ORIGINAL RESEARCH

Prevalence of malocclusion among patients in Jammu

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ABSTRACT

Background

Aim: The purpose of the present study was to study the prevalance of malocclusion among patients in Jammu.

Material and Method: A total of 400 school children of which 200 were females and 200 were males. All the 400 children selected were aged 12 to 14 years. The malocclusion determination was based on the Angle's classification of malocclusion. Researchers examined the students in normal illumination condition.

Result: class 1 malocclusion i.e. 13.5%, Class 2 division 1 in 5% cases and class 2 division 2 in 5.7% cases. Class 3malocclusion was seen in total 1.5% children. No significant difference was observed.

Conclusion: prevalence was class 1 malocclusion was more than class 2 and 3.

Keywords: malocclusion, prevalence, children, Jammu India.

INTRODUCTION

Abnormal allingnment of upper and lower teeth is known as malocclusion. Dental malocclusion can be caused due to various reasons. Dental maloccusion is not a lifetreathening conditiom however it has strong impact on qualility of life.[1] It causes psychosocial distress, impaired mastication and poor periodontal conditions.[2,3] Dental malocclusion is considered to be the third highest prevalence among oral pathologies, second only to tooth decay and periodontal disease and therefore rank third among world-wide dental public health priorities.[4]The World Health Organization, defined malocclusion under the heading handicapping dentofacial anomaly, as "an anomaly which causes disfigurement or which impedes function, and requires treatment if the disfigurement or functional defect was likely to be an obstacle to the patient's physical or emotional well-being.[5] Studies in the past reported that prevalence of malocclusion has been observed to range between 20% and 80% in the majority of cases.[6,7]Early detection and treatment of malocclusion can have a great impact in the development of periodontitis, dental caries, temporo-mandibular disorders and trauma. So the knowledge of epidemiological status of various traits of malocclusion among particular population is important for early detection thus providing the appropriate treatment to improve quality Of life.

MATERIAL AND METHOD

The Sample size we selected for the present study was 400 fron schools in jammu region of Jammu and Kashmir, India. Oral examination of 400 school children was done of the 400 children 200 were males and 200 were females. Mouth mirror, gloves and explorer under natural light were used to examine students. Age group selected for the study was 12 to 14 years. In present study the history of trauma to the head and jaws and those with orthodontic treatment experience without the availability of the initial study models were excluded.Occlusion was assed using the basic angle classification. Class I: molar relationship: normal overbite, and overjet (ranging 1-3 mm), correct axial inclinations,class II: the mandibular teeth were distal by a full width of a premolar or by half the width of a molar, or if the mandibular canine interdigitated into the embrasure between the maxillary canine and the first premolar in the absence of first molars.class III: For the malocclusion traits of open bites, cross bites, and edge to edge occlusionIn current study minimal crowding were classified as normal.

RESULTS

Table 1 represents distribution of samples in present study. Total sample selected were 400 extracted teeth. Of the 400 school attending children 200 were males i.e. 50% and 200 were females i.e. 50%. Table 2

describes the prevalence of malocclusion based on gender and angles classification. Of the 400 children 26 males has class 1 malocclusion i.e 13%, and 20 females i.e. 14%. Fifty four children had class 1 malocclusion i.e. 13.5%. Class 2 malocclusion was seen in total 43 children I,e, 10.7%, of which 22 were males and 21 were females. Class 2 division 1 was seen in total 5% cases and class 2 division 2 was found in 5.7% cases. Class 3 malocclusion was seen in total 1.5% children. In present study there was no significant difference was evident. ($p<0.001$)Table 3 representsprevalence of malocclusion based on trait. In present study anterior open bite was seen in 12 cases i.e. 3% of which 2 were males and 10 females. Posterior cross bite was seen in 4 cases i.e 10% cases. Unilateral cross bite was seen in 0.75% cases and bilateral cross bite was seen in 1 % cases. Edge to edge bite was present in total 6% cases. The difference observed was not statistically significant.

Table 1: DISTRIBUTION OF SAMPLES

Groups	n	%
MALES	200	50%
FEMALES	200	50%
Total	n = 60	100%

Table 2: PREVALANCE OF MALOCCULSION BASED ON ANGLES CLASSIFICATION

Malocclusion	**Number Males 200**	**Number Females 200**	**Total**	**%**
Class1	26 (13%)	28 (14%)	54	13.5%
Class 2	22 (11%)	21 (10.5%)	43	10.7%
Division 1	10 (5%)	10 (5%)	20	5%
Division 2	12 (6%)	11 (5.5%)	23	5.7%
Class 3	4 (2%)	2 (1%)	6	1.5%

TABLE 3: PREVALENCE OF MALOCCLUSION BASED ON TRAIT

Malocclusion	**Number Males 200**	**Number Females 200**	**Total**	**%**
Anterior Open bite	2 (1%)	10 (5%)	12	3%
Posterior open bite	2 (1%)	2 (1%)	4	10%
Crossbite Unilateral	1 (0.5%)	2 (1%)	3	0.75%
Bilateral	1 (0.5%)	3 (1.5%)	4	1%
Edge to edge bite	14 (7%)	10 (5%)	24	6%

DISCUSSION

Developmental anomalies if diagnosed early can be treated timingly. Malocclusion is a developmentalanomaly early diagnosis can be key to good prognosis. Malocclusion can be caused due to various reasons like hereditary factors, environmental factors or both.[8] Estimation of prevalence of malocclusion can be challenging due to varies criteria used to define it. The American Academy of Orthodontists (AAO) recommend that children should have an early examination by 7 years of age for early diagnosis and treatment planning.[9] In present study we selected total 400 children aged between 12 to 14 years. Satinder Pal Singh et al in their study selected age range of 10-18 years.[10]In present study we found that class 1 malocclusion was seen i.e. 13.5%. Class 2 malocclusion was seen in total 43 children i.e. 10.7%. Class 2 division 1 was seen in total 5% cases and class 2 division 2 was found in 5.7% cases. Class 3 malocluusion was seen in total 1.5% children. The prevalence of class 2 and class 3 were very low. Our study is in accordance with Singh et al.[10]In current study anterior open bite was seen in 3% of which 2 were males and 10 females. Posterior cross bite was

seen in 10% cases. Unilateral cross bite was seen in 0.75% cases and bilateral cross bite was seen in 1 % cases. Edge to edge bite was present in total 6% cases. However Sharma A et al in their study recorded in 70%, increased bite was seen in 29% and the open bite was present in 0.95% of the examined population.[11] The difference in results signifies the fact that prevalence of malocclusion varies region to region. Bhavna Kaul et al in their study reported that 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.[12] in present study class 3 was seen in 1.5% cases.

CONCLUSION

Majority of students had class 1 malocclusion. There is no significant difference found on prevelance based on gender. Various criteria's to measure the severity of occlusion can be a complex process it should be simplified to gain thorough knowledge of the population.

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