

Original Research

Prevalence of different pattern of dental malocclusion in children

Uzma Nazir¹, Navid Wani², Umer Bashir³

¹MDS Orthodontics, Senior Lecturer, Department Of Orthodontics, Chandra Dental College and Hospital, Safedabad, Barabanki. Uttar Pradesh;

²MDS Orthodontics Private Practitioner, Srinagar;

³Post Graduate Student, Department Of Prosthodontics, College Of Dental Sciences, Davangere, Karnataka, India

ABSTRACT

Background: Malocclusion may cause unpleasant appearance, impaired oral function, speech problems, temporomandibular disorders, increased susceptibility to trauma and periodontal disease. The present study was conducted to assess different pattern of malocclusion in study population. **Materials & Methods:** The present study was conducted on 120 patients with misaligned teeth of both genders. All patients were thoroughly examined and type of occlusion was recorded. **Results:** Out of 120 patients, males were 75 and females were 45. We found that 60 patients had class I, 25 had class II div I, 10 had class II div II, 7 had class III, 10 had deep bite and 8 had cross bite. The difference was significant ($P < 0.05$). **Conclusion:** Authors found that malocclusion among children are common. There was predominance of class I malocclusion in children.

Key words: Class I malocclusion, Children, temporomandibular disorders.

Received: 14 October, 2019

Revised: 14 November, 2019

Accepted: 15 November, 2019

Corresponding author: Dr. Uzma Nazir, MDS Orthodontics, Senior Lecturer, Department Of Orthodontics, Chandra Dental College and Hospital, Safedabad, Barabanki. Uttar Pradesh, India

This article may be cited as: Nazir U, Wani N, Bashir U. Prevalence of different pattern of dental malocclusion in children. J Adv Med Dent Scie Res 2019;7(12): 26-29.

INTRODUCTION

Malocclusion is considered one of the most common dental problems together with dental caries, gingival disease and dental fluorosis. Malocclusion may cause unpleasant appearance, impaired oral function, speech problems, temporomandibular disorders, increased susceptibility to trauma and periodontal disease. Identifying occlusal status in particular population provides important information on treatment needs and enables the government to draw the appropriate preventive and treatment programs.¹

The assessment and correction of developing and established malocclusion is an important facet of the specialty of Orthodontics.² Prevalence of malocclusion is largely varied in the Indian children due to limitations in sample selection and methodology, lack of uniform criteria in recording malocclusion and its traits, reliability and consistency of recording by the same or

different field workers and ethnic differences. In Indian, studies on prevalence of malocclusion have shown wide variation from 19.6% to 96.05%. Few prevalence studies on malocclusion are reported.³ According to the World Health Organization, the main oral diseases should be subjected to periodic epidemiological surveys. It is necessary to carry out epidemiologic studies of malocclusion in all regions at different age groups to grade the severity of malocclusion according to the respective age groups.⁴ The present study was conducted to assess different pattern of malocclusion in study population.

MATERIALS & METHODS

The present study was conducted in the department of Orthodontics. It comprised of 120 patients of both genders. All participants were informed regarding the

study and written consent was obtained. The study was approved from institutional ethical committee. Data related to participants such as name, age, gender etc. was recorded. All patients were thoroughly

examined and type of occlusion was recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 120		
Gender	Males	Females
Number	75	45

Table I shows that out of 120 patients, males were 75 and females were 45.

Graph I: Distribution of patients

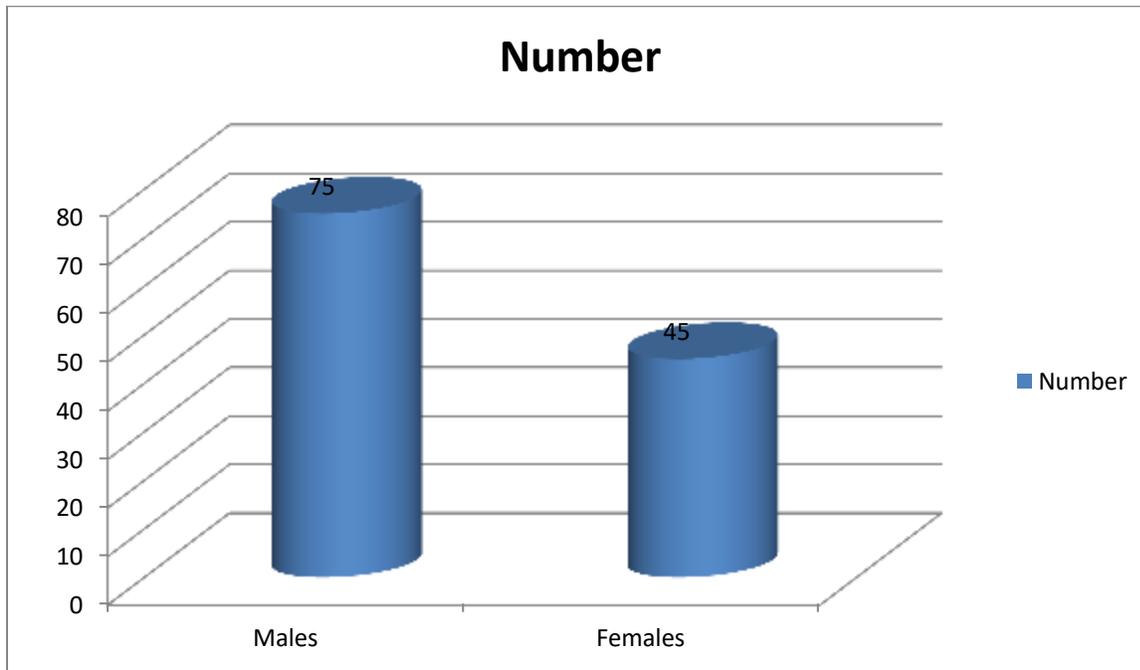
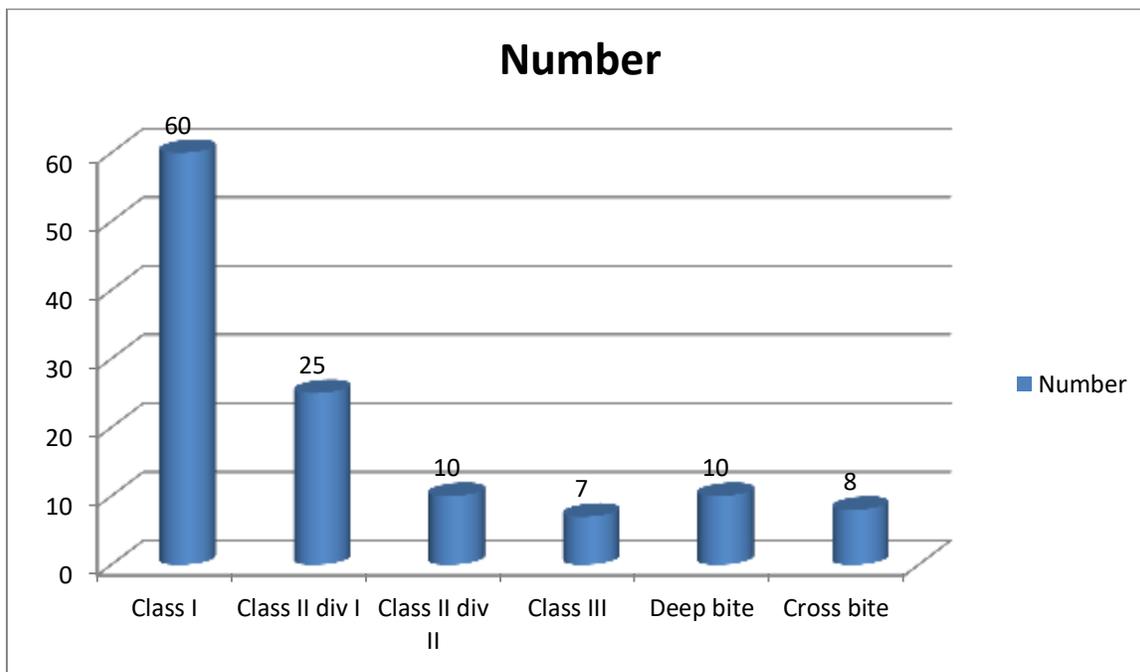


Table II Type of malocclusion

Malocclusion	Number	P value
Class I	60	0.01
Class II div I	25	
Class II div II	10	
Class III	7	
Deep bite	10	
Cross bite	8	

Table II, graph I shows that 60 patients had class I, 25 had class II div I, 10 had class II div II, 7 had class III, 10 had deep bite and 8 had cross bite. The difference was significant (P< 0.05).

Graph I: Type of malocclusion



DISCUSSION

The oro-facial region is usually an area of significant concern for the individual because it draws the most attention from other people in interpersonal interactions and is primary source of vocal, physical and emotional communication. Malocclusion is any deviation from normal occlusion of teeth.⁵ The goal of the orthodontic treatment is to attain optimal occlusion within framework of function, stability and aesthetics.⁶ As a result, patients who seek orthodontic treatment are concerned with improving their appearance and social acceptance, often more than they are with improving their oral function or health. Enhancing these aspects of quality of life is an important motive for undergoing orthodontic treatment.⁷ Orthodontic anomalies have been associated with psychosocial distress, poor periodontal condition and impaired masticatory function and so should be regarded as a health problem. Although data on orthodontic awareness and treatment needs are very scanty.⁸ The present study was conducted to assess different pattern of malocclusion in study population.

In present study, there were 120 patients with 75 males and 45 females. Emrich et al⁹ found that there were 696 subjects (369 males and 327 females) in the age group of 13-14 years. The malocclusion determination was based on the Angle’s classification of malocclusion. The results showed that 83% of the subjects had malocclusion. Class I malocclusion constituted the major proportion of malocclusion, which was found in 67% of the studied population. Class II Division I

constituted 8% of the sample size. Class II Division II constituted 6% of the sample size. Class III constituted 2% of the total sample size. Majority of the subjects had Angle’s Class I malocclusion with crowded incisors. There is a need to simplify and standardize criteria for assessing malocclusion and to plan the need of orthodontic treatment among the population.

We found that 60 patients had class I, 25 had class II div I, 10 had class II div II, 7 had class III, 10 had deep bite and 8 had cross bite. Mahajan et al¹⁰ conducted a study assess the severity of malocclusion and orthodontic treatment needs among 12-15-year-old schoolchildren in rural area among a sample of 1078 schoolchildren. Severity of malocclusion and orthodontic treatment needs were assessed according to the DAI using a specially designed survey pro forma with the aid of the WHO's Oral Health Survey: Basic Methods. Based on the distribution of data, analysis of variance and unpaired student t-test were used. Out of the total of 1078 children examined, 528 (49%) were males and 550 (57%) were females. The results indicate that 82.74% of the schoolchildren were found with little or no malocclusion requiring no orthodontic treatment. The gender-wise distribution of DAI score among children aged 12 years had significant difference between males (20.43 ± 3.67) and females (21.62 ± 4.335) ($P = 0.015$) and children aged 15 years also showed highly significant difference among gender ($P = 0.000$). Conclusion: Malocclusion not only impacts the appearance of the person but also affects the self-esteem and psychological well-being. This is the first step in

understanding the treatment need so that further steps can be taken in preventive and interceptive care.

CONCLUSION

Authors found that malocclusion among children are common. There was predominance of class I malocclusion in children.

REFERENCES

1. Behbehani F, Artun J, Al-Jame B, Kerosuo H. Prevalence and severity of malocclusion in adolescent Kuwaitis. *Med Princ Pract.* 2005;14(6):390-5.
2. Borzabadi-Farahani A, Eslamipour F. Malocclusion and occlusal traits in an urban Iranian population. An epidemiological study of 11-to 14-year-old children. *Eur J Orthod.* 2009;31(5):477-84.
3. Dhar V, Jain A, Van Dyke TE, Kohli A. Prevalence of gingival diseases, malocclusion and fluorosis in school-going children of rural areas in Udaipur district. *J Indian Soc Pedod Prev Dent.* 2007; 25(2):103-5.
4. Altemus LA. Frequency of the incidence of malocclusion in American Negro children aged twelve to sixteen. *Angle Orthod.* 1959;29(4):189-200.
5. Asiry MA. Occlusal status among 12-16 year-old school children in Riyadh, Saudi Arabia. *J Int Oral Health.* 2015;7(5):20-3.
6. Ast DB, Carlos JP, Cons NC. The prevalence and characteristics of malocclusion among senior high school students in upstate New York. *Am J Orthod.* 1965; 51:437-45.
7. Atashi MH. Prevalence of malocclusion in 13-15 year-old adolescents in Tabriz. *J Dent Res Dent Clin Dent Prospects.* 2007;1(1):13-8.
8. El-Mangoury NH, Mostafa YA. Epidemiologic panorama of dental occlusion. *Angle Orthod.* 1990; 60(3):207-14.
9. Emrich RE, Brodie AG, Blayney JR. Prevalence of Class I, Class II, and Class III Malocclusions (Angle) in an Urban Population An Epidemiological Study. *J Dent Res.* 1965; 44(5):947-53.
10. Mahajan N, Kotwal B, Kharyal S, Tomar V, Jamwal AS, Kalvani H. Prevalence of Different Types of Malocclusion in the Patients Visiting Government Dental College, Jammu in India. *Int J Sci Stud* 2017;5(6):54-56.