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Amna Basharat

Dr., WMO at DHQ Hospital Nankana sahib, Pakistan
usmanmaan520@gmail.com

Faryal Younis

Dr., BDS FCPS-1
fyounis15@gmail.com

Mudassar Naveed

Dr.,
mudassirnaveed81@gmail.com

SECTION 20. Medicine.

ORTHODONTIC PATIENTS MALOCCLUSION PREVALENCE IN PAKISTANI POPULATION

Abstract: *OBJECTIVE* To evaluate the prevalence of malocclusion in patients reported in Orthodontic department Lahore medical and dental collage (LMDC).

STUDY DESIGN cross sectional study.

PLACE OF STUDY Orthodontic department Lahore medical and dental collage Lahore.

DURATION Six month study span

MATERIAL AND METHODS Clinical examination of 1055 patients by using Angle's classification (665 Girls and 390 Boys) *RESULTS* Class I malocclusion was found in 21.13% out of Total sample. Class II malocclusion found in 54.23% and class III malocclusion prevalence found in 9.1% of sample .Non of statistically significant differences found in distribution of malocclusion between males and females.

CONCLUSION Class II malocclusion was dominant in patients reported Orthodontic department of LMDC.

Key words: orthodontics, Malocclusion, dental problem.

Language: English

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Introduction

Prevalence of different types of malocclusion is important to plan orthodontic measures and evaluate the resources required for the services. Large scale epidemiological studies have been carried out to evaluate the prevalence of malocclusion in different ethnic and racial groups and reported incidences varied in different populations. These gross variations were recognized due to the differences in ethnic groups and also possible influences in registration methods of malocclusion trait and in sample compositions

The method of recording occlusal traits can be broadly divided into quantitative and qualitative measurements. Qualitative methods commonly include British standard institute (BSI) of incisor classification and Angle classification for molar relationship. These methods are useful in describing

the occlusion traits mean of categorizing various types of dental malocclusions for quick and easy documentation as well as providing a common channel of communication among dental professionals

The aim of this study was to evaluate the prevalence of malocclusion in patients reported in orthodontic department of LMDC.

Materials and methods

This cross sectional study included orthodontic patients reported in department of orthodontic LMDC. Lahore from March 2017 to Aug. 2017.

A total 1055 patients consisting 665 girls and 390 boys with mean age of 16.4 ± 6.1 year were evaluated in this study. The present study was based on the examination of malocclusion on dental casts and clinical examination of patients.

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The patients with the previous history of orthodontic treatment, permanent Tooth extractions other than 3rd molars, mixed dentition, congenital malformations like Cleft lip or/and palate and systemic diseases were excluded from the study . Consent were obtained from patients or from parents of patients.

Angle classification was used to determine anteroposterior dental arch relationship. The readings were taken either from the first permanent molar relationship or in the case of its absence or its extraction, the canine relationship was marked, asymmetry was designated by the subdivision- class I on one side and class II on the other side or class I on

one side and class III on the other side . Patient with class II from one side and class III from the other side were excluded.

Results

Class I malocclusion was found in 255 patients which represents 24% of the total sample. Class II division 1 malocclusion was found in 533 (50.5%) and class II division 2 was found in 90 (8.5%) of sample overall class II was diagnosed in 623 patients that represented 59.1% of the total sample. Class III malocclusion consisted of 101 patients which represents 9.6% Table 1.

Table 1. Distribution of malocclusion types according to Angle's classification.

Malocclusion	Total	%age
Class I	255	24%
Class II Div. 1	533	50.5%
Class II Div. 2	90	8.5%
Class III	101	9.6%
Class II sub.	51	4.8%
Class III sub	25	2.4%
TOTAL	1055	99.8%

Class II subdivision was found 51(4.8%) and Class III subdivision 25(2.4%) respectively in patients. Class II had the highest frequency 59%. No

significant difference was found in the distribution of malocclusion in males and females. Table II

Table – II. Distribution of malocclusion types on gender basis.

Malocclusion	Male	Female
Class I	105 (26.5%)	150 (22.7%)
Class II div. 1	183 (46.2%)	350 (53.1%)
Class II div. 2	31 (7.8%)	59 (8.9%)
Class III	44 (11.1%)	57 (8.6%)
Class II sub	22 (5.5%)	29 (4.4%)
Class III sub	11 (2.8%)	14 (2.1%)
TOTAL	396	659

Discussion

Several studies have been published describing the prevalence of malocclusion and its different types. The results of this study may show variability due to differences in classification of occlusal relationship. The developmental period of study sample, Examine differences, and differences in sample size. The distribution of the malocclusion types may give valuable according to our results, Class II was the most common malocclusion which represented 72.7% of the sample. Whereas class II div. 1 was found in 46.2% and Class II div. 2 in 7.8% cases of the sample. The frequency of Class I

was 26.5%. Class III malocclusion was 11.1%. Class II subdivision 5.5% and Class III subdivision was 2.8%

These results do not represents the prevalence of malocclusion in Pakistani population as a whole because this study was evaluated only subject seeking Orthodontic department .

Results of the study had observations that majority of sample population were females that is harmonized with other surveys. Generally girls are very conscious for orthodontic procedures compared with boys. So this factor was vibrant in our smple population as well. However the ratio of

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malocclusion both in males and females were almost same.

The local studies like Aslam et al⁷. Reported that Angle's Class I is the most frequent pattern of malocclusion 55.2%. Another study in India on 3204 rural children were found to had malocclusion in 26.7%, among them Class I malocclusion was found to be 13.1%, Class II 11.6% and Class III 1.08% of the whole sample. In North American Caucasian Children, Massler Studied 2758 children and found class I to be 49.9%, Class II div-1 15.8% Class II div-2 was 1.98% and Class III was 7.5%.

In different studies like Ijaz et Al⁸ that population was heterogeneous and data for studies collected from dental OPDs I contrast to Orthodontic patients in other studies. However, International literature reported Class II malocclusion as more frequent than Class I & III malocclusion in

Asian men Population . However Jones investigated malocclusion and facial types in 132 Saudi Arabian patients being referred for Orthodontic treatment and reported that 61.2% had Class I 30.4% had Class II div – 1, 3.9% had Class II div-2, and 13.1% had Class III malocclusion .

Very Rare studies have been conducted in Pakistan for the assessment of malocclusion .TRhe epidemiological differences and heterogenic characteristics of malocclusion in comparison of Pakistan And Other countries would be expected because of distinctive racial and ethnic composition .

These results cannot be a reflection of whole Pakistani population and thus expected to varying degree of prevalence of dental malocclusion. Other studies with larger sample size are needed for the knowing the true and accurate prevalence of malocclusion.

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