SECTIONAL RESEARCH STUDY TO EVALUATE VARIOUS CLASSES OF KENNEDY'S TAXONOMY AMONG PATIENTS OF PARTIALLY EDENTULOUS

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Abstract:
Objective: The objective of this particular research was to evaluate various Kennedy's classes incidence in the patients having partially edentulous and presented themselves at our hospital.
Methodology: We carried out this cross-sectional research at Services Hospital, Lahore from February to August 2017 on a total of 300 patients. Every patient was included in this research after fulfilling the set research criteria. We carried out a clinical assessment of every patient and documented every required detail on a Proforma.
Results: In the total research sample, there were 173/300 males (57.66%) and 127/300 females (42.33%); the ratio of females to males was (1:1.3). The patients were enrolled in the age bracket of 15 years – 75 years with a mean age of (47 ± 7.8) years. Clinical assessment revealed that 180/300 patients were missing their teeth in the mandibular arch (60%), while 120/300 patients were missing teeth in the maxillary arch (40%). Most of the patients had missing teeth from the left side, such patients were 128/300 (42.66%), followed by the patients missing their teeth from right side 144/300 (38%) and 58/300 with teeth missing from the anterior site (19.33%). In terms of Kennedy's Classification, we revealed that there were 97 patients in Class – I (32.33%), 47 patients in Class – II (15.66%), 99 patients in Class – III (33%) and 57 patients in Class – IV (19%).
Conclusion: It is concluded that there is a common existence of a partially edentulous condition in the mandibular site than the maxillary arch site. In terms of Kennedy's Class, Class I & III were the most repeated classes with the respective proportion of 33% and 32.33%.
Keywords: Kennedy's Classes, Incidence, Mandibular, Maxillary, Arch and Partially Edentulous.

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INTRODUCTION:

Tooth loss refers to the absence of teeth of an individual from the site of jaws whether mandible or maxilla; this condition is known as edentulousness [1]. Tooth loss is caused by various reasons such as dental caries. Most common reason for tooth loss is the issue of periodontal [2, 3]. It is also a known fact that more common onset of loss of tooth at mandibular arch with respect to maxillary arch [4]. Most commonly missing tooth was first molar tooth as a result of an early eruption in the jaws [5]. Similarly, males have a reduced the tendency of tooth loss than females [6].

There is a wide range of physical variations among the patients of partially edentulous with various health states. Thus, various research studies have tried to categories the partially edentulous arches [7]. However, Millar is of the view that the most renowned classification is Kennedy's Classification [8, 9]. Various other research studies and authors have carried out investigations on the topic of Kennedy's Classification with respect to socioeconomic features and gender differences in partial edentulousness and its poor replacement [5, 6, 10, 11].

METHODOLOGY:

We carried out this cross-sectional research at Services Hospital, Lahore from February to August 2017 on a total of 300 patients. Every patient was included in this research after fulfilling the set research criteria. We carried out a clinical assessment of every patient and documented every required detail on a Proforma. We took informed consent from every research participant before the commencement of this research. Detailed demographic information was also obtained from every individual with related clinical assessment outcomes as well. We also recorded Kennedy's Classification, missing tooth site and arch of the patients. Permanently detained patients in the age bracket of 15 years – 75 years were enrolled in this research within the standard Kennedy's Classification. Whereas, we did not include the patients under fifteen years of age or above seventy-five years of age along with mixed dentition, deciduous and standard class modification. The researcher analyzed the research outcomes through SPSS software. Quantitative variables such as age were presented in Mean and SD. Qualitative variables like gender were shown in percentage and frequency. Significant P-Value was taken as (≤ 0.05).

RESULTS:

In the total research sample, there were 173/300 males (57.66%) and 127/300 females (42.33%); the ratio of females to males was (1:1.3). The patients were enrolled in the age bracket of 15 years – 75 years with a mean age of (47 ± 7.8) years. Clinical assessment revealed that 180/300 patients were missing their teeth in the mandibular arch (60%), while 120/300 patients were missing teeth in the maxillary arch (40%). Most of the patients had missing teeth from the left side, such patients were 128/300 (42.66%), followed by the patients missing their teeth from right side 144/300 (38%) and 58/300 with teeth missing from the anterior site (19.33%). In terms of Kennedy's Classification, we revealed that there were 97 patients in Class – I (32.33%), 47 patients in Class – II (15.66%), 99 patients in Class – III (33%) and 57 patients in Class – IV (19%). Detailed outcomes are also presented in tabular and graphical presentation underneath:

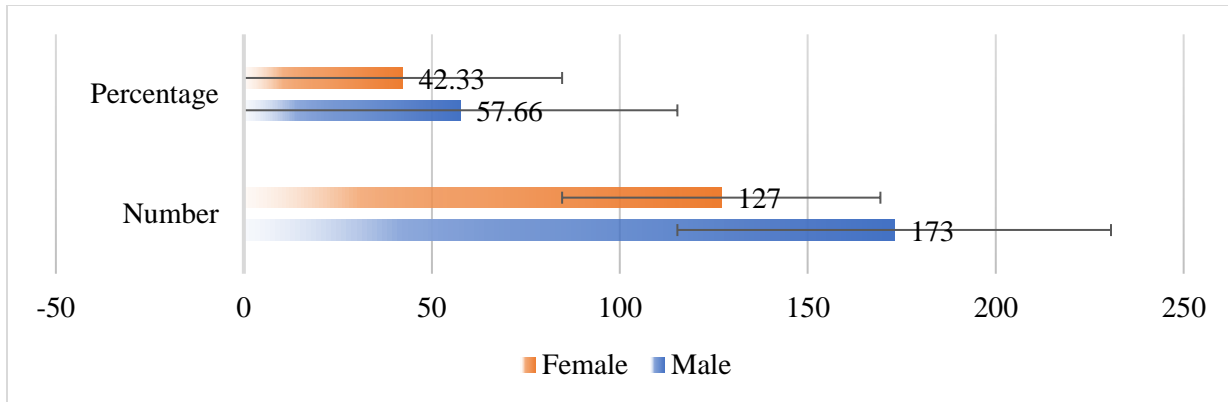**Table – I:** Gender Distribution

Gender	Number	Percentage
Male	173	57.66
Female	127	42.33

Table – II: Age Wise Distribution

Age (Years)	Number (300)	Percentage
15 – 25	2	0.66
26 – 35	67	22.33
36 – 45	72	24.00
46 – 55	133	43.33
56 – 65	22	7.33
66 – 75	4	1.33
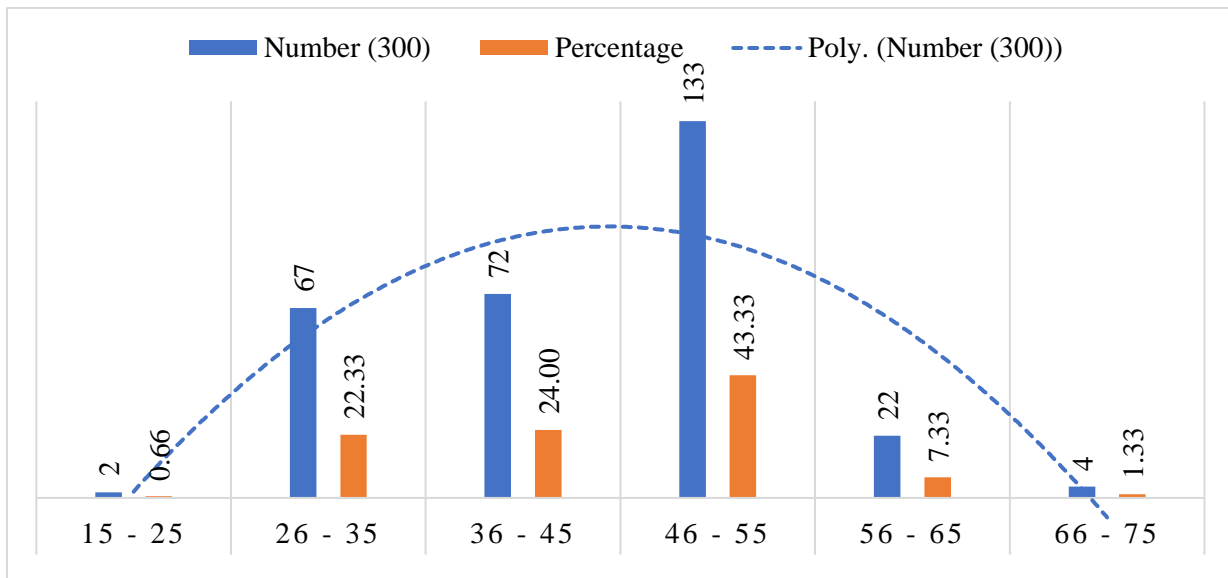
Table – III: Distribution of Site

Site	Number (300)	Percentage
Right Side	114	38.00
Left Side	128	42.66
Anterior Site	58	19.33
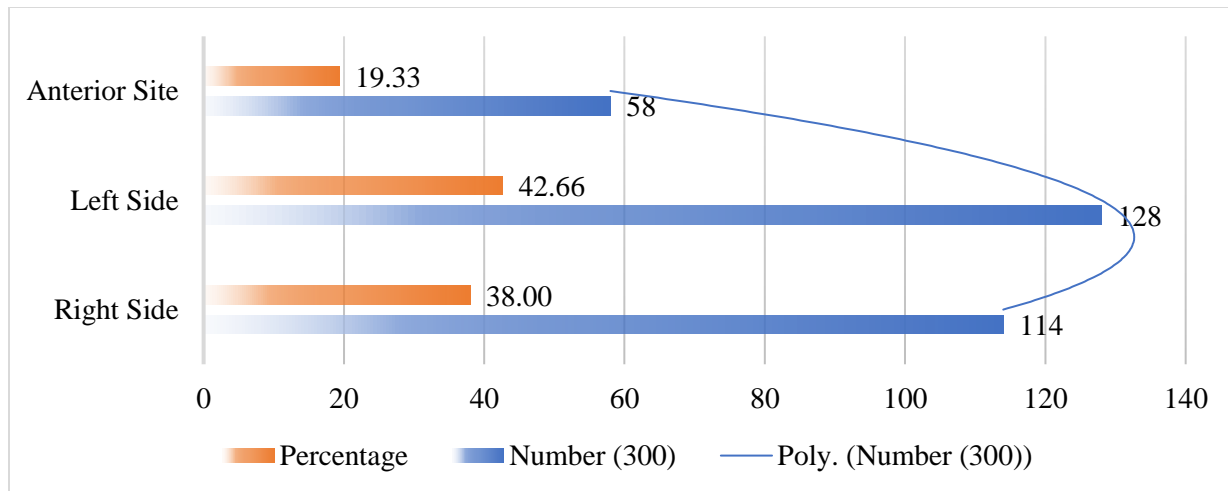
Table – IV: Class Wise Distribution

Class	Number
Class – I	97
Class – II	47
Class – III	99
Class – IV	57
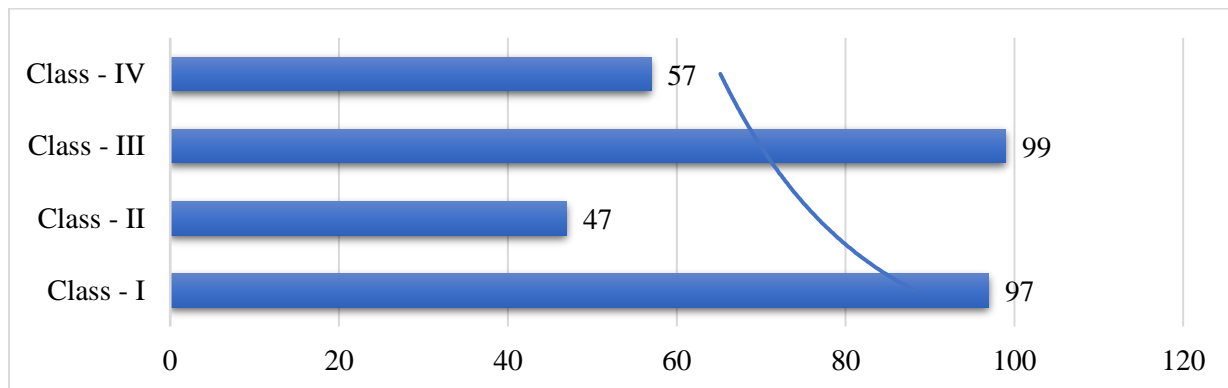
DISCUSSION:

Partial edentulism patterns are different in different settings and countries. These differences can be explained through education, socioeconomic differences, dental health attitude, and dental health priorities. There is a scarcity of available literature about the partial edentulism patterns and dental arch. Therefore, we collected the data from different sources and patients who visited the hospital. Professionals became aware of the tooth loss and partial edentulism patterns.

Males were predominant over females in the research population as there were 173/300 males (57.66%) and 127/300 females (42.33%); the ratio of females to males was (1:1.3). However, Zaigham AM reported 157 males (43%) and 210 females (57%) [12]. The contributing reason behind this difference may have an association with culture and tradition. Females are less treated in underdeveloped countries especially in the presence of male dentists. The prominent cause of reduced awareness was the low socioeconomic status of the patients [13].

According to a survey conducted in the USA reported tooth loss in different age groups of (30 – 34) years as 2.6% and (60 – 64) years as (13.2%). According to a survey conducted in the UK reported tooth loss in the age bracket of (35 – 44) years as (6.6%) and (45 – 54) years as (9.5%). This tooth loss is high than other reported countries which include Kenya, Brazil and China [14]. The patients were enrolled in the age bracket of 15 years – 75 years with a mean age of (47 ± 7.8) years. Peak affected age was in the age bracket of forty years and fifty years of age.

Clinical assessment revealed that 180/300 patients were missing their teeth in the mandibular arch (60%), while 120/300 patients were missing teeth in the maxillary arch (40%). Most of the patients had missing teeth from the left side, such patients were 128/300 (42.66%), followed by the patients missing their teeth from right side 144/300 (38%) and 58/300 with teeth missing from the anterior site (19.33%). According to Naveed H, the higher occurrence was reported in the mandibular arch as it was more partial edentulism (67.4%) than maxillary arch (63.2%) [15].

A research study conducted at KSA studied 422 patients of partially dentate arches and the most common class was Kennedy's Class – III in both lower and upper arches; whereas, the least common class was of Kennedy's Class – IV [16]. In terms of Kennedy's Classification, we revealed that there were 97 patients in Class – I (32.33%), 47 patients in Class – II (15.66%), 99 patients in Class – III (33%) and 57 patients in Class – IV (19%). According to Charyeva OG, Class – III was the most repeated partial edentulism type among patients in maxilla and mandible with respective proportions of 50% and 41.1% [17].

CONCLUSION:
It is concluded that there is a common existence of a partially edentulous condition in the mandibular site than the maxillary arch site. In terms of Kennedy's Class, Class I & III were the most repeated classes with the respective proportion of 33% and 32.33%. The peak age group of tooth loss is from forty to fifty years of age. A common site was left side followed by common Kennedy's Class I and Class II.

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