

Incidence of Anterior Open Bite Among Patients Visiting de' Montmorency College of Dentistry, Lahore

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ABSTRACT

Objective: The purpose of this study was to find out the incidence of anterior open bite and its gender distribution among the patients visiting department of Orthodontics, de'Montmorency College of dentistry, Lahore. **Period:** Duration of this study was January 2012 to December 2016. **Methods:** Orthodontic records of 600 patients reporting to DCD were to find out the incidence of anterior open bite. **Results:** The mean age of the patients was 20 years. The incidence of anterior open bite was found to be 2.5%. Male to female ratio was 1:2. Simple anterior open bite was more prevalent. It was concluded that females are more affected by anterior open bite than the males and simple type is more prevalent as compared to complex type. **Conclusion:** AOB is more prevalent among females than males. Simple AOB is more prevalent in comparison to the complex type.

Keywords: Anterior open bite

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INTRODUCTION

An anterior open bite (AOB) is a lack of vertical overlapping between the incisal edges of the maxillary and mandibular incisors.¹ It is multifactorial in nature, usually caused by interaction of genetic and environmental factors.^{2,3} Several etiological theories have been presented, including unfavourable growth patterns, heredity, thumb sucking habits, and atypical tongue posture.⁴ Oral breathing, transverse maxillary deficiency and adenotonsillitis have also been reported in aetiology of AOB.⁵ Various management methods have been reported including posterior bite blocks, low pull headgear, anterior vertical elastics, MEAW therapy and at present the use of temporary anchorage devices.⁶⁻¹³

AOB is classified as dental or skeletal, anterior or posterior and unilateral or bilateral. It may present as simple or complex. Skeletal AOB is characterized by small anterior cranial base length, increased cranial base angle, steep mandibular plane angle and increased lower anterior face height along with increased interlabial gap. Dental AOB is characterized by deficient dentoalveolar heights, divergent planes, mesially inclined molars and flat curve of spee in mandibular arch. Simple AOB is characterized by vertical separation extends up to premolars, whereas in complex type, it extends up

to the molars.¹⁴ Severity grades of AOB are: Moderate (0-2 mm), Severe (3-4 mm) and Extreme (more than 4 mm).¹⁵

The prevalence of anterior open bite ranges from 2% to 12% and varies between ethnic groups and by age and sex.¹⁶ In view of the fact that the prevalence in different populations is different, this study was design to find out the incidence of anterior open bite and its gender distribution among the patients visiting department of Orthodontics, de'Montmorency College of dentistry, Lahore, Pakistan.

METHODOLOGY

This study was conducted after institutional approval at the Department of Orthodontics, de, Montmorency College of Dentistry, Lahore in which orthodontic records of untreated patients, between the chronological ages of 18 and 25 years were included to determine the incidence of anterior open bite, whether simple or complex. Duration of this study was January 2012 to December 2016. No ethical approval was sought because of the retrospective characteristics of the study design.

Inclusion Criteria

All teeth present except wisdoms
Patients of AOB
Good quality Pre-treatment records

Exclusion Criteria

Craniofacial syndromes
History of trauma
Any systemic or metabolic disease.

Data Collection Procedure

Lateral cephalograms were used to confirm the presence of AOB. The amount of AOB was confirmed by measuring interincisal distance with standardized digital vernier callipers on plaster models. Dental history sheets were used to rule out any systemic disease and history of dental trauma.

Statistical Analysis

The data was analyzed in Statistical Package for the Social Sciences software package (SPSS) 20. The mean age, gender distribution and percentage of simple and complex type of AOB among the selected sample was calculated.

RESULTS

The mean age of the patients was 20 years. Out of total sample of 600, 15 (2.5%) patients had open bite malocclusion. Out of 15, 6 (40%) were males while 9 (60%) were females. 79.11 % had simple open bite and 20.89 % had complex anterior open bite. The male to female ratio was found out to be 1:2. (Table No.1)

Table 1: Incidence of AOB among patients visiting de'montmorency college of dentistry, Lahore. (N=600)

Parameter	Incidence
AOB Patients	15 (2.5 %)
Males having AOB	6 (40 %)
Females having AOB	9 (60 %)
Simple type AOB	79.11
Complex type AOB	20.89

DISCUSSION

The results of this study revealed that simple type was more prevalent than complex type of AOB. The male to female ratio in our study was 1:2. This is in contrast to the findings of certain studies, where no gender differences were found.^{17,18}

Prevalence of open bite in the present study was found out to be 2.5%, which are similar to prevalence of open bite in Argentinean, Uganda, Hawaii and Kuwaitis where the studies revealed the percentage range of 2-4%.¹⁹⁻²² Bukhay²³ carried out a similar study in Saudi Arabian and incidence of AOB was found out to be 6.6%. Among the Nigerian school children the open bite prevalence was reported 7.3%.²⁴ Ngana²⁵ reported 8% in Kenya. National

Health and Examination Survey data for all ages showed that 6.6 % of blacks had an AOB comparing with 2.9% for whites. The above findings indicate that incidence of AOB is affected more by racial factors.

The incidence of anterior open bite in our study was found to be 2.5%. Large scale studies are recommended to establish the prevalence in our population; this would help in more appropriate management of the AOB malocclusion.

CONCLUSION

AOB is more prevalent among females than males. Simple AOB is more prevalent in comparison to the complex type.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

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