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The Effect of Bad Oral Habits on Malocclusions and Its Relation with Age, Gender and Type of Feeding.

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Abstract

Background: The purpose of this study was to determine the type of bad oral habits "sucking (thumb, index, more than one figure), nail or pencil biting, tongue thrusting, lip sucking" and its relation to age, gender, malocclusions and type of feeding (breast or bottle), in patients above the 6 years of age.

Material and methods: 110 patients of oral habit reported to the department of pedodontics and preventive dentistry and department of orthodontics at the collage of dentistry \ Baghdad University, during a one year period (2005-2006), Thos were 35 male and 75 females in age range between 6- 13 years.

Result: Thumb sucking represented the predominate habit (34.55%) for all age groups, The age group that showed the highest oral habit was 8-9 years in which (35.45%) children had oral habit, female children (68.18%) were more than male, the children who sucked their thumb were more likely to develop an increased over jet, while the anterior open bite mostly seen in children with tongue thrust, The children who suck their lip showed deep bite and an increased in the over jet.

Conclusions: oral habits had dental effect rather than skeletal effect, there was no association between oral habit and pattern of child's feeding.

Key words: Bad oral habits, malocclusions, skeletal relations.

Introduction

Many children suck their digit for short period during infancy or early childhood and may be considered normal during the first 2 years of life, many of them stop during the preschool years, but some continue into the teenage or adult years⁽¹⁾.

These oral habits are very normal response to anxiety and stress and do not point to insecurity or emotional problems in the child, when some children continue these habits as a means of exerting independence⁽²⁾.

Theses habits are a common

behavior disorder in childhood which often serves as an outlet for emotional distress or boredom⁽³⁾.

Persist of the non-nutritive sucking activity the main risk factor for disturbance of the dentofacial development in the anteroposterior, vertical and transverse direction with alter in the occlusion and open bite⁽⁴⁾. In general these habits lead to procline upper incisors, retrocline lower incisors, increase the overjet, decrease the overbite or posterior cross bite^(5, 6). These changes occur due to the intrinsic pressure from many habits such as thumb-sucking, index-sucking,

tongue-thrust, pencil-biting, nail-biting, lip-sucking or others⁽⁷⁾.

This study was an attempt to determine the most common oral habits among children and the effect of these habits on permanent dentition.

Materials and methods

110 patients above 6 years of age reported to the department of pedodontics and preventive dentistry and department of orthodontics at the college of dentistry \ Baghdad university, during a one year period (2005-2006), with oral habits (thumb-, index- or more than one finger sucking, tongue-thrust, pencil-, nail- or lip- biting, and others).

They were examined clinically to measure the overjet and the overbite, the presence of anterior open bite and cross bite (anterior and posterior), and skeletal examination by two fingers technique for the presence of class I, class II or class III malocclusions.

Questionnaire with the parents about the number of the siblings and the order of birth the child in the family with the type of the child's feeding whether breast or bottle feeding.

Results

The sample consisted of 110 children aged between 6-13 years. Male patients represented (31.82%) and female patients (68.18%). The type of habits in relation to the age and gender are shown in table (1).

Thumb sucking represented the most common habits (34.55%) for all age groups followed by tongue thrust (32.73%). The age group that showed the highest oral habit was 8-9 years in which (35.45%) children had oral habit, table(1).

There was slight increase in over jet had seen in children with thumb

sucking and decrease in over bite had seen in children who suck more than one finger. There was open bite in children with tongue thrust while children with lip sucking habit were shown deep bite and highly increased in over jet when the mean recorded 8.5mm and 6.5mm for over jet and over bite consequently, these all seen in table (2). The posterior cross bite was seen in 17 children those mostly with tongue thrust and thumb sucking, table (2).

Most of the patients had skeletal class I over all type of habits, while skeletal class II were recorded only in 27 patients, 16 of them suck their thumb, table (3).

The type of feeding was shown in table (4) when the breast feeding found in 60 children, and only 23 were bottle feeding.

The oral habit mostly found in children their order of birth in the family were the first or second when counted 24.5% and 30% consequently among all age group of children.

Discussion

110 children were examined in this study with different age groups ranged 6-13 years old, this is due to most of children cease their habit before enter school, some of them do not stop, which can be at greater risk for dental malocclusion⁽⁸⁾.

This study showed that female children were more than male as shown in table (1), this result was agree with Onyeaso⁽⁹⁾, but disagree with Farsi and Salama⁽¹⁰⁾ when did his study on Saudi children and showed there was no significant effect of gender.

In this study the thumb sucking being most prevalent habit, this agree with Uwaezoke etal⁽³⁾ and Onyeaso⁽⁹⁾, due to the fact that the habit seem to provide extra self-nurturance to the

child under stimulated by human touch, digit sucking easily becomes an adaptable habit in stress full situations for children⁽³⁾. Then followed by children with tongue thrust and nail biting, while (8.1%) of children suffering from more than one habit, table (1).

In this study, the children who sucked their thumb were more likely to develop an over jet >4mm and this result agree with Warreny etal⁽⁶⁾, Onyeaso⁽⁹⁾ and Salama⁽¹⁰⁾, this because prolong thumb sucking lead to procline upper incisors and retrocline lower incisors which lead to increase over jet⁽⁵⁾.

The anterior open bite mostly seen in children with tongue thrust because the primary factor in developing the open bite is the tongue thrust⁽¹¹⁾, when the tongue is thrust between the upper and lower teeth each time the patient swallows, producing an open bite, some times the patients allows the tongue to rest in the open bite space preventing the bite from closing⁽⁷⁾. While the children who sucked more than one finger showed slight decrease in the over bite that mean there is tendency to form an anterior open bite because prolong sucking habits are significant risk factors for anterior open bite in mixed dentition⁽¹²⁾.

The children who suck their lip showed deep bite and an increased in the over jet more than 8.5mm, because in lip sucking almost always found the lower lip sucked completely beneath the upper incisors teeth^{(13),(14)}.

Posterior cross bite more seen in patients with thumb sucking and tongue thrust this agree with Warreny etal⁽⁶⁾ and Mehrnia etal⁽¹¹⁾, 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. At the same time, the cheek pressure against

these teeth is increased as the buccinator muscle contract during sucking⁽¹⁵⁾.

Skeletal class I malocclusion more predominant among children over all the habits this means the oral habit had dental effect rather than skeletal effect, but class II more likely to develop among children with thumb sucking agree with Warreny etal⁽⁶⁾, as mentioned before the thumb sucking cause proclination of upper incisors and retroclination of lower incisors⁽⁵⁾.

In this study the breast feeding had the greatest percent over all the children that mean there was no association between oral habits and pattern of child's feeding, this agree with Aarts etal⁽¹⁶⁾.

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Table 1 type of habit according to age and gender.

Type of habit	gender	(6-7)years	(8-9)years	(10-11)years	(12-13)years	total
Thump sucking	male	3	6	2	3	14 (36.8%)
	female	11	5	4	4	24 (63.15%)
	total	14	11	6	7	38 (34.54%)
Index sucking	male	1	0	0	0	1 (25%)
	female	0	1	1	1	3 (57%)
	total	1	1	1	1	4 (3.6%)
more than one finger sucking	male	0	0	0	0	0 (0%)
	female	2	2	0	0	0 (100%)
	total	2	2	0	0	4 (3.6%)
Nail biting	male	0	0	1	0	1 (1.2%)
	female	0	6	4	3	13 (92.8)
	total	0	6	5	3	14 (12.72%)
Pencil biting	male	0	0	1	1	2 (66.6%)
	female	0	0	1	0	1 (33.3%)
	total	0	0	2	1	3 (2.72%)
Tongue thrust	male	2	4	3	3	12 (33.3%)
	female	2	11	6	5	24 (66.6%)
	total	4	15	9	8	36 (32.72%)
Lip sucking	male	0	0	0	1	1 (50%)
	female	0	0	0	1	1 (50%)
	total	0	0	0	2	2 (1.8%)
more than one habit	male	0	2	2	0	4 (44.4%)
	female	0	2	1	2	5 (55.5%)
	total	0	4	3	2	9 (8.18%)
Total	male	6 (28.5%)	12 (30.7%)	9 (34.6%)	8 (33.3%)	35 (31.82%)
	female	15 (71.4)	27 (69.22%)	17 (65.3%)	16 (66.6%)	75 (68.18%)
	total	21 (19.09%)	39(35.45%)	26(23.64%)	24(21.82%)	110(100%)

Table 2: the changes in over jet and over bite in relation to the types of habits.

Type of habit	(o.j)mm	(o.b)mm	post.crossbite
Thump sucking	4.236842105	1.657894737	6
Index sucking	2.25	2	0
more than one finger sucking	4.5	0.5	0
Nail biting	4.142857143	2.428571429	2
Pencil biting	1.5	3.333333333	1
Tongue thrust	2.652777778	-0.111111111	8
Lip sucking	8.5	6.5	0
Total			17(15.54%)

Table 3: The skeletal classification according to the type of habits.

Type of habit	CI I	CI II	CI III	total
Thump sucking	20	16	2	38
Index sucking	4	0	0	4
more than one finger sucking	4	0	0	4
Nail biting	9	4	1	14
Pencil biting	2	1	0	3
Tongue thrust	28	5	3	36
Lip sucking	1	1	0	2
Total	68(67.33%)	27(26.73%)	6(5.94%)	101(100%)

Table 4: The type of feeding in relation to the type of habits.

Type of habit	breast feeding	bottle feeding	both
Thump sucking	20	10	8
Index sucking	2	1	1
more than one finger sucking	2	2	0
Nail biting	8	4	2
Pencil biting	3	0	0
Tongue thrust	23	6	7
Lip sucking	2	0	0
Total	60	23	18