Analysis of Prevalence of Different Forms of Orthodontic Malocclusion Among Children Of Known Population

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ABSTRACT:

Background: Malocclusion is considered one of the most common dental problems together with dental caries. The present study was conducted to assess different types of malocclusion in known population. Materials & Methods: The present study was conducted on 136 patients with misaligned teeth of both genders. All patients were thoroughly examined and type of occlusion, any kind of overjet, overbite, cross bite and rotation etc. was recorded. Results thus obtained were subjected to statistical analysis. Results: Out of 136 patients, males were 58 and females were 78. 32 had normal occlusion, 54 had class I, 15 had class II div I, 10 had class II div II, 8 had class III, 10 had deep bite and 7 had cross bite. The difference was significant (P< 0.05). Conclusion: Among various malocclusion, class I was most common followed by class II.

Key words: Class I, malocclusion, Deep bite

INTRODUCTION

Malocclusion is considered one of the most common dental problems together with dental caries, gingival disease and dental fluorosis.¹ Malocclusion may cause unpleasant appearance, impaired oral function, speech problems, temporomandibular disorders, increased susceptibility to trauma and periodontal disease. Identifying occlusal status in particular population provides important information on treatment needs and enables the government to draw the appropriate preventive and treatment programs.² Occlusal traits vary among different ethnic groups, and so is the prevalence and severity of malocclusion. A large number of studies on the prevalence of malocclusion have been done in the past. The reported studies showed that prevalence of malocclusion among Indian subjects is as low as 19% to as high as 90%.³

As a result, patients who seek orthodontic treatment are concerned with improving their appearance and social acceptance, often more than they are with improving their oral function or health. Enhancing these aspects of quality of life is an important motive for undergoing orthodontic treatment.⁴ Orthodontic anomalies have been associated with psychosocial distress, poor periodontal condition and impaired masticatory function and so should be regarded as a health problem. Although data on orthodontic awareness and treatment needs are very scanty, malocclusion is undoubtedly a public health concern in young population.⁵ The present study was conducted to assess different types of malocclusion in known population.
MATERIALS & METHODS
The present study was conducted in the department of Orthodontics. It comprised of 136 patients with misaligned teeth of both genders. The study was approved from institutional ethical committee. All participants were informed regarding the study and written consent was obtained.

RESULTS

Table I Distribution of patients

<table>
<thead>
<tr>
<th>Gender</th>
<th>Total- 136</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>Males</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>78</td>
</tr>
</tbody>
</table>

Table I shows that out of 136 patients, males were 58 and females were 78.

Table II Type of malocclusion

<table>
<thead>
<tr>
<th>Malocclusion</th>
<th>Number</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>32</td>
<td>0.02</td>
</tr>
<tr>
<td>Class I</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>Class II div I</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Class II div II</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Class III</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Deep bite</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Crossbite</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Table II, graph I shows that 32 had normal occlusion, 54 had class I, 15 had class II div I, 10 had class II div II, 8 had class III, 10 had deep bite and 7 had cross bite. The difference was significant (P< 0.05).

Graph I: Type of malocclusion
DISCUSSION
Orthodontic anomalies have been associated with psychosocial distress, poor periodontal condition and impaired masticatory function and so should be regarded as a health problem. Malocclusion is not just an invariable disease state, but an acontinuous spectrum of occlusal variation, occurring as amayrid of combinations of permutations of a number of heterogeneous traits or symptoms each with its own widerange of severity and implications in creating a particular manifestation of occlusion. The dental malocclusion exhibits the third highest prevalence among oral pathologies, after tooth decay and periodontal disease and comes under worldwide dental priorities. A well aligned dental arch is essential for the health of oral cavity and stomatognathic system and enhances the self-esteem of the individual. To have a good treatment plan for treating malocclusion, there is a necessity to find the prevalence of the condition in the particular population. To find the prevalence of malocclusion, adequate basic information is available in the developed Indicacountries, but developing countries are still lacking this information.

Although many studies have been published that describe the prevalence and types of malocclusion. Some variabilities between their findings and our existed due to the varying methods and indices used to assess and record occlusal relationships, age differences of the study populations, examiner subjectivity, specific objectives, and differing sample sizes. The present study was conducted to assess different types of malocclusion in known population. In present study, out of 136 patients, males were 58 and females were 78. We found that 32 had normal occlusion, 54 had class I, 15 had class II div I, 10 had class II div II, 8 had class III, 10 had deep bite and 7 had cross bite. Mahajan et al found that there were 696 subjects (369 males and 327 females) in the age group of 13-14 years. The malocclusion determination was based on the Angle’s classification of malocclusion. The results showed that 83% of the subjects had malocclusion. 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. Majority of the subjects had Angle’s Class I malocclusion with crowded incisors. There is a need to simplify and standardize criteria for assessing malocclusion and to plan the need of orthodontic treatment among the population.

Otuyemi et al grouped the samples into 5 groups being group 1 as normal occlusion, group 2 as class I malocclusion, group 3 class II div I, group 4 class II div II, group 5 class III. The class I malocclusion resulted into 57.9%. Mohammed et al in their study the sampling included 289 adolescents with age range 14-17 years. The sample was randomly selected from schools in Makkah governorate to determine the status of their occlusion. Class I malocclusion had the highest frequency of 67.13%, class II div-1 was 14.53%, class II div-2 was 10.7%, class III was 7.61%. The normal overjet and overbite values were highest 57.4%, 52.6%, respectively. Frequency of Crowding was observed in 63%, diastema was present in 8.3%, anterior cross bite was 17% and posterior cross bite was 21.4%.

CONCLUSION
Among various malocclusion, class I was most common followed by class II.

REFERENCES