Oral habits in relation to dental caries and gingival health among children attending the dental hospital

Maha M. Misbah BDS, MSc. [(1)]

ABSTRACT

Background: The purpose of this study was to detect "Bad oral habits" involving finger sucking, mouth breathing, tongue thrusting and lip sucking among children attending the Department of Pedodontic, College of Dentistry for the first time. These habits were studied in relation to dental caries and gingival health condition.

Material and method: Out of 500 children who attended the Department of Pedodontic for first time, (35) children were found to have oral habits, 20 males and 15 females with an age range of 5-12 years. Those were having oral habit as finger sucking; mouth breathing, tongue thrust and lip sucking were examined for their dental and gingival health by using dmft / DMFT index, PLI and GI indices.

Result: This study showed that children with bad oral habits constituted only (7%) of total examined subjects. The predominant type of bad oral habits was finger sucking (42.8%). A positive relation between dental caries, plaque and gingival indices and bad oral habits was found.

Conclusion: Bad oral habits may act as a predisposing factor for dental caries and gingivitis

Keywords: Bad oral habit, poor oral hygiene, dental caries, gingivitis **(J Bagh Coll Dentistry 2005; 17(3): 109- 112).**

INTRODUCTION

Oral habits are learned patterns of muscular contraction. Abnormal habits finger sucking, lip sucking, tongue thrusting, abnormal muscle habit can interfere with regular patterns of facial growth [(1,2)]. But psychologists believe that these habits can become "Bad Oral Habits", if continue longer than normal may cause physical damage social or cognitive development [(3,4)]. These bad oral habits were very often observed in growing children, if discontinued by the age of five years they do not affect the position of permanent teeth, but if continued beyond this age may can cause dental problem and gingival disease [(1,5)]. Sucking habit were only related to parents education and child feeding methods without significant effect of gender or birth rank or family income [(2,6)].

As far as it is known there is a limited studies conducted concerning this subject in Iraq, for this reason this work was design.

MATERIALS AND METHODS

Through a three months period (March to May 2004), 500 children (5-12) years attended the Department of Pedodontic in the College of Dentistry, Baghdad University for the first time were examined for their dental and gingival health condition. Questionnaires were designed to get information from parents of children included general health and complaint of bad oral habits.

Out of total sample 35 subjects was recorded to have bad oral habit. Those children were examined for dental and gingival health, 15 females and 20 males. Random sample matching with age and gender was included in this study without complain of bad oral habit. Sillness and Loe[(7)] index was applied for recording of dental plaque (PII), Loe and Sillness[(8)] index for gingival health condition (GI). Diagnosis of dental caries was done according to WHO (1987)[(9)], statistical analysis of data were done by using Student's t – test at (5%) level of significance.

RESULTS

The distribution of the total sample examined with bad oral habit (OH^+) compared (OH^-) according to age and gender is illustrates in Table (1). A higher percentage of those with habit were found among 5-8 years of age. Males were found to be affected more than females but this was statistically not significant while statistically difference were recorded for the age group ($P > 0.05$).

Children with finger sucking constituted the major part of total children with oral habits while the lip sucking was the least (Figure 1).

Table (2) illustrates mean values of plaque and gingival indices. Statistically a highly significant differences were recorded in (OH^+) compared to (OH^-).

The distribution of both groups according to severity of gingival inflammation is shown in Table (3). For both (OH^+)and (OH^-) groups the majority of children were found to have a

(1) Assistant lecturer, Department of pedodontics and preventive dentistry, College of dentistry, University of Baghdad.

moderate type of gingivitis, while non of the subject was found to have sever gingivitis. All of the involved subjects were shown to have dental caries. Caries-experience in (OH^+) and (OH^-) group is illustrated in Table (4). Caries experience was higher in the study compared to the control group with statistically highly significant difference this was true for both age groups.

Table 1: Distribution of children according to oral habits by age and gender.

Age/year	OH^+ group						OH^- group					
	Male		Female		Total		Male		Female		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
5-8	15	42.8	8	22.8	23	65.6	15	42.8	8	22.8	23	65.6
9-12	5	14.4	7	20	12	34.4	5	14.4	7	20	12	34.4
Total	20	57.2	15	42.8	35	100	20	57.2	15	42.8	35	100

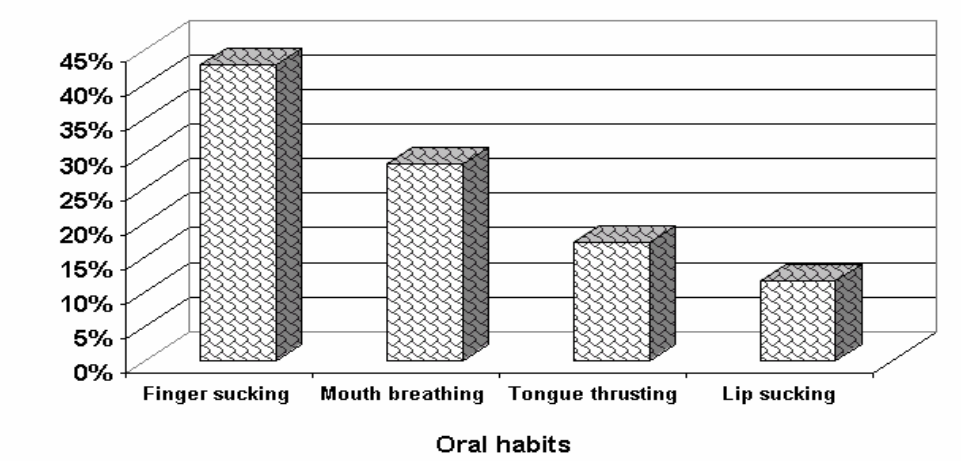

Figure 1: Percentage distribution of children according to bad oral habits

Table 2: Plaque and gingival indices (Mean ± SD) according to age.

Age/Year	Indices	OH^+ group		OH^- group		t– test	DF	p-value
		Mean	SD	Mean	SD			
5-8	PlI	1.56	0.18	1.35	0.21	3.82	22	0.01 ♦
	GI	1.39	0.14	0.99	0.21	7.75	22	0.01 ♦
9-12	PlI	1.54	0.1	1.44	0.15	2.13	11	0.05*
	GI	1.47	0.18	1.23	0.21	2.94	11	0.05*
Total	PlI	1.55	0.15	1.38	0.2	4.32	34	0.01♦
	GI	1.42	0.16	1.11	0.21	7.24	34	0.01♦

♦ Highly significant * significant

Table 3: Distribution of both groups according to the severity of gingival inflammation

G.I	OH^+ group		OH^- group	
	N	%	N	%
Mild	5	14.3	17	48.5
Moderate	30	85.7	18	51.5
Sever	0	0	0	0
Total	35	100%	35	100%

Table 4: Caries-experience (Mean ± SD) in study and control groups according to age

Age/Year	Indices	OH^+ group		OH^- group		t– test	DF	P-value
		Mean	SD	Mean	SD			
5-8	dmft	10.13	2.65	7.04	2.16	4.33	22	0.01♦
	DMFT	0.95	1.22	0.7	1.02	0.79	22	0.05^0
9-12	dmft	5.83	4.75	3.58	2.91	1.40	11	0.01♦
	DMFT	4	3.05	2.92	1.51	1.11	11	0.05*
Total	dmft	8.31	8.066	7.10	2.92	3.34	34	0.01♦
	DMFT	2.0	2.47	1.46	1.6	1.09	34	0.01♦

* Significant ♦ Highly significant ^{0} not significant

DISCUSSION

In this study only 7% was demonstrated to have oral habits this percentage dose not represent normal population as the study designed regarding patients attending the dental hospital therefore, further studies are needed concerning normal population. However this percentage was higher than that reported by Najat in Saudia Arabia 3% [5].

In the present study the severity of dental caries and periodontal disease was assessed among children with and with out oral habits. A great difference was reported specially with finger sucking, this type was more common than other. Finger sucking can cause abnormal pressure on teeth and surrounding structure and may lead to abnormally arranged teeth, posterior cross bite, open bite this may lead to more difficulties to clean the teeth and may allowed accumulations of dental plaque and irritate the gum [12, 13, 15]

Mouth breathing was the second most prevalent type, mouth breathing specially at night may lead to dry mouth, ie decrease secretion of saliva which contains antibacterial agents and continuously washes a way bacteria from oral surface, this may provide a good environment for growth of bacteria and increase the risk of periodontal disease and dental caries[11, 14, 15,)]

Tongue plays an important role in feeding process especially for children sucking however tongue thrust may lead to impact feeding by involving a forceful out word movement of the tongue, so increase tone of the tongue, may lead to drooling of food or liquid out of the mouth and may also hinder the ability to move contains of mouth posterior for swallowing in which individual pushes the tongue between the lips, this may lead to an open bite malocclusion [11, 14]. Those children may suffer from increase prevalence of gingival inflammation; this was confirmed by the present study. This study showed also a high gingival index among those with tongue thrust compared with normal so malocclusion, poorly arranged teeth can break easily and can trap food particles that may allow plaque an accumulation this may cause tooth and gingival disease. [10, 12]

Lip sucking typically lower lip, sucked between the upper and lower teeth can place a force on the lower teeth, causing them to tip back toward the tongue. It may cause the upper teeth to tip forward toward the lip. This exaggerates the over bite and may also cause a deep bite, so the soft tissue may appear red and chap easily [12, 14]. The traumatized area may also be subject to infection [13, 15]

An important conclusion from this study is that bad oral habit may act as predisposing factor for increase severity of both dental caries and periodontal disease so stopping bad oral habit may considered as an important step for prevention of dental and oral disease.

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