

## DIFFERENT PATTERN OF DENTAL MALOCCLUSION IN STUDY GROUP

Dr. Nitesh Parashar

MDS, Private consultant, Delhi

### Abstract

**Background:** Malocclusion is considered one of the most common dental problems together with dental caries, gingival disease and dental fluorosis. The present study was conducted to assess different pattern of malocclusion in study population.

**Materials & Methods:** 80 patients of both genders were thoroughly examined and type of occlusion was recorded.

**Results:** Out of 80 patients, males were 50 and females were 30. 25 patients had class I, 30 had class II div I, 10 had class II div II, 2 had class III, 8 had deep bite and 5 had cross bite. The difference was significant ( $P < 0.05$ ).

**Conclusion:** Class I malocclusion was highly prevalent in study group.

**Key words:** Class I malocclusion, Dental fluorosis, Gingival disease

### 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.<sup>1</sup>

In Indian, studies on prevalence of malocclusion have shown wide variation from 19.6% to 96.05%. Few prevalence studies on malocclusion are reported.<sup>2</sup> Very few authentic studies have been conducted to assess the prevalence of malocclusion and orthodontic treatment needs in a vast country like India with wide variations in ethnicity, language, nutritional status, religious beliefs and dietary habits.<sup>3</sup> One study conducted in Udaipur district of Rajasthan in North India inhabited by people of Aryan race reported a prevalence of 36.42%. South India, racially inhabited by Dravidians, reported a malocclusion prevalence of 19.9% in Karnataka, and 15% in Tamil Nadu using DAI scores.<sup>4</sup> Kharbanda et al<sup>5</sup> in a Delhi-based school survey of 4500 children in a wide range of 5-13 years has reported the prevalence of Class I molar relation to be 91.6% and Class II 14.6%. Lower anterior crowding was reported to be the most common trait (11.7%).

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.<sup>6</sup> The present study was conducted to assess different pattern of malocclusion in study population.

### Materials & Methods

The present study was conducted among 80 patients of both genders. All participants were informed regarding the study and written consent was obtained.

Demographic profile 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  $< 0.05$  was considered significant.

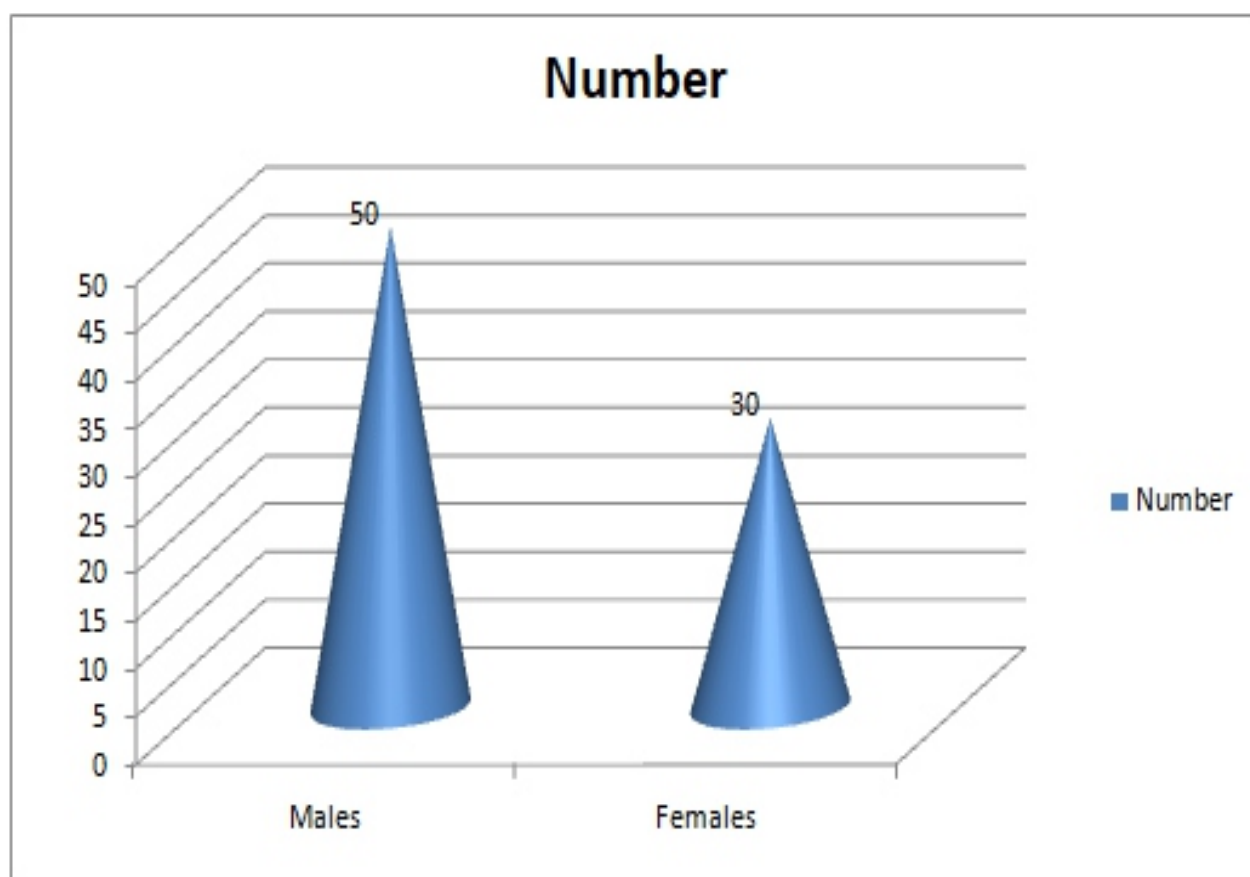
### Results

Table I Distribution of patients

Total- 80		
Gender	Males	Females
Number	50	30

Table I shows that out of 80 patients, males were 50 and females were 30.

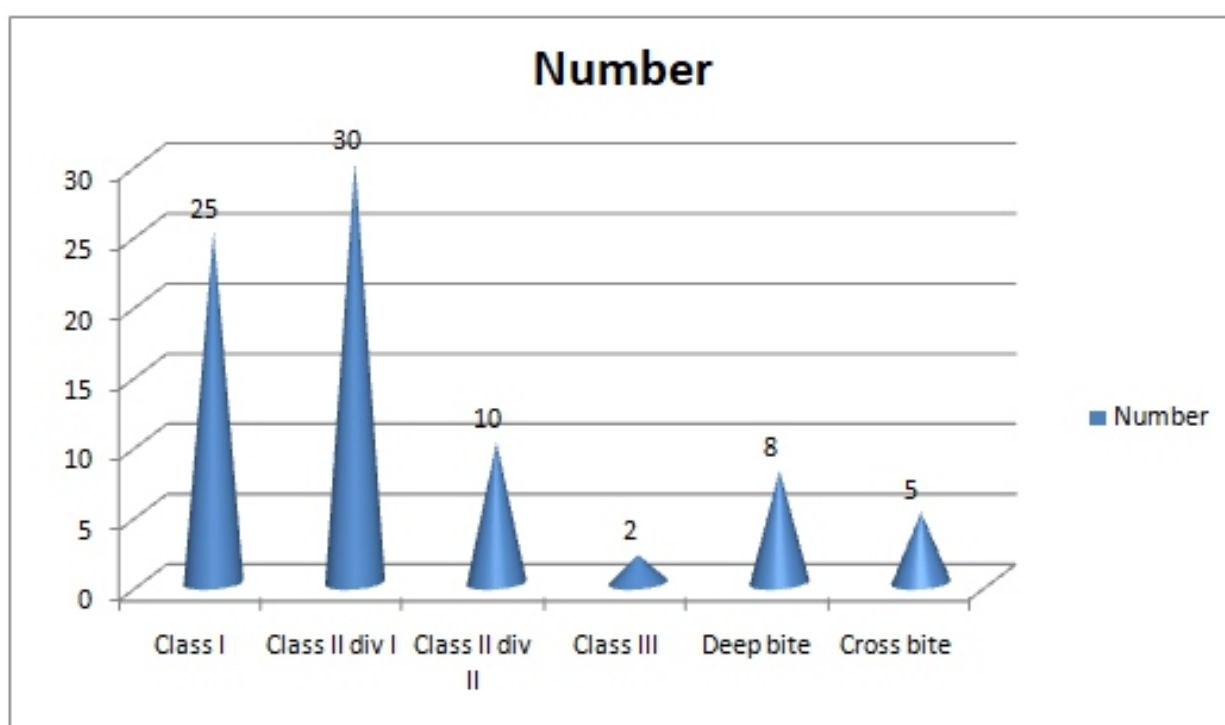
### Graph I Distribution of patients



**Table II Type of malocclusion**

Malocclusion	Number	P value
Class I	25	0.02
Class II div I	30	
Class II div II	10	
Class III	2	
Deep bite	8	
Cross bite	5	

Table II, graph II shows that 25 patients had class I, 30 had class II div I, 10 had class II div II, 2 had class III, 8 had deep bite and 5 had cross bite. The difference was significant ( $P < 0.05$ ).

**Graph I Type of malocclusion**

### Discussion

Occlusion is the normal relation of the occlusal planes of the teeth when the jaws are closed and malocclusion as per Dental Practice Board is justified as an abnormal occlusion, in which teeth are not in a normal position in relation to adjacent teeth in the same jaw and/or the opposing teeth when the jaws are closed.<sup>7</sup> Hereby malocclusion can affect oral health by increasing the prevalence of caries, gingivitis and temporomandibular joint disorders along with affecting the function and esthetics.<sup>8</sup> Hence, with growing modernization and industrialization, there is a greater degree of demand for aesthetics and good oral health. This emphasizes the requirements to obtain knowledge about the prevalence of different types of malocclusion in various populations.<sup>9</sup> 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. Mohanty et al<sup>10</sup> in their study pattern and types of malocclusion in the urban orthodontic population in Odisha which in return would benefit the specialist to deliver quality treatment. A prospective hospital-based detailed investigation of 1 year was planned to include both male and female

patients having permanent dentition in the age group of 12-30 years. Out of 1207 subjects, 933 (77.3%) subjects were presented with Angle's Class I malocclusion and 252 (20.88%) subjects were with Angle's Class II malocclusion, whereas Angle's Class III malocclusion was seen only in 22 (1.82%) subjects.

We found that 25 patients had class I, 30 had class II div I, 10 had class II div II, 2 had class III, 8 had deep bite and 5 had cross bite. Sundareswaran et al<sup>11</sup> in their study a total of 1554 children (779 males, 775 females), from both urban and rural areas were examined in school settings. Overall prevalence of malocclusion was 89.9% which included Angle's Class I, Class II (17.6%) and Class III (8%) malocclusions. Other anomalies detected were increased overjet (11.8%), anterior crossbite (27.5%), anterior open bite (1.6%), posterior crossbite (5.1%), scissor bite (4.4%), midline deviation (6.8%), bimaxillary protrusion (BMP-21.3%), crowding (66.6%), spacing (15.3%), rotations (45.4%), ectopic eruptions (11.1%), peg laterals (2.4%) and missing teeth (6.6%). Males showed a higher predilection for increased overjet, deep bite, spacing and missing teeth. Class III, BMP, midline

deviations and rotations were found to be more prevalent among the rural group, whereas Class II, increased overjet, deep bite and ectopic eruptions were more prevalent among the urban. Gelgör et al<sup>12</sup> found that 89.9% of the population had malocclusion. The difference might persist because of the dissimilarity in the study design. The prevalence of malocclusion was investigated in general subpopulation, which can be a limitation in our study for lacking a control group with normal malocclusion

## Conclusion

Authors found that class I malocclusion was highly prevalent in study group.

## References

1. Horowitz HS. A study of occlusal relations in 10 to 12 year old Caucasian and Negro children – Summary report. *Int Dent J* 1970;20(4):593-605.
2. Silva RG, Kang DS. Prevalence of malocclusion among Latino adolescents. *Am J Orthod Dentofacial Orthop* 2001;119(3):313-5.
3. Sidlauskas A, Lopatiene K. The prevalence of malocclusion among 7-15-year-old Lithuanian schoolchildren. *Medicina (Kaunas)* 2009;45(2):147-52.
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. Kharbanda OP, Sidhu SS, Sundaram KR, Shukla DK. Occlusion Status During Early Mixed Dentition in Delhi Children. Project Report. Indian Council of Medical Research; 1991.
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.
10. Mohanty P, Dany SS, Acharya SS, Sahoo N, Das SK, Chatterjee S, Mohanty D. Pattern of malocclusion in orthodontic patients: A multi centre study. *J Int Oral Health* 2016;8(12):1105-1109.
11. Sundareswaran S, Kizhakool P. Prevalence and gender distribution of malocclusion among 13–15-year-old adolescents of Kerala, South India. *Indian J Dent Res* 2019;30:455-61.
12. Gelgör IE, Karaman AI, Ercan E. Prevalence of malocclusion among adolescents in central anatolia. *Eur J Dent* 2007;1:125-31.