

Management of Oral Habits in Children - A review

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Abstract: Oral habits since long have been the topic of interest to the dentist in general and paediatric dentist and orthodontist in particular. The controversies related to oral habits range from the simple genetic or non-genetic origin to underlying psychological cause. Oral habits, if persist beyond certain developmental age, can pose great harm to the developing teeth, occlusion, and surrounding oral tissues. These habits might be non-nutritive sucking (thumb, finger, pacifier and/or tongue), lip biting and bruxism events. Tongue thrust is the most common of them, these habits can result in damage to dento-alveolar structure hence causes and its management plan is important to every clinician. Vast number of studies have explored the prevalence of oral habits in young children worldwide to develop an effective preventive community measure to stop the development of these habits. Clinicians, by proper differential diagnosis and thorough understanding of natural growth and developmental processes, should take a decision for intervening. This review aims to understand the etiology behind the development of these oral habits to combat the problem from the root.

Keywords: Oral, habits, management, development.

Introduction:

Propensity is a dull activity that is being done consequently. Tedious practices are normal in juvenile period and the vast majority of them are begun and completed immediately. The most widely recognised redundant practices in juvenile period is hand sucking, Oral propensities are procured automatism, addressed by a changed example of muscle compression with complex attributes, which continue unknowingly and in an ordinary premise. A few propensities happen in the oral region and may effectually affect wellbeing, advancing changes in dental, bone and muscle tissues (1). The seriousness of habits controlled by intensity, recurrence and length of in proper pressing factor (2). Oral habits, particularly if enduring past the preschool age; have been embroiled as a significant ecological etiological factor related with the formation of malocclusion (3)

Malocclusion can be characterized as an impediment in which there is strange relationship in a vertical, level, or transverse measurement or in which there are unusual tooth positions past the worthy scope of ordinary cut-off points (4). The habits are typical up to 2-4 years old. It turns into something to be worried about when proceeded for longer time and surprisingly seen in mixed dentition stage. This is the main sign for kid to show future malocclusion or inconsistency during mixed dentition. It has been recorded that parental schooling, kid's nourishment, and thumb sucking habits are related with one another (5).

Oral habits could be partitioned into 2 primary gatherings: Procured oral habits: Incorporate those practices which are learned and could be halted effectively and when the youngster grows up, the person can surrender that conduct and start another (Finn, 1998)(6) (2) Impulsive oral habits: Comprise of those practices which are fixed in kid and when passionate pressing factors are excruciating for the kid, the individual in question can feel security with this propensity, and keeping the kid from these habits make the person in question restless and stressed. Oral propensity practices incorporate, among others, digit sucking, pacifier sucking, lip sucking and gnawing, nail-gnawing, bruxism, self-damaging habits, mouth breathing, and tongue push (7). Thumb-sucking and finger-sucking habits have gotten extensive consideration from dental specialists in view of their conceivable reason or commitment to malocclusions and distortions of the teeth and related designs. bruxism and crushing habits appear to have gotten away from the consideration of most analysts. In dentistry, writing has generally been kept to grown-ups who display these habits and had a solid psychodynamic direction. Tongue thrusting and self-harmful practices to the oral cavity have gotten assorted consideration (8). Tongue thrusting, an unusual tongue position and deviation from the typical gulping example, and mouth breathing might be related with anterior open bite, abnormal speech, and foremost projection of the maxillary incisors (9).

Understanding the etiology, effects and management of various oral habits at early stages may be helpful to prevent future severe skeletal malocclusion. This review deals with these aspects of tongue thrusting habit. The various oral habits have been dealt with in detail in the following part of the review.

Tongue thrusting:

Strange tongue function and stance have been for quite some time bantered as a reason for malocclusion. Lefoulon, in 1839 cited "anticipation is superior to fixation." Understanding the etiology, impacts and it the executives at beginning phases might be useful to forestall future serious skeletal malocclusion. This review manages these parts of tongue thrusting habit. . Tongue thrust is the forward movement of the tongue tip between the teeth to meet the lower lip during deglutition and in hints of discourse, with the goal that the tongue becomes interdental (10). Tongue thrusting is an oral habit design identified with an infantile swallow pattern during childhood and adolescence and thereby produces an open bite and protrusion of the anterior tooth segment. Tongue thrusting can occur as a result of postponed progress between the juvenile and grown-up gulping design. Ordinarily, the change starts around the age of 2 years, and by the age of 6 years half, has finished the progress (11). Tongue push can likewise bring about open nibble, cross chomp, overjet and Class II malocclusions. Tongue bunk apparatuses are very powerful in getting out from under the tongue pushing propensity. (12-14). As indicated by Benefit and Fields, the foremost tongue position very still may greaterly affect the tooth position as opposed to the tongue pressure during pushing. Subsequently, the point of the treatment basically is to prepare the tongue to rest in its ordinary prevalent position. (11).). Digit and dummy-sucking were the lowest among children who had a good opportunity for breastfeeding(15). Thumb sucking or finger sucking propensity is done for vanity. Stopping a child settled in addictive habit is difficult. Keeping progress report card will propel patients in amendment. Tulley (16)1969 - states tongue thrust as the progress ahead of the tongue tip between the teeth to meet the lower lip during deglutition and in hints of discourse, with the goal that the tongue becomes interdental. Tongue push is an oral propensity design identified with the perseverance of a juvenile swallow design during youth and pre-adulthood and consequently delivers an open nibble and distension of the foremost tooth portion. Etiology :(17-20)

Fletcher has proposed the accompanying elements similar to the reason for tongue thrusting.

a. Hereditary or heredity factor: They are explicit anatomic or neuromuscular varieties in the orofacial locale that can hasten tongue thrusting.

b. Learned conduct (habit): Tongue thrusting can be procured as a propensity. Coming up next are a portion of the inclining factors that can prompt tongue pushing: Ill-advised container taking care of, Delayed thumb sucking, Drawn out tonsillar and upper respiratory plot diseases, Delayed span of delicacy of gum or teeth, contaminations and taking care of practices. Sorts of tongue push [21,22]

Physiologic: This involves the ordinary tongue push swallow of early stages, Constant: The tongue push swallow is available as a propensity even after the amendment of the malocclusion, Utilitarian: When the tongue push, component is a versatile conduct created to accomplish an oral seal, it very well may be assembled as useful, Anatomic tongue push: People having broadened tongue can have a anterior tongue posture.

Management:

Different methods have been attempted to correct the tongue- thrust habit with variable success. The American Academy of Paediatric Dentistry states that the management of the tongue- thrust may include "myofunctional therapy, simple habit control, habit-breaking appliances, orthodontics and possible surgery" (American Academy of Paediatric Dentistry Council on Clinical Affairs, 2005) (21). Training of correct swallow and posture of the tongue. These exercises help in toning up respective muscles thereby eliminating tongue thrust. (22-25). Myofunctional exercises: The patient can be guided regarding the correct posture of the tongue during swallowing by various exercises. The child is asked to place the tip of the tongue in the rugae areas for 5 min and is asked to swallow

- Orthodontic elastics and sugarless fruit drop exercises
- 4S exercises: Spot, salivating, squeezing the spot and swallowing

- 2S exercise: It includes identifying - spot and squeeze
- Other exercise: Whistling, reciting the count from 60 to 69, gargling, yawning
- Orthodontic trainers: Tooth channels, labial bows, tongue guard, tongue tag, lip bumpers.

Thumb sucking:

Dental changes because of thumb sucking or finger sucking needn't bother with any treatment if the habit is halted before the age of 5 years, and when surrendering the habit, dental changes will be adjusted unexpectedly. (26,27). Thumb sucking habit can be characterized as the rehashed powerful sucking of the thumb with related solid buccal and lip musculature withdrawal. 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 (27). 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 (28). Thumb/finger sucking habits, or non-nutritive sucking are viewed as the most common of oral habits, with a detailed occurrence going from 13% to practically 100% eventually during earliest stages (29). The finger-sucking habit, typical in the initial 2 or 3 years of life, may cause perpetual harm whenever proceeded past this age. (30). The oral habits persevere for the most part because of physical and enthusiastic improvements, like fatigue, hunger, stress, hyperactivity, joy, pity, and different sorts of incapacities. Expansion in the youngster's degree of stress or nervousness can likewise represent continuation of the sucking habit (31). 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 (32).

Management:

Digit or thumb sucking results in various side-effects as follows: (33-35)

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.

Nail biting:

Nail biting or onychophagia is a common stress-relieving oral habit. Onychophagia, the habit of biting one's nails is commonly observed in both children and young adults. Nail biting includes biting the cuticle and soft tissue surrounding the nail as well as biting the nail itself. Onychophagy is a nail disease caused by repeated injuries of nails. Nail biting as auto destruction and onychophagy are its most aggressive forms. The need to bite or eat fingernails is related to a psycho emotional state of anxiety (36). A nail biting child is exhibiting an evolutionary disturbance related to the oral stage of psychological development. Nail biting, demonstrating anxiety made worse by tense moments, is seen as a re ex of emotional unbalances. (37). Nail biting children are at risk of developing malocclusion of the anterior teeth. Non-physiological forces acting on the teeth, such as those from nail biting, can speed up resorption or cause apical root resorption. (38) Dental examinations of these patients can show crowding, rotation, and attrition on the incisal edges of the mandibular incisors and protrusion of the maxillary incisors. (39) These malocclusions are created by pressures from the onychophagia habit. The forceful and continuous habit of nail biting causes alveolar destruction in the area of the involved teeth (40). Chronic nail biting can produce small fractures at the edges of the incisors, and gingivitis might result from continued nail biting.[7] Bacterial infection can occur from diseases of the nail such as onychomycosis and paronychia and nail biting might spread the infection to the mouth. A nail biter with oral herpes can develop herpetic whitlow of the bitten finger (41). A positive aspect of nail biting is that fingernail growth is not retarded but it increases nail growth by approximately 20%, perhaps because frequent manipulation of the nail stimulates the circulation to the germinal area in the nail root (42). Rarely, nail biting may be a symptom of obsessive-compulsive disorder (OCD). OCD symptoms are usually treated with medicines.

Management:

Several treatment measures may help to stop nail biting, some focus on behavior changes and some focus on physical barriers to nail-biting. To control or correct the nail biting habit, the patient must be motivated. Patient must be aware of the need to abandon the habit, and here the professional role acquires relevance, offering helpful suggestions in overcoming the addiction. Sudden suppression might introduce personality alterations. Some people spontaneously quit onychophagia because of fear of developing infections; others quit to imitate friends who have attractive nails . No treatment is needed for mild cases of onychophagia. For more serious situations, treatment should involve removal of the emotional factors inducing the habit, in most cases; a little more attention, love, affection, and comprehension are enough to break the habit (44).

Mouth breathing:

The mouth breathing condition (MBS) is the point at which a kid quits breathing only through the nose and starts blended breathing for example the nose is enhanced by the mouth. As indicated by the writing, solely oral breathing examples are uncommon or non-existent (45). Mouth breathing syndrome is characterized by disorders of speech organs and joints due to the predominately oral

breathing pattern, generally combined with facial deformities, abnormal positioning of teeth and body posture, and with the potential to progress to cardiorespiratory and endocrine disease, sleep and mood disorders and poor performance at school. Furthermore, Moreover, MBS is identified with hereditary components, undesirable oral habits and nasal impediments of changing seriousness and length. Mouth breathers can be named one of three sorts: natural mouth breathers have some kind of mechanical block making nose breathing more troublesome; simply utilitarian mouth breathers proceed with breathing through the mouth even after all mechanical, obsessive or useful snags have been taken out; and extraordinary necessities mouth raisers have some sort of neurological brokenness that is liable for their mouth breathing (45). The principle orofacial impacts are: forward relocation of the head, a long and thin face, open, or tightened, and dry lips, short upper lip with decreased capacity, voluminous and everted lower lip and a hypotonic tongue in a lower position than ordinary. There is maxillary atresia with a high arched palate, open bite and cross bite, orofacial musculature is hypotonic, the nose is flattened and the nostrils are small, the upper teeth protrude and the angle of the mandible undergoes rotational displacement in the clockwise direction. (46).

Management:

The treatment is provided by dentists, who can correct facial and dental abnormalities with functional appliances. Various functional appliances, such as Frankel II and Herbst, have been used to open retrognathic mandibles, which tend to close the pharyngeal airways (47,48). These patients need palatal expansion to open the nasal sinuses, which will allow for more efficient nasal respiration. According to the literature, a combined therapy of adenotonsillectomy and palatal expansion significantly improved sleep and nasal respiration while alleviating the symptoms of ADHD (49). According to an article by Dr.V. Jayanth et al there was statistically significant association between harmful oral habits like nail biting object/lip biting; grinding of teeth and sign and symptoms of TMD. These parafunctional habits should be considered as risk factor for TMD as they act as triggering point for appearance of TMD due to its effect on stomatognathic system

(50). Crowding of mandibular anteriors was only seen in mouth breathing and finger nail biting patients. Protrusion of maxillary anterior teeth was seen more in patients with lip sucking, thumb sucking and less in tongue thrusting, mouth breathing. Finger nail biting has no correlation with protrusion of maxillary anterior teeth. Rotation of premolars was seen only in patients with mouth breathing and finger nail biting patients (51). Parafunctional habits like bruxism and gum chewing are associated with TMDs (52). As a dental professional, he or she is expected to be a role model to his or her parents, to his or her patients and to the public in general. Patterns of oral health behavior in dentists, their beliefs and attitudes, play an important role in the knowledge they impart to the general public and their community (53).

Conclusion:

This collection of case reports and research articles will help clinician in treating simple and complex malocclusion cases due to damaging oral habits. In today's highly stressed environment, school/college going kids are subjected to various kinds of pressure/stress in different forms. Oral habit can be a form of distressing. Anterior open bite can become a great source of embarrassment for kids resulting in lack of self-confidence. Clinician should play the role of friend, philosopher and guide to both parents and child indulging in damaging oral habits. Clinician should try initially to break the habit by non-invasive means and if not successful, then pursuing orthodontic correction.

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