

Assessment of Prevalence of Various Type of Malocclusion Among Known Population: An Observational Study

Akriti Mahajan¹ Satyendra Kumar Jha² Farhat Jabeen³ Anjali Bani⁴ Rohit J Biranjan⁵ Rajan
Jairath^{6*}

¹Private Consultant, Department of Oral Medicine and Radiology, Jammu and Kashmir, India.

²Reader, Department of Oral Medicine and Radiology, Chhattisgarh Dental College and Research Institute, Sundara, Chhattisgarh, India.

³Private Consultant, Department of Prosthodontics and Implantology, Jammu and Kashmir, India.

⁴Senior Lecturer, Department of Orthodontics, SMBT Institute of Dental Sciences and Research, Dhamangaon, Maharashtra, India.

⁵Senior Lecturer, Department of Oral Medicine and Radiology, Chhattisgarh Dental College and Research Institute, Sundara, Chhattisgarh, India.

⁶Professor, Department of Orthodontics, Christian Dental College, Ludhiana, Punjab, India.

ABSTRACT

Background: A malocclusion is a misalignment or incorrect relation between the teeth of the two dental arches when they approach each other as the jaws close. The present study was conducted to assess the different type of malocclusion in adult.

Materials & Methods: This study was conducted in the department of Orthodontics on 280 patients of both genders. Malocclusion was assessed in all patients.

Results: Out of 280 patients, males were 110 and females were 170. Type of occlusion was normal occlusion was seen in 45 males and 60 females, class I malocclusion in 25 males and 40 females, class II div I in 20 males and 35 females, class II div II in 15 males and 25 females. Class III malocclusion was seen in 5 males and 10 females. The difference was significant ($P < 0.05$).

Conclusion: Malocclusion is common among children. Most commonly seen was class I followed by class II. Age group 11-13 years maximum number of children with malocclusion.

Keywords: Class I, Malocclusion, Orthodontic.

INTRODUCTION

A malocclusion is a misalignment or incorrect relation between the teeth of the two dental arches when they approach each other as the jaws close. The term was coined by Edward Angle, the "father of modern orthodontics", as a derivative of occlusion.¹ Dentofacial deformities and deviations from normal occlusal relationship can cause severe problems for individuals, including difficulties in mastication, speech problems, gingival traumas, pain, temporomandibular disorders, and diminished self-esteem and self-confidence due to perceived poor appearance.²

Malocclusions feature the third highest prevalence among oral pathologies, second only to tooth decay and periodontal disease. While there are evidence that certain features such as stress, traumatic deep overbite, unprotected incisors and impacted teeth may adversely affect the longevity of the dentition.³

Numerous indices such as IOTN, DAI, ICON have been developed to rank or score the deviation of malocclusion from the normal. Majority of these indices assess not only severity of dental occlusion

Received: May. 18, 2019; Accepted: July. 20, 2019

*Correspondence Dr. Rajan Jairath.

Department of Orthodontics, Christian Dental College, Ludhiana, Punjab, India.

Email: rajanjairath@gmail.com

but also include evaluation of the aesthetics.⁴ The aesthetic component of the indices is

more subjective and less readily measurable than the morphological characteristics. The subjectivity of indices used to record orthodontic anomalies, their questionable validity and reliability may contribute to inconsistency of results. With increasing interest in the early detection and treatment of malocclusion and a corresponding emphasis on preventive procedures, it would be beneficial to collect more information on patients at younger age levels.⁵ The present study was conducted to assess the different type of malocclusion in adult.

MATERIALS & METHODS

This study was conducted in the department of Orthodontics. It included 280 patients of malocclusion of both genders. All were informed regarding the study and written consent was obtained. Ethical clearance was taken prior to the study. General information such as name, age, gender etc was recorded. All patients were examined by an expert orthodontist. Patients were classified into normal occlusion and Angles malocclusion was classified as Class I malocclusion, Class II div I and class II div II and class III malocclusion. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I: Distribution of subjects.

	Total- 280	
Gender	Males	Females
Number	110	170

Graph I shows that out of 280 patients, males were 110 and females were 170.

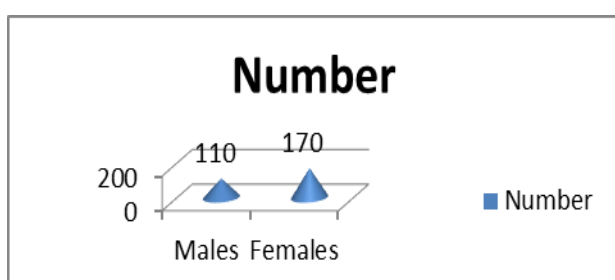
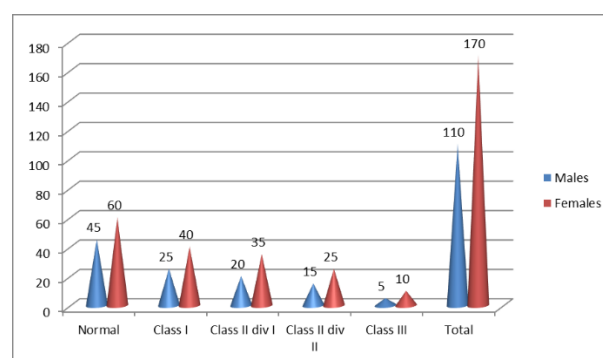


Table 2: Type of malocclusion.

Malocclusion	Males	Females	P value
Normal	45	60	0.51
Class I	25	40	0.01
Class II div I	20	35	0.01
Class II div II	15	25	0.05
Class III	5	10	0.02
Total	110	170	

Table II and Graph II shows that type of occlusion was normal occlusion was seen in 45 males and 60 females, class I malocclusion in 25 males and 40 females, class II div I in 20 males and 35 females, class II div II in 15 males and 25 females. Class III malocclusion was seen in 5 males and 10 females. The difference was significant ($P < 0.05$).

Graph II: Type of malocclusion.



DISCUSSION

Increased concern for dental appearance during childhood and adolescents to early adulthood has been observed. The social interactions that have a negative effect on self-concept, career advancement and peer group acceptance have been associated with unacceptable dental appearance.⁶ In general, societal forces define the norms for acceptable, normal and attractive physical appearance. The social interactions that have a negative effect on self-concept, career advancement and peer group acceptance have been associated with unacceptable dental appearance. In general, societal forces define the norms for acceptable, normal and attractive physical appearance.⁷ The present study was conducted to assess the different type of malocclusion in adult.

In this study we found that out of 280 patients, males were 110 and females were 170. The

occurrence of occlusal anomalies varies between different countries, ethnic and age groups. The incidence of malocclusion has been reported to vary from 12% up to 90%.⁸ The prevalence of malocclusion in India varies from 20 to 43%. Malocclusion can be defined as appreciable deviation from normal or ideal occlusion. Malocclusions are classified into two major groups: dental and skeletal malocclusions, depending on skeletal relationships. Severe malocclusions are frequently skeletal and often referred to as 'dentofacial deformities'.⁸

We found that type of occlusion was normal occlusion was seen in 45 males and 60 females, class I malocclusion in 25 males and 40 females, class II div I in 20 males and 35 females, class II div II in 15 males and 25 females. Class III malocclusion was seen in 5 males and 10 females.

Benet et al⁹ in their study, occlusal anteroposterior relationships were assessed based on the Angle classification. Also various malocclusion features associated with class I malocclusion according to Dewey's modification of Angle's classification were assessed. The results showed that about 71% of the subjects had malocclusion. Class I malocclusion constituted the major proportion of malocclusion which was found in 62% of the studied population. No significant difference was found between boys and girls neither in the overall prevalence of malocclusion nor in various forms of malocclusion. Crowded incisors were found to be most common finding in subjects with class I malocclusion. A number of studies have been conducted to determine the prevalence of malocclusion among Indian children and it has been reported that the results range from a value as low as 19.6%. This varied range emphasizes the need to standardize criteria for assessing malocclusion.

There are many other more common causes for open bites (such as tongue thrusting and thumb sucking), and likewise for deep bites. Upper or lower jaw can be overgrown or undergrown, leading to Class II or Class III malocclusions that may need corrective jaw surgery or orthognathic surgery as a part of overall treatment, which can be seen in about 5% of the general population.¹⁰

Akash et al¹¹ described the prevalence of malocclusion among Lithuanian schoolchildren in

the 7-9, 10-12, and 13-15-year age groups assessing occlusal morphology. The study included 1681 School children aged 7-15 years. The crowding, spacing, overbite, overjet, the relationship of the first upper and lower molars according Angle's classification, and posterior cross bite were assessed. The study demonstrated that only 257 children had normal occlusion, and 44 had undergone orthodontic treatment among them. The greatest overjet in the studied contingent was 11 mm, and the negative overjet - 3 mm. The overbite ranged between 0 and 6 mm with a mean of 2.29 ± 1.23 mm. Posterior cross bite was recorded in 148 children (8.8%). This study showed that the prevalence of malocclusion among 7-15-year-old Lithuanian school children is 84.6%. The most common malocclusion was dental crowding. The upper dental arch crowding was registered for 44.1% and lower for 40.3% of all schoolchildren. The class I molar relationship was detected in 68.4% of the subjects, class II - in 27.7%, and class III - in 2.8%.

CONCLUSION

Malocclusion is common among children. Most commonly seen was class I followed by class II. Age group 11-13 years maximum number of children with malocclusion.

CONFLICTS OF INTEREST

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

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