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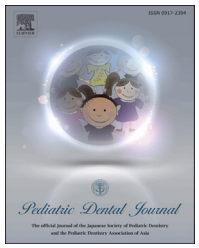

Research Paper

Prevalence of oral habits in a child population in Trinidad, West Indies

Tricia M. Percival[*], *William A.J. Smith*, *Keisha F. Smith*

School of Dentistry, University of the West Indies, St. Augustine Campus, Trinidad and Tobago

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ABSTRACT

Objectives: The purpose of this study was to determine the prevalence of oral habits (both nutritive and non-nutritive) in children in Trinidad, West Indies and to determine if there are any associated factors such as age, gender, ethnicity, social/familial factors, dietary practices and parental perception.

Methods: 155 children aged 4–16 years and their parents were questioned using a structured interview about breast and bottle feeding history, history of oral habits, sibling habit history, parental education level and habit history and parental belief and perception. Oral habits such as pacifier use, digit sucking, tongue sucking, lip biting and sucking, nail biting, and object chewing were recorded.

Results: There was a very high prevalence of oral habits (91.6%) with 63.9% of children having two or more habits. The most common oral habit was nail biting (52.9%) and ice crunching was most commonly found in females. Tongue sucking was predominant in children of African ethnicity. Oral habits were more common in children whose parents had a post primary education. 51% of parents were not concerned about oral habits and 64.5% believed that the child would stop the habit without any intervention.

Conclusion: The prevalence of both nutritive and non-nutritive oral habits in Trinidad are high and some associations were found with gender, ethnicity, social, dietary and familial factors.

1. Introduction

In the early development of oral function, the child often demonstrates two reflexes at birth, rooting and suckling. These reflexes are related to sucking and can last up to 12 months [1]. During sucking, the lips, tongue and oral mucosa experience a sensation of pleasure which develops the first psychological functions and interpersonal relationships (mother-infant bond), enabling the infant to explore his/her socio-environmental surroundings. This phase may extend to the age of 3 ½ years and is considered part of the normal

* *Corresponding author*. Child Dental Health Unit, School of Dentistry University of the West Indies, St. Augustine Campus, Trinidad, West Indies, Trinidad and Tobago.
E-mail addresses: Tricia.Percival@sta.uwi.edu (T.M. Percival), William.Smith@sta.uwi.edu (W.A.J. Smith), keisha_faye@hotmail.com (K.F. Smith).

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development of the child and plays a role in muscle strengthening and dentofacial growth [2].

Reflexes related to feeding patterns are known as nutritive habits whereas habits that are not associated with feeding patterns are known as non-nutritive habits. Non-nutritive habits include sucking oral habits such as thumb or digit sucking, pacifier use, tongue sucking, tongue thrusting, lip sucking and biting habits such as fingernail biting, lip biting and biting objects like pens or pencils.

While it is common to find pacifier and digit sucking habits in infants and toddlers, by the age of four to five years, these are usually replaced by other coping mechanisms [3–5]. The practice of oral habits beyond this age however, has been found to be associated with deleterious effects on the dentition and also has an indirect influence on the swallowing pattern [6].

Oral habits are important environmental factors that may lead to dental malocclusion [7,8]. The severity of the malocclusion correlated with oral habits depends on the frequency, duration and intensity of the habit [9]. These habits disrupt muscular balance and bone growth, producing changes in the dental arch and occlusal characteristics. The cost, time and resource implications of treatment of malocclusions caused by prolonged oral habits are significant for many patients especially those who are unable to afford such care [10].

The prevalence of oral habits has been widely reported to vary from one country to another and is believed to be influenced by child rearing practices in the various countries studied [4,11]. The only data available on oral habits in children in the Caribbean indicated a prevalence of 13% for thumb sucking, in 3–4 year old Antiguan children [12].

1.1. *The aims of this study were*

- to determine the prevalence of nutritive (feeding) and non-nutritive oral habits in children in Trinidad,
- to determine if there are any factors such as age, gender, ethnicity, social/familial factors or dietary practices that are associated with the presence of oral habits and
- to assess the parental perception of oral habits in their children and of the interventions employed to stop common oral habits.

2. Materials and methods

This retrospective study was conducted in the Child Dental Health Unit (CDHU) at the University of the West Indies Dental School in the English speaking Caribbean island of Trinidad. Ethical approval for the study including the consent procedure was obtained from the University of the West Indies, St Augustine Campus Ethics Committee.

The sample population consisted of patients attending the CDHU clinic for emergency treatment or initial assessment during the period of September 2012–March 2013, on sessions where the investigators were attending. Children with or without siblings were included for interview. Patients with any special needs e.g. cerebral palsy/intellectual disability or severely medically compromised (ASA III and ASA IV), patients referred to the Orthodontic clinic and those under the age of 4 years were excluded. Verbal consent was obtained from the attending parent.

The data was collected using a structured interview conducted with the attending parent and patient. Questions relating to age, gender, birth order, ethnicity (self-reported), history of nutritive habits (breast and bottle feeding), oral habit history and current practice, sibling habit history, parent educational level and habit history, parental beliefs and perceptions were asked by one of two investigators.

Oral habits investigated included pacifier use; digit sucking; tongue sucking; the lip habits-lip sucking and biting; nail biting; chewing on objects like clothing, pens/pencils; and two local practices such as bone chewing and ice crunching. Clinical examinations of the participants were conducted and data including both the habit history and current practice were recorded.

The data was analysed using SPSS version 16 and both descriptive and non-parametric statistics were used and those having p value of ≤ 0.05 were seen as statistically significant.

3. Results

Data were collected from 155 children; 44.5% (69) were male and 55.5% (86) were female. The mean age of the children was 9 years 6 months with a range of 4–16 years. Seventy six children (49%) were of African ethnicity, 42 (27%) were of East Indian ethnicity and 37 (24%) were of Mixed ethnicity.

3.1. *Nutritive (feeding) habits*

One hundred and forty three children were breastfed on average for 13.9 months (SD 15.6 months) while one hundred and forty children were bottle fed on average for 27.1 months (SD 17.2 months). Fifteen (9.7%) children were exclusively breast fed, 12 (7.7%) children exclusively bottle fed and the remaining 128 (82.6%) practised both.

3.2. *Non- nutritive habits*

One hundred and forty two children (91.6%) reported a non-nutritive oral habit, more commonly in females than in males. The most common oral habit was nail biting (in both historic (82 (52.9%) and current practice 74 (47.7%)). Ice crunching was significantly more common in females. Twenty five children (16.1%) reported using a pacifier (Table 1).

One hundred and forty two children (91.6%) reported a history of one or more habits and one hundred and thirty four children (86.5%) practiced one or more habits at the time of examination. As shown in Tables 1 and 2 (6.5%) children reported sucking habits only at the time of examination, compared with 66 (42.6%) who reported biting/chewing habits only. 58 (37.4%) reported both sucking and biting habits.

Fig. 1 shows the frequency of biting and sucking habits in various age groups of the sample. There were higher frequencies of biting-only habits and combined biting and sucking habits in all age groups compared to sucking habits.

Table 3 shows the relationship of ethnicity and oral habits. The oral habit of tongue sucking was significantly higher in children of African descent.

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