



Attitudes of mothers towards prolonged non-nutritive sucking habits in children in Qassim province

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Abstract

Digit-sucking is a common behavior in children and is thought to be a normal adaptive process during infancy and toddling years, its prevalence is said to vary from (50%), many babies attempt to suck their fingers or dummies occasionally, sucking can only be considered as a habit if it has continued for several months after birth.

Aim: To investigate the attitude of the Saudi mothers toward sucking habits and their attempts to eliminate this behavior in their children.

Material and Methods: Across-sectional study involved (151) mothers of preschool children currently engaged in sucking habits (digit and pacifier) were studied. The information was obtained from a self-administered questionnaire completed by the mothers.

Results: A high percentage of mothers had had a university level educational (55%), and (49.7%) of them were employed. High percentage of mothers (43%) belonged age 31-40 year old group. About (35.8%) of children within non-nutritive sucking habit were 5 years old and about (57%) of them were girls. More than (60%) of the children pacifier users' were sucking their digits (39.1%) and most of them (63.6%) started the habit from birth. More than half of the mothers in this study (51%) considered non-nutritive sucking habit to be harmful habit to teeth. About (71%) of the mothers do not accept this habit. Almost (37.30%) of the mothers believe that crying baby at night is the reason for acquiring this habit. The majority of mothers (74.0%) reported that they tried to break this habit. "Place unpleasant flavor substances on the pacifier or digit" was most commonly recorded methods used by mothers to stop the sucking habits.

Conclusion: This study shows that Saudi mothers are concerned about sucking habits and recognized the harmful effect on their children. In the other hand, Excessive need for increased health awareness among mothers to consult medical or dental professionals about sucking habit.

Keywords: attitudes, sucking habit, open bite

Introduction

Digit-sucking is a common behavior in children and is thought to be a normal adaptive process during infancy and toddling years, its prevalence is said to vary from (50%)^[1]. After birth, many babies attempt to suck their fingers or dummies occasionally; sucking can only be considered as a habit if it has continued for several months after birth^[2]. It is important to understand that digit-sucking habits may become excessive over time. This excessiveness of the problem depends on three factors: Intensity, or how hard the thumb/finger sucked when it is in the mouth; frequency, or how often during the day and night the sucking occurs; duration, or how long the habit has been present^[3]. These factors act together to play an important role during the development of the oral and facial structures and can create a disturbance of the relationship between the jaws and teeth and the surrounding muscles. Various theories have been proposed to explain the etiology of finger sucking habit. However, the psychological theory and learning behavior theory are the most accepted^[4].

Prevalence of sucking habits differs from one population to another, its said that it varies along racial and ethnic divide^[5].^[6] Farsi and Salama^[5], reported that (10.5%) of 3–5-year-old Saudi children suck their digits. (40.2%) prevalence of nonnutritive sucking habits was obtained by Shirley A^[7].

Children in pre-school age presenting non-nutritive sucking habits have four-fold risk in developing open bite compared to children not presenting such habits^[8]. The extensive duration of non-nutritive sucking habit has been strongly associated with anterior open bite which is defined as the presence of negative overbite existing between the incisal edges of upper and lower anterior teeth^[9]. Luiza do Nascimento Cezar Magalhães^[9] reported that (17.7%) of children were exposed to non-nutritive sucking and that (20.3%) presented anterior open bite.

According to Warren and Bishara "2002" pacifier and digit habits produced different malocclusions^[10]. Although both habits were associated with an increase in open bite, pacifier habits were associated more often with posterior cross bite, while digit habits were associated with greater overjet, higher palatal vaults, and more diminished maxillary arch widths. In the primary dentition, a pacifier habit often leads to an increase in overjet with anterior openbite, a prevalence of edge-to-edge primary canines, and distal step primary molar relationship with posterior crossbite^[10]. The constant motion of the cheek muscles in the sucking action may begin to narrow the upper dental arch by collapsing it around the digit; this may contribute to a "cross bite" where the upper and lower posterior teeth no longer fit in harmony. With the digit

in the mouth the lips remains in an open posture. Over time, this can distort the appearance of the lips open most of the time, giving the appearance that the child is a mouth breather [3, 11, 12, 13].

Although most attention to the harmful effects of finger sucking by infants has been on the potential dental deformation, finger deformities also occurred [14]. In addition, (21%) of children with finger sucking habit were symptom-free carriers of *Enterobius vermicularis* [15].

Aim

Mothers are the most important element in the child early life and the responsibility of eradicating this habit lies on them. So, this study were conducted to investigate the attitude of the Saudi mothers toward sucking habits and their attempts to eliminate this behavior in their children.

Material and Methods

Across-sectional study involved (151) mothers of preschool children currently engaged in (digit and pacifier) were studied. The information was obtained from a self-administered questionnaire completed by the mothers included [16] general information about the child’s age, sex, sucking habits (digit or pacifier), mother’s education, employment status, mother’s attitude towards the habit, mother’s accept this habit views why her child acquired the habit, mother’s attempts to break the sucking habits, the reason for her intervention and whether she had Seeking for dentist advice or pediatric advice. The data were collected, entered the computer and analyzed using the Statistical Package for the social Sciences (SPSS version 16) program. Frequency distribution was used for descriptive analysis. Chi-square test was utilized to evaluate differences between the variables. The significant level was set at 0.05.

Result

Table 1: mother's Age, level of education and employment status (N=151)

mother’s age	Frequency	Percent
Less than 20 year	6	4%
From 20-30 year	57	37.70%
From 31-40 year	65	43%
More than 40 year	23	15.20%
level of education		
Uneducated	11	7.30%
High school or less	57	37.70%
University or higher	83	55%
employment status		
Employed	75	49.70%
Unemployed	76	50.30%

Table (1) shows general information about the mothers. A high percentage of mothers had had a university level educational (55%), and (49.7%) of them were employed. High percentage of mothers (43%) belonged age 31-40 year old group. Table (2) shows that the majority of the children (35.8%) within non-nutritive sucking habit were 5 years old and about (57%) of them were girls. More than (60%) of the children pacifier users’ were sucking their digits (39.1%) and most of them (63.6%) started the habit from birth table (3).

Table 2: Child's Age and Gender (N=151)

Age	Frequency	Percent
3 Years	40	26.50%
4 Years	40	26.50%
5 Years	54	35.80%
6 Years	17	11.30%
Gender		
Male	65	43%
Female	86	57%
Total	151	100%

Table 3: This habits start at age (N=151)

	Frequency	Percent
from birth to 6m	96	63.6%
>6m- <12m	25	16.6%
>12m- <18m	13	8.6%
>18m- <24m	9	6%
>24m- <30m	2	1.3%
>30m- <36m	6	4%
Total	151	100%

More than half of the mothers in this study (51%) considered non-nutritive sucking habit to be harmful habit to teeth. About (71%) of the mothers do not accept this habit.

Mothers opinions’ about reasons for having the sucking habit presented in table (4). Almost (37.30%) of the mothers believe that crying baby at night is the reason for acquiring this habit, and (30%) stated that this is because pacifiers were always available for them, (26%) thought that the children suck the pacifier or digits when they being hungry, or help them to sleep.

Table 4: Reasons of acquiring sucking habits in mothers’ opinion

Reasons	Number	Percentage
Misses mother or close relative	10	6.70%
Help him to sleep	40	26.70%
Pacifier is always available to him	45	30%
Being hungry	40	26.70%
Crying a lot at night	56	37.30%
other	9	6%

Some mothers selected more than one answer*

The vast majority of the studied group of mothers (74.0%) reported that they tried to break this habit. The mothers’ main reasons to intervene with their children’ sucking habits are presented in Table 5, where (43.3%) of the mothers stated that “the habit might continue until the child becomes older”, followed by “it might affect child's primary teeth” (21.90%), and it “affects child's permanent teeth” (17.20%). Furthermore, (19.20%) of the studied group of mothers revealed that this habit also “affects child’s appetite” and its psychosocial effect on the child and microbial transmission were also considered by some as other reasons for their attempts to stop the behavior in their children (2.60%).

The different methods used by the mothers to stop digit-sucking habit in their children are summarized in Table (6). About (33%) of the mothers “Placing unpleasant flavor substances on the pacifier or digit”, while 14.60% of the studied group of mothers “Wrapping the hand or tape application to the digit”, and (13.20%) “Interrupting the use of

pacifier". This is followed by "Reinforcement of positive behaviors and use of reward and encouragement" (11.90%). Six percent of the studied mothers registered that they seeking

pediatric advice, while only 4.90% of them reported that they were seeking for dentist advice (table 6).

Table 5: Mothers' reasons to intervene with their children' sucking habits

Reasons	Frequency	Percentage
Habit might continue Until the Child Become Older	65	43.30%
Habit Might Affect child's Primary teeth	33	21.90%
Habit might affect child's Permanent teeth	26	17.20%
Habit might affect child's appetite	29	19.20%
other	4	2.60%

Some mothers selected more than one answer*

The relation between mothers' attitude towards non-nutritive sucking habits and some variables such as mothers' age, level of education and employment status is presented in Table (7). More than half of mothers recognized the harmful effect of non-nutritive sucking habits, but no Statistical significant difference was found between mothers' recognition of the Harmful effect of the sucking habits and their age, as well as their level of education. A statistical significant difference was found in the relationship between mothers' employment status and their confession of the harmful effect of the sucking habits. Sixty- four percent of employed mothers recognized

the harmful effect of the sucking habits (P= 0.001). According to acceptance to the sucking habits, No significant difference was found between the studied group of mother in each variables. A statistical significant difference was detected between mothers in different levels of education and their attempts to stop the Behavior (p=0.009). However, no statistically significant difference was detected between mothers in different variables and their behavior towards seeking dentist advice. The results indicate a significant relationship between mother seeking pediatric advice and their employment status (p=0.15).

Table 6: Techniques used to stop habits

Wrapping the Hand or Tape Application to the digit	22	14.60%
Seeking dentist advice	7	4.60%
Seeking pediatric advice	9	6%
Placing unpleasant flavor substances on the pacifier or digit	50	33.10%
Reinforcement (reward)	18	11.90%
Interrupting the use of pacifier	21	13.90%
other	5	3.30%

Some mothers selected more than one answer*

Discussion

Because Mother is the person who is responsible for the child rearing and she is acts as an important factor in elimination of this habit. And also the attitudes towards sucking habits vary from one population to another according to the deference in

culture, beliefs and awareness and education status. The current study were designed to investigate the attitude of the Saudi mothers toward sucking habits and their attempts to eliminate this behavior in their children.

Table 7: Association between mothers' age, education and employment status and their attitudes towards the non-nutritive sucking habits. (N=151)

Variables	Mother's age				Level of Education			Employment Status	
	less than 20Y (n=6)	from20-30 Y (n=57)	from 31-40 Y (n=65)	more than 40 Y (n=23)	Uneducated (n=11)	high school or less (n=57)	university or higher (n=83)	employed (n=75)	unemployed (n=76)
<i>It is harmful habit to teeth?</i>									
Yes	33.30%	50.90%	52.30%	52.20%	36.40%	45.60%	56.60%	64.00%	38.20%
No	66.70%	49.10%	47.70%	47.80%	63.60%	54.40%	43.40%	36.00%	61.80%
X ² (P)	0.81 (0.85)				2.656(0.265)			10.088(0.001)*	
<i>Do you accept this habit</i>									
Yes	66.70%	24.60%	27.70%	34.80%	27.30%	26.30%	31.30%	30.70%	27.60%
No	33.30%	75.40%	72.30%	65.20%	72.70%	73.70%	68.70%	69.30%	72.40%
X ² (P)	5.091 (0.165)				0.431(0.81)			0.168(0.682)	
<i>Mother's attempt to intervene?</i>									
Yes	83.30%	68.40%	73.80%	87.00%	36.40%	80.70%	74.70%	80.00%	68.40%

No	16.70%	31.60%	26.20%	13.00%	63.60%	19.30%	25.30%	20.00%	31.60%
X ² (P)	3.213(0.360)				9.489(0.009)*			2.642(0.104)	
<i>Seeking dentist advice</i>									
Yes	0.00%	3.50%	4.60%	8.70%	0.00%	7.00%	3.60%	4.00%	5.30%
No	100.00%	96.50%	95.40%	91.30%	100.00%	93.00%	96.40%	96.00%	94.70%
X ² (P)	1.313 (0.726)				1.462 (0.481)			0.136 (0.712)	
<i>Seeking pediatric advice</i>									
Yes	16.70%	1.80%	6.20%	13.00%	0.00%	3.50%	8.40%	10.70%	1.30%
No	83.30%	98.20%	93.80%	87.00%	100.00%	96.50%	91.60%	89.30%	98.70%
X ² (P)	5.089 (0.165)				2.214 (0.330)			5.889 (0.015)*	
P< 0.05 using chi-square test.									

The results of this study showed that the percentage of the pacifier users' children were more than digit sucking users, and these results agreed with that of the Al Johara A. Al-Hussyeen and Maria Carolina Bandeira Macena^[17].

The current study results indicated that (51%) of the studied mothers considered digit sucking to be harmful habit. And the pervious studies indicated that the majority of mothers (88.7%) considered digit sucking to be harmful habit that reported by Al Johara A. Al-Hussyeen study, (16) and (66%) that reported by Al-Jobair and Al-Emran^[3]. This finding suggested that mothers were aware about the adverse effects of prolonged sucking habits on their children's teeth. And as age is getting older, the awareness increases. But no Statistical significant difference was found between mothers' recognition of the harmful effect of the sucking habits and their age. In this study, statistical significant difference was found in the relationship between mothers' employment status and their perception of the harmful effect of the sucking habits. (64%) of employed mothers considered the sucking habits has harmful effect. This was not agreement by Al Johara A. Al-Hussyeen study^[16]. The clinical effects of the sucking habit on primary and permanent dentitions are similar, with one exception being the premature atypical root resorption of the primary maxillary anterior teeth^[3]. Many studies recorded the happening of malocclusion with the development of open bite, increased overjet, and posterior cross bite in deciduous dentition^[8, 18, 19]. Studies also recognized that occlusal dysfunctions can have severe implications on children's general health as well as self-esteem^[20, 21]. The degree of severity of the malocclusion depends on the duration, frequency and intensity of the habit^[22]. Thus, it has been suggested that the chances of self-correction are good if the child abandons digit-sucking before the age of 4 years, and are still reasonable provided that the habit stops before 6 years of age^[23].

The crying a lot at night was the most important reason in mothers believes that is acquiring non-nutritive sucking habits. This finding has also been observed in other pervious studies^[16, 24].

The current study results indicated that (70.1%) were the proportion of mothers who did not accept the sucking habits it was higher than that reported by Al-Jobair and Al-Emran^[8] (48%) and (69.1 %) that reported by Johara A. Al- Hussyeen. (16) According to acceptance to the sucking habits, There was no significant difference between the study groups of mothers in each variables and acceptance of this habit. This

finding is in agreement with Salah^[25], and Al- Jobair and Al-Emran^[3], and not in accord with the findings of other study Johara A. Al-Hussyeen^[16], who found a highly significant relationship between mothers' acceptance of sucking habits and their level of education.

In this study, (74%) percent of mothers of 3–6 year-old children had tried to stop the habit. It is in agreement with Vadiakas *et al.*^[18], who reported that (71%) of mothers had attempted to stop the behavior. While This number is slightly lower than (86%) that given by Al- Jobair and Al-Emran^[13]. This difference in findings may be caused by the presence of older children in that study (more than 3 to 12 years). A statistical significant difference was detected in the current study between mothers in different levels of education and their attempts to stop the Behavior (p=0.009). Unexpectedly, mothers with high school education or less (80.7%) try to break sucking habit more than mother with university education or higher (74.7%). Possibly mothers with university education or higher engaged with activities outside their homes and they are not spend enough time with their children Analysis of the most commonly recorded methods used to stop the sucking habit in the present study indicted that the majority of mothers place unpleasant flavor substances on the pacifier or digit. This finding also observed by Salah. A^[15] and al Jobair^[3]. While interruption of the use of pacifier was the most commonly method presented in Johara A. Al-Hussyeen study^[16]. Seeking for pediatric or dentist device was not a common way among mothers to reveal this habit only (6%) of the studied mothers registered that they seeking pediatric advice and (4.90%) of them reported that they were seeking for dentist advice. Only one mother seeking for dentist advice was reported in Johara A. Al- Hussyeen study^[16], and no one of them consulting for pediatric. Fifteen mothers (30%) in al Jobair study^[3] had sought advice from dentists and nine (18%) had consulted paediatricians. A significant relationship was observed in this study between mothers seeking paediatricians advice and their employment status (p=0.015). And (10.7%) of employed mothers look pediatric advice while just (1.3%) from unemployed mothers. On the contrary, al Jobair, (3) reported that highly significant statistical difference (P = 0.001) was found in the relationship between a mother's employment and seeking dental advice. Unemployed mothers (52%) sought dental advice more than employed mothers 8%. This finding show great need to in increase a health promotion among the mothers and educate them the ways of preventing the habits in the first place as

well as professional advice and help in treatment cessation of already established habits.

Conclusion

- The percentage of the pacifier users' children were more than digit sucking users, and more than half of them were girls
- Crying at night was the most proposed reason for acquiring sucking habits.
- In this study, more than half of the mothers considered digit sucking to be harmful habit and they tried to break this habit. Non-invasive procedures were mostly followed by mothers to stop this habit.
- Excessive need for increased health awareness among mothers to consult medical or dental professionals about sucking habit.

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