



Prevalence of Maxillary Prognathism in a Known Population and Its Treatment Using Myofunctional Appliances

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KEYWORDS

Class II
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ABSTRACT:

Background: This study was conducted to assess the prevalence of class II malocclusion in a known population and its treatment using myofunctional appliances.

Material and methods: This study was conducted to assess the prevalence of class II malocclusion in a known population and its treatment using myofunctional appliances. There were 134 participants in this study who underwent oral clinical examination. The subjects had been explained about the procedure and were asked for written informed consent. 34 out of 134 subjects did not provide consent and thus they were excluded from the study. the prevalence of class II malocclusion among 100 subjects was assessed and the findings had been tabulated. Also, the treatment plan had been made for the subjects with class II malocclusion. Various myofunctional appliances had been fabricated and given to the patients. Statistical analysis was conducted using SPSS software.

Results: In this study, there were 100 subjects out of which 53 were male and 47 were female. Class II malocclusion was present in 32 subjects out of 100. Hence, the prevalence of class II malocclusion in this study was 32%. Twin block appliance was given in 9 subjects, Jasper Jumper appliance was given in 7 subjects, Herbst appliance was fabricated for 2 subjects, activator was given in 10 patients and Frankel II appliances were given in 4 patients.

Conclusion: The prevalence of class II malocclusion in this study was found out to be 32%. Activator was the most common appliance fabricated for the patients, followed by Twin Block appliance and Jasper Jumper appliance. Other appliances were Herbst appliance and Frankel II appliance.



Introduction

On an increased basis, malocclusion is considered an expression of normal biologic variation, and treatment need is often based as much on psychosocial concerns as on proven oral health risks attributable to malocclusion.¹ The criteria for determining who is most likely to benefit from orthodontic treatment are controversial. These factors make it particularly difficult for the general dentist to determine for whom orthodontic treatment is clearly indicated, since the traditional pathway to orthodontic care starts at the general dentist's office.

Different populations have been investigated to provide epidemiological data of the prevalence of malocclusion.²⁻⁵ As a common trend, quantitative variables along with Angle's classification were used in these reports. Additionally, treatment-need indexes were also used to determine orthodontic need based on esthetic impairment, potential for adverse effect on dental health, and deviation from normal occlusion.⁶⁻⁸

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Material and methods

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Results

Table 1: Gender-wise distribution of subjects

Gender	Number of subjects	Percentage
Male	53	53
Female	47	47
Total	100	100

In this study, there were 100 subjects out of which 53 were male and 47 were female.

Table 2: Prevalence of class II malocclusion

Prevalence	Number of subjects	Percentage
Absent	68	68
Present	32	32
Total	100	100

Class II malocclusion was present in 32 subjects out of 100. Hence, the prevalence of class II malocclusion in this study was 32%.

Table 3: Treatment of class II malocclusion with myofunctional appliances

Myofunctional appliances	Number of subjects
Twin block appliance	09
Jasper Jumper appliance	07
Herbst appliance	02
Activator	10
Frankel II appliance	04
Total	32

Twin block appliance was given in 9 subjects, Jasper Jumper appliance was given in 7 subjects, Herbst appliance was fabricated for 2 subjects, activator was given in 10 patients and Frankel II appliances were given in 4 patients.

Discussion

Orthodontics is one of the specialties of dentistry, which deals with facial and dental regions of the face with Prevention, Interception, and correction of malocclusion and other abnormalities.^{9,10} Malocclusion can be defined



as a teeth regularity disruption or in the dental arches relationship, which is not in the normal range.¹¹ Human beings have recognized the dentofacial problem and the need for its treatment centuries back in history.¹²

Epidemiological principles regarding health can be applied to medical and dental fields.¹³ In the medical field and some of the dental-related problems like periodontitis, infection, and dental caries, each person classifies people as having or not having the problems.^{14,15} The malocclusion cannot count as a disease and is very difficult to describe. Some Occlusal Indices can be used to measure occlusal problems.

This study was conducted to assess the prevalence of class II malocclusion in a known population and its treatment using myofunctional appliances.

In this study, there were 100 subjects out of which 53 were male and 47 were female. Class II malocclusion was present in 32 subjects out of 100. Hence, the prevalence of class II malocclusion in this study was 32%. Twin block appliance was given in 9 subjects, Jasper Jumper appliance was given in 7 subjects, Herbst appliance was fabricated for 2 subjects, activator was given in 10 patients and Frankel II appliances were given in 4 patients.

Bilgic F et al (2015)¹⁶ determined the prevalence of malocclusion and orthodontic treatment need in a large sample of Central Anatolian adolescents and compare them with European-other nations' adolescents. The sample included 1125 boys and 1204 girls aged between 12 and 16 years with no previous orthodontic treatment history. Occlusal variables examined were molar relationship, overjet, overbite, crowding, midline diastema, posterior crossbite, and scissors bite. The dental health (DHC) and aesthetic components (AC) of the Index of Orthodontic Treatment Need (IOTN) were used as an assessment measure of the need for orthodontic treatment for the total sample. The results indicated a high prevalence of Class I (34.9%) and Class II, Division 1 malocclusions (40.0%). Moreover, increased (18%) and reduced bites (14%), and increased (25.1%) and reversed overjet (10%) were present in the sample. Using the DHC of the IOTN, the proportion of subjects estimated to have great and very great treatment need (grades 4 and 5) was 28.%. However, only 16.7%

of individuals were in need (grades 8-10) of orthodontic treatment according to the AC.

Patel KV et al (2015)¹⁷ found out the prevalence of malocclusion and the need for orthodontic treatment in 13- to 15-year-old school students in the Mehsana District of Gujarat using the IOTN. A descriptive cross-sectional epidemiological survey was planned among 13- to 15-year-old school-going children of Mehsana district. The sample comprised of 1290 school children. DHC-IOTN was applied to evaluate normative need for orthodontic treatment. Perceived orthodontic treatment was described by the Aesthetic component of the IOTN index. Results showed that 33.7 percent of participants required little/no treatment need, 43.9 percent of participants required moderate orthodontic treatment need, and 22.4 percent of participants required severe orthodontic treatment need in the district. To prepare for public orthodontic and dental services, the current study provides baseline data on the need for orthodontic treatment among school-aged children.

Conclusion

The prevalence of class II malocclusion in this study was found out to be 32%. Activator was the most common appliance fabricated for the patients, followed by Twin Block appliance and Jasper Jumper appliance. Other appliances were Herbst appliance and Frankel II appliance.

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