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Prevalence of Malocclusion in Bihar Population: A Community Based Research

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Abstract

Background: Malocclusion is the one of biggest challenge in the world due to variable. Diagnosis and proper treatment Plan prevents its occurrence. Interceptive and preventive treatment needs more manpower for prevention of malocclusion. The aim of the present study is to evaluate the existence of different types of dental malocclusion in Bihar Population.

Methods: The study was done in 2109 patient who has visited the Oral Medicine Department of dentistry, of Buddha Institute of Dental Sciences and Hospital in between September 2017 to February 2019. The different parameter regarding the malocculusion was recorded and analysed. Chi Square test is done for the significance of gender and it the difference is $p < 0.05$.

Results: In present study it is found that Class 1 (68.3%) Class 2 (30.7 %.) Class 3 (1%).

The results of this study indicated that increased over jet situation is most commonly seen 63%.

The most problem in this area is crowding 61.1% followed by increased overjet, deep bite, crowding and spacing.

Conclusion: The result in this study shows the prevalence of malocclusion and lack of awareness which require a base line for awareness programme and interceptive and preventive orthodontic service and future study in Bihar population.

Keywords: Malocclusion, Angle Classification

Introduction

Normal Occlusion is a harmonious relationship between tooth and dental occlusion in which a natural relationship between teeth, jaw muscle, temporomandibular joint and nervous system is required and any disruption in this relationship can results into malocclusion and skeletal deformity.[1]Edward angle is person who played very

important role in development of the concept of occlusion.[2]

Malocclusion can cause three categories of problems in individual. Social and Mental issues due to its effect on beauty and disruption of normal functioning of mouth, temporomandibular joint dysfunction ,dental caries, decaying of teeth and gingival diseases.[1]

The prevalence of malocclusion seen in adults mostly due to relapse of orthodontic treatment, loss of teeth dysfunctional treatment and results of occlusive changes over time.

The oro-facial region is an area of important concern for the individual because it draws the most attention from other people in interpersonal interactions and it is primary source of vocal, physical and emotional communication. Malocclusion is defined as any deviation from normal occlusion of teeth. The main objective of the orthodontic treatment is to attain optimal occlusion within framework of function, aesthetics and stability.

Material and Method

The present study is cross sectional and it compromises of all the patients refried to Buddha dental college and research institute from 2018 -19.In this study 1000 patients were studied (640 male and 360 female). All the patients' information was gathered through medical record including diagnostic casts and cephalometric stereotypes.

The recorded data is codified with 4 forms

1. Demographic data
2. Dental condition
3. Skeletal condition
4. Functional status.

In this study types of malocclusion was determined using angles classification.[5]

The anterior and posterior relationship was evaluated on basis of canine teeth and permanent molar in central occlusion. According to casts and cephalometric radiographs of patients diagnosis of class 1 and class 2 malocclusion was done.

Overjet and overbite of the patient was evaluated and recorded.

To determine skeletal malocclusion measurement of cephalometric angle ANB was meseared using Steiner's Analysis.

All the information was imported into statistical software and analyzed.

Results

The descriptive statistics regarding the prevalence of malocclusion were stated in the form of type of dental and skeletal malocclusion among the patient reported to opd department of Buddha Dental College

Total 1000 no patients were examined in the age group of 18 -50 years with mean 30 years. There was 640 male 360 female were present.

Figure 1 showing 64% male and 36% female in the study.

Among 1000 population only 50 patients were diagnosed with skeletal deformity and dental malocclusion.

In affected population there were 18 male and 32 females. (Figure2).

Prevalence of malocclusion: -- Class 1 (68.3%) Class 2 (30.7 %.) Class 3 (1%).

The results of this study indicated that increased over jet situation is most commonly seen 63%.

The prevalence of other condition of overbite seen in subjects was low and almost identical.

Discussion

Malocclusion is defined as any deviation from normal occlusion of teeth. The teeth are present in abnormal

position in relationship to the basal bone of the alveolar process and to the adjacent teeth and/or to the opposing teeth. According to Angle's ''Occlusion is the normal relation of the occlusal inclined planes of the teeth when the jaws are closed" [1].

Orthodontic Abnormalities have been associated with psychosocial distress, impaired masticatory function and poor periodontal condition and so it should be regarded as severe health Issue. It is not only just an invariable disease state, but it is also a continuous spectrum of occlusal variation, occurring as a myriad of combinations of permutations of a number of heterogeneous traits in which each of the symptoms vary with its own wide range of severity and implications in creating a particular manifestation of occlusion [1].

According to epidemiological study done by Kumar p [2] malocclusion was present in 53.7% samples and 32.8% samples needed orthodontic treatment. 55.1% samples showed no caries risk. In the present study Class 1 (68.3%) Class 2 (30.7 %.) Class 3 (1%) results were seen. As the study done by Kumar p not concluded about the types of malocclusion present in the samples and also the occlusal traits except for caries which were not taken in consideration. Sogi GM [3] conducted a study of oral hygiene status of school children in Davengere in relation with their socioeconomic level. The study concluded that occurrence of untreated carried lesions in secondary teeth caries experience and oral hygiene status of children is strongly correlated to socioeconomic status. Although Sogi Gm concluded that oral hygiene, untreated carried lesion and socio- economic status are important etiologic factor for malocclusion. Other factors such as retained deciduous teeth were not taken in consideration in the study done. In the present study the retained deciduous teeth and occlusal traits were taken into consideration but the socio-economic status was not much considered.

Conclusion

The results of the present study showed that malocclusion can occur in any of cases irrespective factors such as caries control and the socio economic status. There is mandatory need to spread awareness about the malocclusion. If possible children should be screened at an early stage so that the rate of the malocclusion decreases. Malocclusion creates very serious impact on the person's appearance in society at a greater extent.

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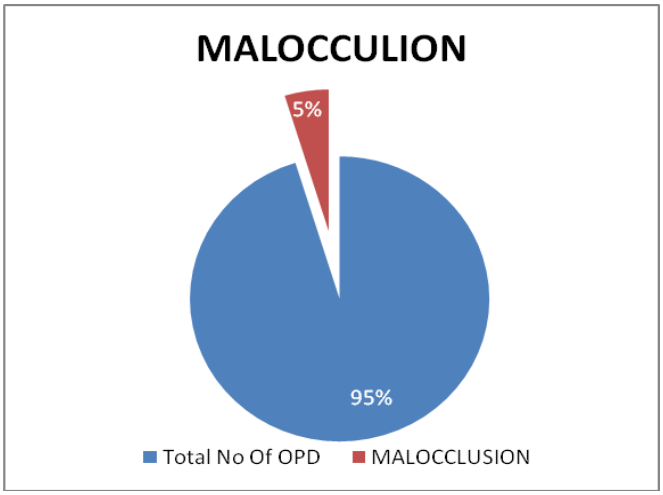
Legends Figure



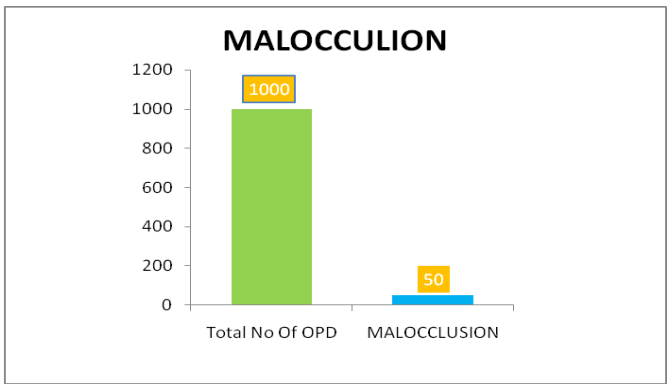
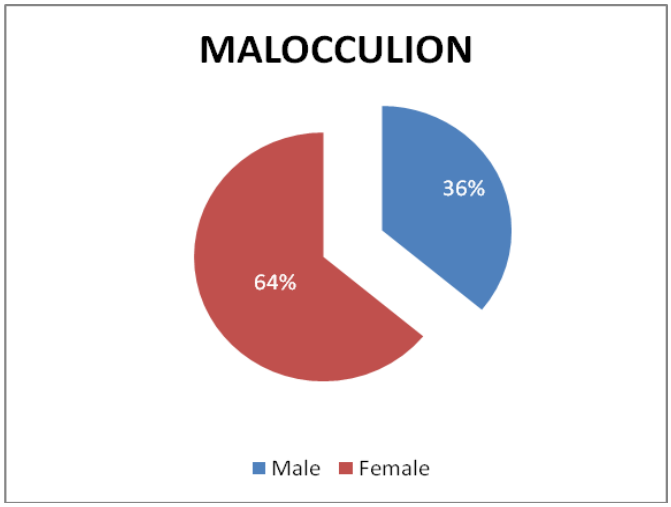


Figure 1 : (a) and 1(b) total no patients and no of malocclusion cases.



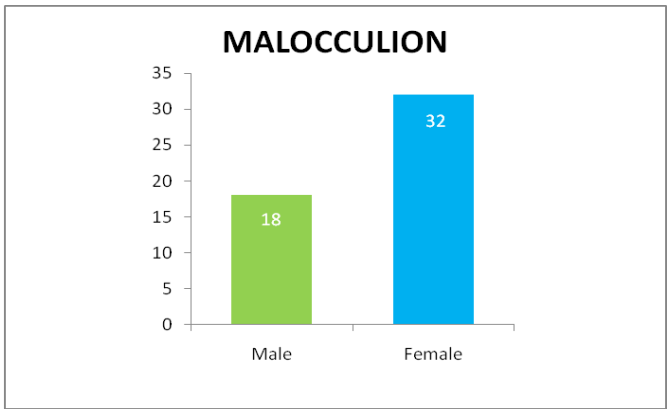


Figure 2: (A) and 2(B) showing number of male and female patients.