

Prevalence of Anterior Open bite In Orthodontic patients In Ramadi City

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Abstract

Background: Anterior open bite is vertical dental separation between the upper and lower incisors when the posterior teeth are in full occlusion and lead to malocclusion which effect the esthetic of the patient and need orthodontic treatment.

Objectives: To assess the prevalence of anterior open bite in orthodontic patients in Ramadi city and severity of these cases.

Patients and Methods: (400) orthodontic patients of (15 – 30) years old were examined for the presence or absence of anterior open bite then measure the overbite by

Results: (16) patients out of the total number have anterior open bite, (6) are males and (10) are females (8) of them are moderate, (5) of them are severe and (3) of them are extreme.

Conclusions: We conclude that over all anterior open bite are (4%) of the cases. The patients with anterior open bite are (62.5%) females and (37.5%) males and the females attending orthodontic clinic more than males.

Keyword: open bite, orthodontic patient, prevalence, Ramadi city,Iraq.
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Introduction

Anterior open bite is defined as vertical interarch dental separation between the maxillary and mandibular incisors when the posterior teeth are in terminal occlusion⁽¹⁾.

Several factors are involved in the etiology of anterior open bite including dental and dentoalveolar involvement, environmental causes as thumb or dummy sucking habits, mouth breathing, tongue or lip thrusting in addition to local factors as tooth ankylosis and eruption problems may be involved. However, in skeletal problems genetic factors dominate which leading to unfavorable growth tendency of the individual^(2,3,4,5).

Open bite can be classified as moderate with vertical separation (0 – 2mm), sever with vertical separation (3 – 4mm), and extreme with more than (4mm) of vertical separation^(6,7).

Different treatment modalities employed for the correction of anterior open bite include bite block, new face mask designs, titanium miniplates, micro implant and different orthognathic surgery⁽⁸⁾.

This study aims to assess the prevalence of anterior open bite in Ramadi city and to determining the percentage according to the sex and severity of cases

Patients and Methods

Sample of (400) patients attending the private orthodontic clinic, and Orthodontic Department Faculty of Dentistry, the University of Al-anbar.

The sample consisted of (160) males, (240) females, the patient must be from Ramadi city, they must be between (15 – 30) years of age.

Care was taken to exclude the patients who have previous orthodontic treatment history, serial extraction and history of extraction of permanent teeth^(2,9).

Each patient was seated on dental chair with his or her head supported in an up righting position. The clinical examination was performed with the aid of mouth mirror.

The open bite was measured when the lower incisors were not overlapped in a vertical plane by upper incisors and did not occlude with them⁽¹⁰⁾, then measured by vernier.

Results

The chronological age range of the sample was (15 – 30) years .Table (1) demonstrate the distribution of the sample according to the sex which consist of 40% males and 60% females.

Table (1) Sex Distribution of the Sample

Gender	Frequency	Percentage
Male	160	40%
Female	240	60%
Total	400	100%

(16) patients (4%) have anterior open bite. Table (2) also shows distribution of these patients into different severity grade of anterior open bite, 50% of these patients have moderate grade of anterior open bite 31.25% have severe anterior open bite and 18.5% have extreme anterior open bite. There are a significant difference between these grades .

Table (2) Subjects Having Various Grades of Anterior Open Bite.

Grade of ant. open bite	Frequency	Percentage
Moderate (0 – 2)	8	50%
Sever (-3, - 4)	5	31.25%
Extreme (> - 4)	3	18.75%
Total	16	100%

P<0.01 significant difference

The age distribution of these patients having anterior open bite is shown in table 3

Table (3): Age Distribution of Anterior Open Bite of the Patients

Anterior Open Bite				
Age	Moderate (0, - 2)	Sever (- 3, - 4)	Extreme (> - 4)	Total
15	1	1	–	2
16	2	–	–	2
18	1	–	1	2
20	2	–	–	2
23	–	1	–	1
26	1	–	1	2
28	1	–	–	1
29	–	2	–	2
30	–	1	1	2
Total	8	5	3	16

Mean age=22.43 SD=5.75

The sex distribution of patients have anterior open bite is shown in table(4) which shows that there is a significant difference between the total number of males and females so(p<0.05).

Table (4) Sex Distribution of Anterior Open Bite

Anterior Open bite					
Gender	Moderate No %	Sever No %	Extreme No %	Total No %	
Male	3 18.75%	2 12.5%	1 6.25%	6 37.5%	
Female	5 31.25%	3 18.75%	2 12.5%	10 62.5%	
Total No %	8 50%	5 31.25%	3 18.75%	16 100%	

Discussion and Conclusion:

Sample of (400) patients reported orthodontic department. It is clear from table (1) that (60%) of female patients compared to (40%) males patient is an indicated greater orthodontic concern among female patients in our society. This is in agreement with findings of the other studies done else where^(2,3,11).

The prevalence of (4%) of anterior open bite is similar to the findings of Hameedullah, et al⁽²⁾. It is nearest to Abu Alhaija et al⁽¹²⁾.study in north Jordanian school which reported prevalence of (3.9%) in patients from (13 – 15) years. While the results was more than Abdul Jabbar⁽¹³⁾study in Thiagar Governorate who reported that prevalence of anterior open bite is (3.5%).and less than AlEmran⁽¹⁴⁾who found (6.6%) in Saudia Arabian adolescents and Naganga⁽¹⁵⁾ reported (8%) in Kenya.

This difference may be due to the difference in the sample size, population being sampled and methodology being used. It is clear from table (2) that (4%) of the patients had varying degrees of open bite, (50%) of these patients have moderate grade, (31.25%) have severe grade, and (18.75) have extreme grade of open bite which agrees with the finding of^(3,16).

There are a significant difference between gender and grade of open bite which agrees with the finding of.⁽¹⁷⁾

Although it is clear from table (4) that the females have anterior open bite is more than males which agrees with findings of^(2,3) and this may be due to the fact there is more demand of orthodontic treatment. We conclude that over all anterior open bite are (4%) of the cases. The patients with anterior open bite are (62.5%) females and (37.5%) males and the females attending orthodontic clinic more than males.

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