

Assessment of Prevalence of Different Types of Malocclusion Among School Going Children

Swati Manhas^{1*} Ankita Sundan² Divya Vyas³ Anjum Zia⁴ Nishtha Agrawal⁵ Vasundhra Mittal⁶

¹Private Consultant, Varanasi, Uttar Pradesh, India.

²Associate Pediatric Dentist, Fortis Medcentre, Chandigarh, India.

³Senior Lecturer, Department of Paedodontics and Preventive Dentistry, Himachal Institute of Dental Sciences, Paonta Sahib, Himachal Pradesh, India.

⁴Senior Lecturer, Department of Paedodontics and Preventive Dentistry, Swami Devi Dayal Hospital and Dental College, Panchkula, Haryana, India.

⁵Private Consultant, Bikaner, Rajasthan, India.

⁶Senior Lecturer, Department of Orthodontics and Dentofacial Orthopedics, MM College of Dental Sciences, Mullana, Haryana, India.

ABSTRACT

Background: Well-aligned dentition not only helps in the maintenance of oral health but also influences the person's confidence and personality. Malocclusion conciliates oral health and also might predispose to the spectrum of psychological and social problems. Hence; the present study was conducted with the aim of assessing the prevalence of different types of malocclusion among school-going children.

Materials & Methods: A total of 500 school-going children between the age group of 10 years to 17 years were included in the present study. Subjects were instructed to sit on the dental chair. Sterilized mouth mirror, probe and tweezers were used for carrying out the intra-oral examination. All the intra-oral findings were recorded. Permanent molars were evaluated, and the prevalence of the different type of malocclusion (Angle's classification of malocclusion) was evaluated. All the results were summarized and compiled in Microsoft excel sheet and were subjected to statistical analysis using SPSS software.

Results: Majority of the children (39 per cent) had class I type of malocclusion, while 25.6 per cent of the children had Class 2 Div 2 type of malocclusion. Class 3 type of malocclusion was found to be present in 13 percent of the school-going children. While assessing the distribution of different types of malocclusion among subjects divided on the basis of gender, non-significant results were obtained. While assessing the distribution of different types of malocclusion among subjects divided on the basis of age group, non-significant results were obtained.

Conclusion: Angle's Class 1 malocclusion is the most common type of malocclusion affecting school-going children. Hence; early recognition of malocclusion is necessary so that treatment therapy could be started at an early age.

Keywords: Malocclusion, Prevalence, Pedodontics.

INTRODUCTION

Well-aligned dentition not only helps in the maintenance of oral health but also influences the person's confidence and personality. Malocclusion conciliates oral health and also might predispose to

the spectrum of psychological and social problems. A systematic and well-organized dental care program for any target population in a community requires some basic information, such as the

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*Correspondence Dr. Srividhya.

Department of Prosthodontics, Maharaja Ganga Singh Dental College & Research Centre, Sri Ganganagar, Rajasthan, India.

Email: Not Disclosed

prevalence of the condition. In more developed parts of the world, where the specialities of Orthodontics and Pedodontics have been established, adequate basic information is available on the prevalence of this condition. In developing nations, such information still lack.¹⁻³

A malocclusion is defined as irregularity of the teeth or a molar relationship between the dental arches beyond the range of what is accepted as normal. Malocclusion is one of the most common dental problems as well as dental caries, periodontal disease, and dental fluorosis. Also, maloccluded dentition can cause disturbances in oral function and psychosocial problems due to impaired dentofacial. The prevalence of malocclusion during the mixed dentition period among different races and populations had been published by many author.⁴⁻⁶ Hence; the present study was conducted with the aim of assessing the prevalence of different types of malocclusion among school-going children.

MATERIALS & METHODS

The present study was conducted with the aim of assessing the prevalence of different types of malocclusion among school-going children. A total of 500 school-going children between the age group of 10 years to 17 years were included in the present study. Complete demographic details of all the patients were obtained. Written consent was obtained from parents/guardians of all the patients after explaining in detail the entire research protocol. All the patients were instructed to rinse their oral cavity with mouth wash before commencing the oral examination. Subjects were instructed to sit on the dental chair. Sterilized mouth mirror, probe and tweezers were used for carrying out the intra-oral examination. All the intra-oral findings were recorded. Permanent molars were evaluated, and prevalence of the different type of malocclusion (Angle's classification of malocclusion) was evaluated.⁷ All the results were summarized and compiled in Microsoft excel sheet and were subjected to statistical analysis using SPSS software. Chi-square test was used for the analysis of the level of significance.

RESULTS

In the present research, an analysis of a total of 500 school-going children was done. On examination, it

was seen that majority of the children (39 per cent) had class I type of malocclusion, while 25.6 per cent of the children had Class 2 Div 2 type of malocclusion. Class 3 type of malocclusion was found to be present in 13 percent of the school-going children. While assessing the distribution of different types of malocclusion among subjects divided on the basis of gender, non-significant results were obtained. Out of 195 subjects with class 1 malocclusion, 112 were males while the remaining 83 were females. Also, among 65 subjects with class 3 malocclusion, 41 were males while the remaining were females. While assessing the distribution of different types of malocclusion among subjects divided on the basis of age group, non-significant results were obtained. Out of 195 subjects with class 1 malocclusion, 101 subjects belonged to the age group of 10 to 14 years while the remaining belonged to the age group of 15 to 17 years.

Table 1: Prevalence of different types of malocclusion.

Malocclusion	Number of patients	Percentage
Class 1	195	39
Class 2 Div I	112	22.4
Class 2 Div 2	128	25.6
Class 3	65	13

Table 2: Distribution of different types of malocclusion among subjects divided on the basis of gender

Malocclusion	Gender		p- value
	Males	Females	
Class 1	112	83	0.887
Class 2 Div I	39	73	
Class 2 Div 2	56	72	
Class 3	41	24	

Table 3: Distribution of different types of malocclusion among subjects divided on the basis of age group

Malocclusion	Age group (years)		p-value
	10 to 14	15 to 17	
Class 1	101	94	0.748
Class 2 Div I	48	64	
Class 2 Div 2	73	65	
Class 3	35	30	

DISCUSSION

Malocclusions are the result of orofacial adaptability to various etiological factors, which result in various implications such as psychosocial problems related to impaired dentofacial aesthetics, disturbances of oral function, such as mastication, swallowing and speech and greater susceptibility to trauma and periodontal disease. A number of studies have demonstrated its impact on quality-of-life. Periodic estimation of prevalence and related indicators produce objective and reliable data that not only serve as a guide to formulate policies aimed at early intervention and prevention of malocclusion, but also equip the concerned authorities to diagnose and address specific challenges in the geographic location of interest.⁸⁻¹⁰ Hence; the present study was conducted with the aim of assessing the prevalence of different types of malocclusion among school-going children

In the present research, an analysis of a total of 500 school-going children was done. On examination, it was seen that majority of the children (39 per cent) had class I type of malocclusion, while 25.6 per cent of the children had Class 2 Div 2 type of malocclusion. Class 3 type of malocclusion was found to be present in 13 percent of the school-going children. Das UM et al. determined the prevalence of malocclusion among school children. The sample consisted of 745 children (388 males and 357 females) in the age group of 8-12 years randomly selected from twelve different schools. 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.¹⁰

In the present study, while assessing the distribution of different types of malocclusion among subjects divided on the basis of gender, non-significant results were obtained. Out of 195 subjects with class 1 malocclusion, 112 were males while the remaining 83 were females. Also, among 65 subjects with class 3 malocclusion, 41 were males while the remaining were females. Albakri FM et al. determined the prevalence of malocclusion among male school children aged 12-15 years old.

Five hundred (500) school children with an age of 12-15 years participated. The Molar Class I relation involved the highest percentage of the sample (71.2%) while Class II relation involved only 23%, which was four times of Class III (5.8%). The prevalence of malocclusion involved the highest percentage in Class I in comparison with other malocclusions.¹¹

In the present study, while assessing the distribution of different types of malocclusion among subjects divided on the basis of age group, non-significant results were obtained. Out of 195 subjects with class 1 malocclusion, 101 subjects belonged to the age group of 10 to 14 years while the remaining belonged to the age group of 15 to 17 years. Tak M et al assessed the prevalence of malocclusion and orthodontic treatment needs among 12-15 years old school children. A cross-sectional descriptive survey was conducted among 887 subjects aged 12-15 years. Malocclusion and orthodontic treatment need were reported among 33.3% of the study subjects. The prevalence of malocclusion and orthodontic treatment needs among school children was found to be 33.3%.¹²

CONCLUSION

Under the light of above-obtained data, the authors conclude that angle's class 1 malocclusion is the most common type of malocclusion affecting school-going children. Hence; early recognition of malocclusion is necessary so that treatment therapy could be started at an early age.

CONFLICTS OF INTEREST

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

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