

REVIEW ARTICLE

THUMB SUCKING AND ITS MANAGEMENT IN PEDIATRIC PATIENTS: A REVIEW

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ABSTRACT

Oral habits are repetitive patterns of behavior involving the oral cavity, including digit sucking, lip sucking, tongue thrusting, nail-biting, object biting and bruxism, which has significant effects on health. Thumb sucking is the most common oral habit. Some of children who do not stop this habit, will give it up when their permanent teeth erupt, but there is a tendency for continuing the sucking habit even until adult life. The present review describes thumb sucking, its etiology, clinical features and its management.

Key words; Thumb sucking, digit sucking, proclination, management

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INTRODUCTION:

Habits are acquired automatisms, represented by an altered pattern of muscle contraction with complex characteristics, which proceed unconsciously and on a regular basis.¹ A habit is a repetitive action that is being done automatically.² The mouth is the primary and permanent location for expression of emotions and is a source of relief in passion and anxiety in both children and adults, stimulation of this region with tongue, finger, nail or cigarette can be a palliative action.³ Habits are one of the major etiologic factors which will lead to malformation in dentofacial structures.⁴ Oral habits could be functional or parafunctional. Functional habits result from repeating a normal function, such as nasal breathing, chewing, phonoarticulation, and swallowing, while the parafunctional habits are acquired by practicing a nonfunctional or unnecessary action, such as thumb or lip sucking, bruxism, mouth breathing, and tongue thrusting.^{5,6} Oral Habit most commonly seen during infancy as it is part of normal development. It usually fades away with time. If not, then it is a matter of great concern as it can cause serious dentoalveolar changes. It is usually associated with several etiologies out of which psychology is common and important. Hence, if a patient complains of habit understanding the associated deeprooted psychology and management is very important for Dentist.⁷

DEFINITIONS

Moyers (1958): Oral habits are learned patterns of muscular contractions, which are complex in nature.⁸

Development of a habit⁹:

It has been stated that unconscious mental pattern of childhood develops from five sources namely instinct, insufficient or in correct outlet of energy, pain or discomfort, abnormal physical size of parts, imitation of or imposition of others.

Thumb sucking

Thumb sucking habit can be characterized as the rehashed powerful sucking of the thumb with related solid buccal and lip musculature withdrawal.¹⁰ Thumb sucking is a type of non-nutritive sucking happening as ahead of schedule as the 29th seven day stretch of development and is seen generally in newborn children and tops at 18 to 21 months old enough.¹¹ Thumb/finger sucking habits, or non-nutritive sucking are viewed as the most common of oral habits¹². The finger-sucking habit, typical in the initial 2 or 3 years of life, may cause perpetual harm whenever proceeded past this age.¹³

Classification¹⁴⁻¹⁸:

Subtelný (1973) has classified types of digit sucking into 4 types:-

Type A-(50%) of children place the entire thumb or digit inside the oral cavity with a pad of the thumb is a place such that is pressing the palate. Anterior teeth of the maxillary and mandibular region are in contact.

Type B-(25%) of children place the whole thumb inside the mouth but it is not in contact with the vault of the palate. Only anterior teeth mandibular and maxillary region are in contact.

Type C- (18%) of children place thumb just beyond its first joint, there is no mandibular contact thumb is in contact with maxillary incisor.

Type D-(6%) of children doesn't fully place thumb inside the mouth, only thumbnail is in approximate contact with mandibular incisors.

Etiology

The etiology of digit sucking has been clarified by two hypotheses, which includes passionate and learned conduct speculations. The psychoanalytic hypothesis of Sigmund Freud relates finger sucking is the result of joy, that youngster gets from invigorating the oral erogenous zone. Obsession of the habit happens if the newborn child sucking needs are not met. Finger sucking at later

stage because of other mental pressure is generally viewed as an indication of relapse (redevelopment of a past habit). Both obsession and relapse are the indications of enthusiastic unsettling influence.¹⁰

Clinical features¹⁹

Announced maxillary changes related with a drawn out sucking habit are proclination of the maxillary incisors, expanded maxillary curve length, foremost position of the maxillary apical base, and diminished palatal curve width. Impacts on the mandible incorporate proclination of the mandibular incisors.

Digit or thumb sucking results in various side-effects as follows:²⁰⁻²²

1. Anterior open bite
2. Increased overjet
3. Lingual inclination of lower incisors and the labial inclination of upper incisors
4. Posterior cross bite
5. Compensatory tongue thrust.

Management

Removal of psychological reason, engagement of the child in various activities to divert the mind, adequate duration of breastfeeding, use of dummy or pacifiers can reduce the thumb sucking habit.¹⁴⁻¹⁸

Management of thumb sucking involve following therapy according to Pinkham¹⁴⁻¹⁸:

Preventive therapy (Hughes): Feed the child enough in a natural way such that his feeding needs are fulfilled.

Psychological Therapy: This habit usually acquire by those children who lack parental care, love and proper care. Hence dentists and parents need to carefully handle the situation with proper understanding and without shaming and punishment. Positive reinforcement or positive reward system should be used to modify behavior. Dunlop's beta hypothesis is the best way to break the habit. According to this hypothesis conscious and purposeful repetition can stop the habit. The child is asked to stand with the mirror and suck his/her digit looking at self, this procedure is very productive when a child is repeatedly asked to perform this act whenever he sucks thumb. Dr. Dragan Antolo's book named 'The Little Bear Who Sucked His Thumb' is also a positive and pressure less way of removal of habit as a child relates himself to bear and willingly quit the habit.

Reminder Therapy: They are of two types chemical and mechanical.

Chemical therapy includes the use of bitter-tasting or bad odor chemicals such as quinine, asafetida, castor oil, red pepper in volatile liquid, commercially available femite (Denatonium benzoate) in thumb.

Mechanical therapy includes mechanical restrains applied to hand, wrist, thumb to quit habit examples of mechanical restrainers are Thermoplastic thumb post (Allen in 1991), ace bandage system, use of long sleeves nightgown, three-alarm system introduced by Northan and Gellin (1968). According to them when the child puts a finger in mouth and feels the tape its first alarm when a child feels the pin which is tied with a bandage in the elbow is second alarm lastly when bandage gets tightened serves as a third alarm.

Appliance Therapy:

They are of two types Removable Appliance: Palatal crib, oral screen, hay rakes.

Fixed Appliance: Quad helix, bluegrass appliance, modified bluegrass appliance.¹⁴⁻¹⁸

Conclusion

Oral habits, if they persist beyond the preschool age, have detrimental effects on the developing dentition, oral functions, and facial esthetics. Dentist plays an important role in habit modification. Dentists should provide parents with information about different types of oral habits, etiology of habits especially with emphasis on role of stress in development of them and ways to manage and treat habits at home.

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