

# Bad Oral Habits and Associated Malocclusion among 8-9 Years Old Children

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**Abstract:** Background: Habit is defined as an automatic response to a specific situation acquired normally as the result of repetition and learning. These oral habits maybe seen in children, adolescents and adults causing serious effect on their facial growth and dentition that is to say they may be related to malocclusion which is a condition where there is departure from the normal relation of the teeth in the same dental arch or to the teeth in the opposing arch. Aims of the study: Study aimed to find the occurrence of bad oral habits among group of children and malocclusion associated with bad oral habit. Materials and method: The total number of sample consist of (200) boy and girl students aged (8-9) years old. (100) Of them were bad oral habits. The population from which the sample was drawn is the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> class of primary school students. Result: The results showed distribution according to age and gender with total males included in present study (52) while total females included (48) and distribution of bad oral habits according to gender, Total males with different types of bad oral habits higher than total females (90,76). Higher percentage of male with nail biting habits (44.44%) and lower percentage with Tongue thrust habits (6.66%) and higher percentage of female with nail biting habits (44.47%) and lower percentage with Tongue thrust habits (7.89%). And distribution of bad oral habits according to age with different number of total bad oral habits of age groups (8, 9), (79, 87) respectively. higher percentage associated with nail biting of bad oral habits in both age groups (8,9) (48.10%,41.37%) and lower percentage in both age groups (8,9) associated with Tongue thrust (7.59%,6.89%) respectively. Conclusion: With limitation to present study all types of bad oral habit associated with different types of malocclusion if extend to school age children with higher score associated with anterior crowding for nearly all types of oral habit.

**Keywords:** bad oral habits, malocclusion

## 1. Introduction

Habit it was defined as the action or condition which by repetition has become spontaneous. in order to place things in proper perspective, we should point out the nervous habits which are finger and nose-picking, hair twisting, scratching, eye rubbing, ear pulling and then the broad category labeled "oral habits". Oral habits were defined as the stereotypic repetitive functions of the masticator system, often subconscious differing qualitatively and quantitatively from its physiological function Abnormal oral habits operate so quietly and unconsciously that even the patient is frequently unaware of their existence. All such simple habits at first are performed by conscious effort. With each repetition it becomes less and less conscious effort and strictly applicable only to motor responses. Until finally it is pre-formed entirely unconsciously, becoming a part of the routine of the mind from which the consciousness is removed<sup>(1)</sup>.

Hand sucking is naturally developed in 89% of infants in the second month and in 100% of them in the first year of age .The reflex of sucking appears around the 29 weeks of age, that is, one of the first sophisticated patterns of behavior in infant .One of the most common repetitive behaviors in infantile period is hand sucking <sup>(2)</sup>.

Parents are frequently concerned about their children's behavior patterns, especially if they are repetitive or stereotyped. These patterns are important, they are common in children with normal psychological status but they may also occur in children with developmental problems or emotional difficulties, or may be secondary to physical disorder <sup>(3)</sup>.

Oral habits should be of primary clinical concern to orthodontists because they may cause malocclusion and interfere with the treatment progress <sup>(4)</sup>.Types of Malocclusion associated with bad oral habits

Over jet (O.J): Measurement of the horizontal relation of the incisors is made with the aid of millimeter graded vernier while the subject is in centric occlusion and measured the distance from the most prominent surface of labial surface of upper central incisor and labial surface of lower central incisor .The measurement of overjet is recorded to the nearest millimeter Increased overjet was considered as >4mm and decreased overjet was considered as <1 mm. An increased, decreased, or reversed overjet value was considered as a single occlusal anomaly <sup>(1)</sup>.Overbite (O.B):The overbite was measured according to Draker while the subject is in centric occlusion with his occlusal plane horizontal. The amount of vertical overlap of the upper incisor on the lower incisor is marked with the pencil on the labial surface of the lower incisor using the incisal edge of the upper incisor to guide the pencil with the conical plane of the sharpened point of the pencil itself parallel to the subject's occlusal plane . If there is lack of vertical overlap between any of the opposing pairs of incisors (openbite), the amount of openbite is measured directly and recorded to the nearest whole millimeter. Increased overbite was considered as >4mm and decreased overbite as < 1mm. An increased or decreased overbite including anterior openbite was considered as a single occlusal anomaly<sup>(1)</sup>.

### Posterior crossbite:

The measurement of the transverse lateral segment relation was made by direct inspection of the lateral segments on each side. One of three separate relations was recorded for

the transverse interdigitation of the lateral segments<sup>(5)</sup>. Posterior crossbite: a buccal cusp of a mandibular tooth lied buccal to the maximum height of a buccal cusp of an opposing maxillary tooth.

**Spacing and Crowding:** It was assessed separately for the maxillary and mandibular dentitions, spacing or crowding was registered when a deviation of at least 2 mm per segment was diagnosed<sup>(6,7)</sup>

## 2. Materials and Method

**The Sample** Prior to data collection permission was obtained from college of dentistry university of Baghdad and general directorate for education AL- Karkh. The total number of sample consist of (200) boy and girl students aged (8-9) years old. (100) of them had bad oral habit. The population from which the sample was drawn is the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> class of primary school students. Samples were examined from AL- Nile primary school. They were all clinically and none of them had received any type of orthodontic treatment. The work of this study accomplished in mid holiday (February, 2016). **Oral Examination**

### Equipment & supplies needed for clinical examination:

1-Disposable explorers 2 Disposable mouth mirror 3-Cotton. 4-Ruler. 5-Disinfectant solution. 6-Indelible pencil. 7-Portable light.

**Questionnaire:** Each student of the sample was given a paper containing a simple questionnaire to answer with his or her parents. Does your son or daughter have any of these habits now or in the past? And if in the past, at what age the habit stopped?

**Methods of oral examination:** The examinations were carried out in rooms that were available in host school. The subjects were seated on ordinary chairs. The subject's head supported in an upright position and the examiner standing in front of the chair. Under standardized conditions according to the basic methods of oral health surveys of the World Health Organization (1997)<sup>(8)</sup>.

Malocclusion of each one of the 100 subjects was diagnosed according to the criteria suggested by<sup>(5)</sup>. The clinical examination was conducted with a disposable plane mouth mirror, disposable explorer, disposable tweezers, Indelible pencil, disinfectant solution, and Portable light.

**Digit Sucking:** This habit was examined first by asking the students about which finger was sucked and the manner in which it was sucked. The second step was to examine the index finger to find if there is a callus formation, cleaner fingernail or reddish color or acquired rotation which is the most frequent deformation.

**Object Biting:** This type of habit was examined by a simple questionnaire about what was the object and the manner in which it was used inside the mouth

**Nail biting:** This habit was examined according to Odenrick and Brattstrom by a questionnaire to ask whether the students bite their nail often or infrequently. They were also asked whether it was possible to see from their nails that

they were nail biters. Those who were considered as nail biter bite most of their finger nails often in a severe manner.

**Mouth breathing:** This habit was investigated according to Melsen et al by a questionnaire about the cause of their mouth breathing and to observe the habit after asking the student to sit in rest position. There was also an extra oral examination to diagnose if there was any increase in lower facial height, incompetent lip. Those who were not chronic mouth breathers such as seasonal mouth breathers were not considered as habitual mouth breathers.

**Tongue thrust:** This habit was investigated by a simple examination. The head was left unsupported and the students were asked to swallow and during their swallowing their lips was pulled apart to observe his tongue position whether it protruded forward against the anterior teeth or not, and whether the teeth are at centric occlusion during Swallowing or not.

## 3. Result

The results showed distribution according to age and gender with total males included in present study (52) while total females included (48). Also results illustrated distribution of bad oral habits according to gender, Total males with different types of bad oral habits higher than Total females (90, 76). Higher percentage of male with nail biting habits (44.44%) and lower percentage with Tongue thrust habits (6.66%) and higher percentage of female with nail biting habits (44.47%) and lower percentage with Tongue thrust habits (7.89%) and distribution of bad oral habits according to age nearly with different number of total bad oral habit of age groups (8,9), (79,87) respectively. Higher percentage associated with nail biting of bad oral habit in both age groups (8,9) (48.10%, 41.37%) and lower percentage in both age groups (8,9) associated with tongue thrust (7.59%, 6.89%) respectively.

While results illustrated distribution of bad oral habits and associated with different types of malocclusion. Higher score of malocclusion with anterior crowding (44, 16, 14, 20) associated with (nail biting, thumb sucking, mouth breather, other) respectively except higher score with anterior open bite (9) associated with (tongue thrust). Lower score anterior open bite (13), spacing (5), deepbite (1) (3) and anterior open bite and deepbite (4) associated with nail biting, tongue thrust, thumb sucking, mouth breathing and other respectively

## 4. Discussion

There is a relation between oral habits and malocclusion in deciduous dentition; 40% of the causes of malocclusion were found to be related to oral habits. It has been reported that the incidence of malocclusion in children with oral habits was 74.0%, while the incidence was only 25.1% in children without any oral habit.<sup>(9)</sup>

In present study the result shows occurrence of bad oral habit higher in male than female and this result was disagree with (Onyeaso, 2004)<sup>(10)</sup> but agree with (farsi and salama, 1997)<sup>(11)</sup>.

Also present study show higher occurrence at age 9 years old than 8 years old.

All types of bad oral habits associated with different type of malocclusion, present study show Nail biters have crowding the Severity of malocclusion associated with nail biting depends on intensity, duration, and frequency of habit<sup>(12)</sup>.

Anterior open bite associated tongue thrust when tongue is thrust between upper and lower teeth each time the patient swallows producing open bite some time the patient allow tongue to rest in open bite space preventing the bite from closing<sup>(13)</sup>.

The anterior open bite mostly seen in children with tongue thrust because the primary factor in developing the open bite is the tongue thrust<sup>(14)</sup>.

Posterior cross bite more seen in children with thumb sucking and tongue thrust this agree with<sup>(14,15)</sup> because during sucking the thumb is place between the teeth, lead the tongue to be lowered, which decreases pressure from the tongue against the lingual surface of upper posterior teeth.

Present study show thump sucking associated with posterior cross bite, spacing and crowding agree with<sup>(16,17,18,19)</sup>. Posterior cross bite with mouth breathing and anterior open bite and crowding this finding agree with<sup>(20)</sup>.

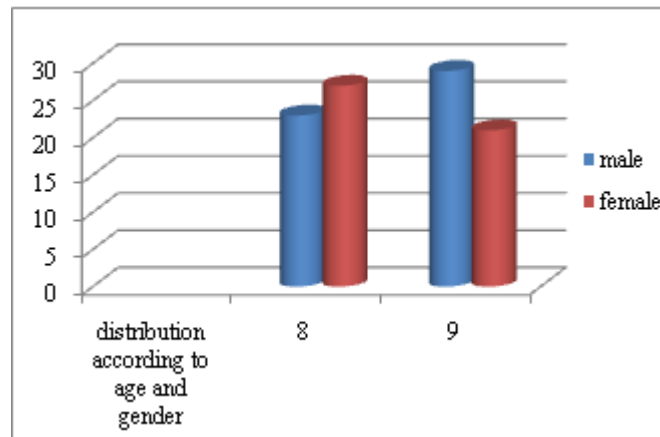
## 5. Conclusions

With limitation to present study all types of bad oral habit associated with different types of malocclusion if extend to school age of children with higher score associated with anterior crowding for nearly all types of oral habit.

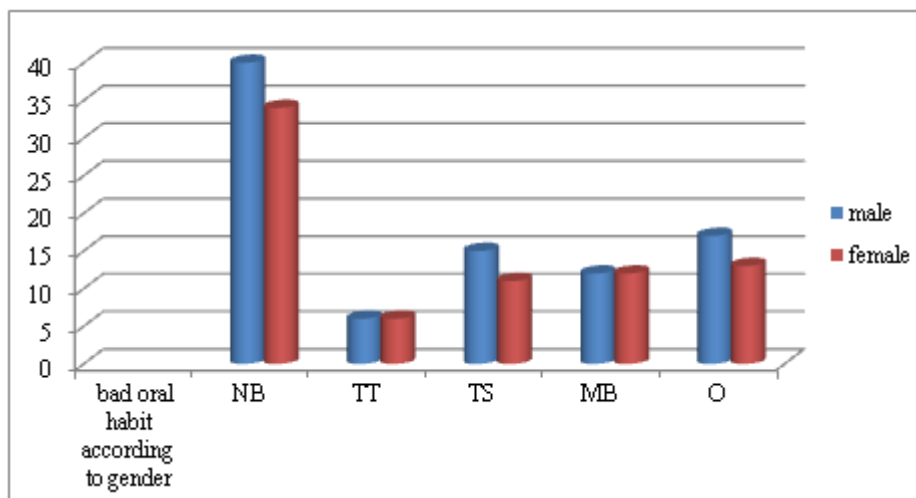
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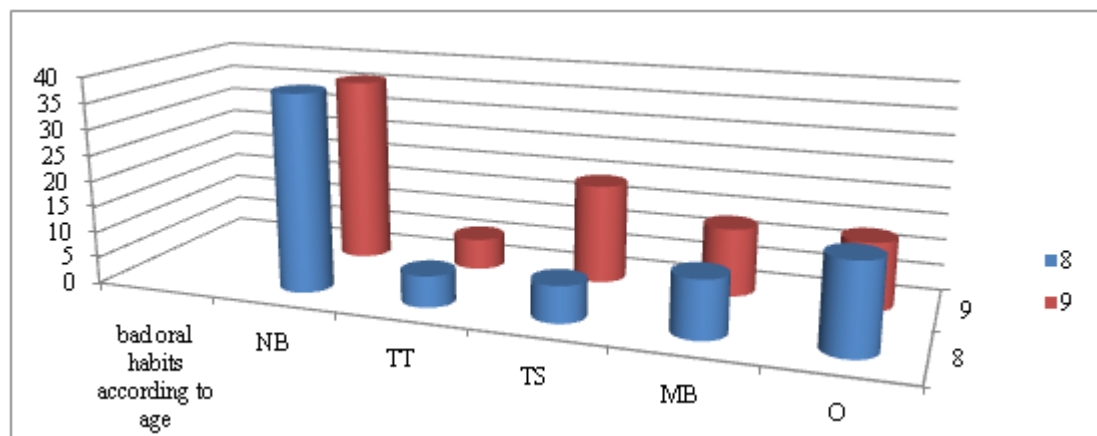
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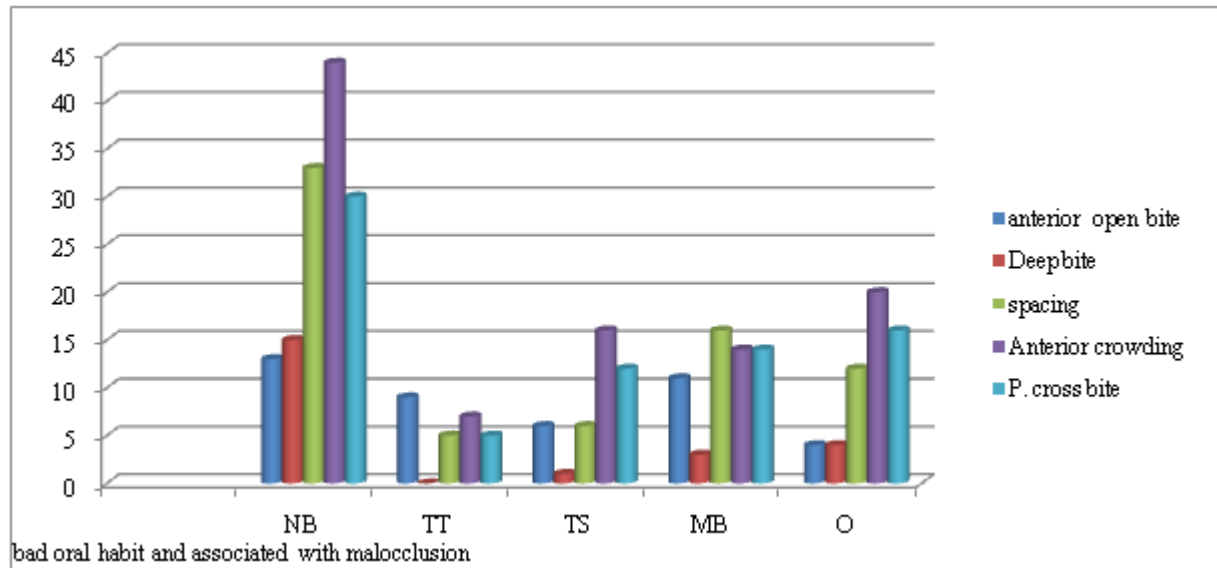
**Graph 3.1:** Distribution according to age and gender



**Graph 3.2:** Distribution of bad oral habit according to gender



**Graph 3.3:** Distribution of bad oral habit according to age (8, 9)



**Table 3.4:** Distribution types bad oral habit and associated with malocclusion