

Epidemiological Assessment of Class II Division 1 Malocclusion

Anas Qahtan Hamdi

College of Dentistry, Tikrit University, Iraq

Abstract

The prevalence of class II malocclusion varies among different populations due to genetic and environmental factors. Limited data are available on its prevalence among individuals in Tikrit City, Iraq. The aim of this study was to determine the prevalence Class II div 1 malocclusion in Tikrit city Iraq. Three hundred children 10 to 14 years were divided to four groups (Class I, class II division 1, class II division 2, class III) malocclusion. Prevalence of class II division 1 is high in Tikrit city but slight differences between males and females. The prevalence of malocclusion in male with Class I (52.5 %) and class II (31.2%) and class III (16.3%) and in female class I (52%) and class II (29.6 %) and class III (15.2 %).

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Email: anasqahtan@tu.edu.iq

Introduction

An occlusion that exhibits abnormalities in tooth position beyond normal bounds is known as a malocclusion. and actions which ameliorate the growing malocclusion can result from early detection of malocclusion [1].

Oral hygiene and abnormalities in the quantity, shape, and placement of teeth, as well as genetic, environmental, or a mix of both factors [2,3]. A person with malocclusion may experience social anxiety, feel ashamed of their dental look, and/or miss out on job prospects [4]. Unpleasant appearance, speech and oral function impairment, temporomandibular problems, greater vulnerability to trauma, and periodontal disease are all possible outcomes of malocclusion [5].

One of the most prevalent oral conditions in children is malocclusion, which has an impact on face appearance, craniofacial development, and oral masticatory function. Children that exhibit specific malocclusion qualities seem to have greater psychological, their quality-of-life declines [6]. Malocclusion leads to significant psychological issues, temporomandibular joint

disorders, periodontal health issues, and an increased risk of dental caries [7,8].

The quantity of maxillary and mandibular growth is synchronized in people with adequate occlusion and skeletal relationships, resulting in a well-balanced and attractive profile. The maxillary and mandibular dentitions have an anteroposterior discrepancy in people with Class II malocclusions [9-11].

Material and Methods

300 kids between the ages of 10 and 14 made up the research sample (157 males and 143 girls). chosen from Tikrit City's children's schools. All the selected kids had their first permanent molars, and we looked at the whole sample after getting the kids' informed permission. The study was approved by the school administration. Patients with underlying systemic diseases and endocrine disorders, those on regular systemic medication, those with craniofacial abnormalities, those with physical and mental disabilities, and those who had previously received orthodontic treatment were all excluded. The children were examined at their

individual schools using a sterile mouth mirror and gloves. After the cheeks were fully retracted. Occlusal classification of first permanent molars used as guidance. According to Angle's categorization, the occlusion was categorized as either normal or malocclusion.

Results

The survey included a total of 300 children who underwent clinical examination. Among these, 157 boys and 143 girls (Table 1) were assessed.

Discussion

Small mandibles, big maxillaries, or both have frequently resulted in skeletal jaw discrepancies in class II malocclusion [12,13]. Treatment for a class II malocclusion should be started between the ages of 10 and 14 to get the greatest possible results [14, 15]. For this age range, functional appliances are more effective. Depending on the features of the presenting malocclusion, such as age, the patient's condition, and anteroposterior discrepancy, there are many treatment options. For treatment class II in this age range, the use of twin blocks,

headgear, bionators, and activators is beneficial [16,17].

Functional appliance such twin block used to stimulation of mandibular growth by downward and forward movement, thus it solves a problem abnormal muscular activity [18]. Functional appliance act by movement the condyle of mandibular out the glenoid fossa anteriorly [19-21]. Headgear is used in cases where class II division 1 is caused by maxillary protrusion which transmit a force to the maxillary in backward movement [22]. The prevalence of class II division 1 in male (25.5 %). In female, the prevalence of class II div 1 (24.8%) in present study greater than the rates reported by Dakshina Kannada in India (17.6%) and lesser than the rate reported by Erbil study (64.9 %) (24). In this study, the results indicated that male schoolchildren surveyed showed a prevalence of malocclusion classified as Class I (52.5 %) and class II (31.2%) and class III (16.3%) and in female class I (52%) and class II (29.6 %) and class III (15.2 %). A study was conducted in Erbil to assess malocclusion in the age group of 11_17, and it was found that class II in male (15.2 %) and in female (23.4 %) clinically.

Conclusion

Prevalence of class II division 1 malocclusion in male was found to be (25.5 %) and in female (24.8 %). During the survey we found that his present age of class II division 1 malocclusion in male a little more than female but no significant difference between male and female.

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Table 1. Malocclusion distribution found in the study.

Class	Male (n%)	Female (n%)	Total
Class 1	74 (52.9 %)	65 (47.1%)	139
Class 2 division 1	36 (53.7 %)	31 (46.3 %)	67
Class 2 division 2	8 (57.1 %)	6 (42.9 %)	14
Class 3	23 (54.8 %)	19 (45.2 %)	42