

Assessment of Prevalence of Orthodontic Malocclusion Among Students of Malwa Region: A Clinical Study

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ABSTRACT

Background: Evidence of the efficiency of early orthodontic measures is just as rare as studies providing serviceable information on the incidence of tooth malalignments and malocclusions in the deciduous and early mixed dentition, some of whose findings are in any case highly divergent. Hence; under the light of above mentioned data, we planned the present study to assess the prevalence of orthodontic malocclusion among students of Malwa region.

Materials & methods: A total of 200 school children were included in the present study. Clinical oral examination of all the subjects was carried out using mouth mirror and probe. Angle's classification of malocclusion corresponding with their anteroposterior skeletal relationship, which divided the occlusion broadly into three classes- Class I, Class II, and Class III, was used. All the details were recorded Microsoft excel sheet and were analysed by SPSS software.

Results: 35 percent of the subjects of the present study had class I malocclusion. 42.5 percent of the patients of the present study had class II malocclusion. 22.5 percent of the patients of the present study had class III malocclusion.

Conclusion: Class II malocclusion is the most common type of malocclusion encountered in Malwa region.

Keywords: Malocclusion, Pediatric subjects.

INTRODUCTION

The American Academy of Orthodontists (AAO) endorses that paediatric subjects should have an orthodontic examination by 7 years of age — for two very good reasons. Firstly, it takes an expert to inform if a subject may or may not develop malocclusion. Secondly, for an early exam is that many conditions are easier to treat at early stage, when children's natural growth processes are intense.¹⁻³ Evidence of the efficiency of early orthodontic measures is just as rare as studies providing serviceable information on the incidence of tooth malalignments and malocclusions in the deciduous and early mixed dentition, some of whose findings are in any case highly divergent.^{4,5}

Data from the past literature have tried to evaluate the prevalence of different types of malocclusion among paediatric subjects and its impact on quality of life.^{6,7} Hence; under the light of above mentioned data, we planned the present study to assess the prevalence of orthodontic malocclusion among students of Malwa region.

MATERIALS & METHODS

The present study was conducted in the department of orthodontics of the dental institute and it included assessment of prevalence of orthodontic malocclusion among students of Malwa region. A total of 200 school children were included in the present study. Inclusion criteria for the present study included:

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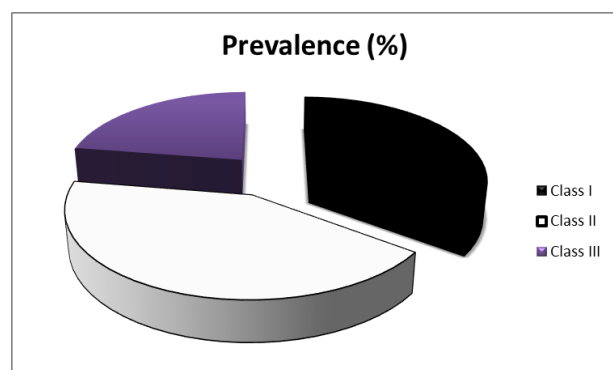
- Subjects between the age group of 10 to 16 years,
- Subjects with negative history of any other systemic illness,
- Subjects with negative history of any skeletal malformation

Table 1: Demographic data.

Parameter		Number of subjects	Percentage of subjects
Age-group (years)	10 to 12	65	32.5
	12 to 14	75	37.5
	14 to 16	60	30
Gender	Male	90	45
	Female	110	55

Table 2: Prevalence of different type of malocclusion.

Type of malocclusion	Number of patients	Prevalence (%)
Class I	70	35
Class II	85	42.5
Class III	45	22.5



Graph 1: Prevalence of different type of malocclusion.

After meeting the inclusion criteria, screening of all the subjects was done. Complete demographic details of all the subjects were obtained. Clinical oral examination of all the subjects was carried out using mouth mirror and probe. Angle's classification of malocclusion corresponding with their anteroposterior skeletal relationship, which divided the occlusion broadly into three classes- Class I, Class II, and Class III, was used. All the details were recorded Microsoft excel sheet and were analysed

by SPSS software. Chi- square test was used for assessment of level of significance.

RESULTS

In the present study, a total of 200 school going children within the age group of 10 to 16 years were analysed. Mean age of the children of the present study was 12.7 years. 32.5 percent of the subjects of the present study belonged to the age group of 10 to 12 years. 37.5 percent of the subjects of the present study belonged to the age group of 12 to 14 years. 30 percent of the subjects of the present study belonged to the age group of 14 to 16 years. 45 percent of the subjects of the present study were males. 35 percent of the subjects of the present study had class I malocclusion. 42.5 percent of the patients of the present study had class II malocclusion. 22.5 percent of the patients of the - present study had class III malocclusion.

DISCUSSION

Malocclusion in itself is neither a disease nor a life threatening condition; nevertheless, the appearance of the mouth and smile plays a significant role in judgments regarding facial attractiveness. Thus, malocclusion has large physical, social, and psychological impact on the individual and society. Several studies have attempted to provide epidemiological reports of the prevalence of malocclusions in different ethnic groups.⁶⁻⁸

In the present study, mean age of the children was 12.7 years. 32.5 percent of the subjects of the present study belonged to the age group of 10 to 12 years. 37.5 percent of the subjects of the present study belonged to the age group of 12 to 14 years. 30 percent of the subjects of the present study belonged to the age group of 14 to 16 years. Bilgic F et al determined the prevalence of malocclusion and orthodontic treatment need in a large sample of Central Anatolian adolescents and compare them with European-other nations' adolescents. The sample included 1125 boys and 1204 girls aged between 12 and 16 years with no previous orthodontic treatment history. The dental health (DHC) and aesthetic components (AC) of the Index of Orthodontic Treatment Need (IOTN) were used as an assessment measure of the need for orthodontic treatment for the total sample. The results indicated a high prevalence of Class I

(34.9%) and Class II, Division 1 malocclusions (40.0%). Moreover, increased (18%) and reduced bites (14.%), and increased (25.1%) and reversed overjet (10.%) were present in the sample. Using the DHC of the IOTN, the proportion of subjects estimated to have great and very great treatment need (grades 4 and 5) was 28.%.⁸

45 percent of the subjects of the present study were males. 35 percent of the subjects of the present study had class I malocclusion. 42.5 percent of the patients of the present study had class II malocclusion. 22.5 percent of the patients of the present study had class III malocclusion. Al Jadidi L et al determined the prevalence of malocclusion and orthodontic treatment need in a sample of Omani adolescents aged 11–16 years. The total sample included 854 adolescents with 387 boys and 467 girls. The Index of Orthodontic Treatment Need (IOTN) was used to study the need for orthodontic treatment for the total sample. There was a high prevalence of Class I jaw relationship (86.2%). About 81.6% of the sample studied had Class I molar relationship and 73.8% had Class I incisors relationship. About 61.4% of the sample had no contact displacement, while 5.2% had contact displacement >4 mm.⁹

Kumar P et al ascertained the prevalence of malocclusion and orthodontic treatment need in schoolchildren dependent on armed forces personnel. Five schools were randomly selected among Army/KV/AF schools and a random sample of 1200 children aged 10–15 years old attending these schools dependant on armed forces personnel were selected. It was observed that prevalence of malocclusion in the sample was 53.7%. 32.8% (239 males & 154 females) of samples are in need of orthodontic treatment. 55.1% of samples shown no caries risk, 38.1% had moderate caries risk and 6.8% had high caries risk. Significant percentage of the samples is in need for orthodontic treatment.¹⁰

CONCLUSION

Under the light of above obtained results, the authors conclude that class II malocclusion is the most common type of malocclusion encountered in Malwa region. Hence; early detection and interception of malocclusion aids in early treatment planning and better results.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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