Short Communication

Oral Habits in Children Due to Anxiety, Fear, and Psychological Stress

Bharat Ram Chowdry Guttikonda[1], Sandhya J Kadam[2], Krishna Veni Guttikonda[1]

From, [1]Dentist, Department of Dentistry, Family HealthCare Network, [2]Pediatrician, Department of Pediatrics, Family HealthCare Network, 2114 N Fulgham St, Visalia, CA, USA

ABSTRACT

Children develop certain oral habits to overcome fear and anxiety in social situations. These habits are more common in children who have experienced neglect, childhood trauma, or loss of a parent at a young age and who live in orphanages and foster homes. They acquire habits such as nail, lip, and pencil biting, thumb sucking, tongue thrusting, prolonged use of pacifiers, mouth breathing, and bruxism. Teeth alignment depends on genetic factors. However, these habits can have a major impact on the development of the maxilla and mandible, as well as the formation of both primary and permanent teeth. Deformities of teeth alignment and soft tissue change may lead to infections and dry mouth because of decreased salivary flow. The severity, duration, and frequency of the habit may affect the degree of malocclusion. Detecting these habits at an early age may help prevent any major impact on the dental, skeletal deformity, and psychological health of children. The key is the timing of the intervention. Timely detection and treatment of the underlying cause may prevent medical, behavioral, and oral health problems. This review article provides an overview of oral habits in children related to psychological stress, fear, and anxiety, and suggests ways to deal with them.

Key words: Oral habits, Malocclusion, Fear and General Anxiety, Childhood Trauma, Child Neglect, Stress

The condyle is the epicenter for the growth of the craniofacial complex, which continues to grow till adolescence, at the age of 12-14 years. Any oral habits may impact the condyle during these growing years. Oral habits can act as a subconscious way to manage anxiety, providing a sense of comfort or distraction during stressful times. Children may use it as a way to self-soothe and release tension**.** Any type of abuse in children, socioeconomic factors, and lack of proper care and attention can initiate and exacerbate these oral habits [1]. Sometimes, caregivers become successful in getting rid of one of the bad oral habits, but children may adopt another one. Caregivers, pediatricians, and dentists should help children discontinue bad oral habits in the easiest, gradual manner, as forceful discontinuation of the habit may lead to the acquisition of another. Children may stop the habit of thumb sucking and adopt lip sucking or tongue thrusting [2].

This review article highlights various bad oral habits and emphasizes the role of caregivers, pediatricians, and dentists in the timely diagnosis of those habits and their management.

Various Oral Habits

(a) Thumb Sucking:

Thumb sucking or digit sucking is the placement of a thumb or one or more fingers in varying depths in the mouth. Sometimes, thumb sucking is noticed during intrauterine life, as seen in ultrasound scans. Thumb sucking is used by children to deal with the discomfort during teething and to feel calm and relaxed when they are hungry, afraid, or sleepy. Thumb sucking is considered normal in babies and young children, and most children stop on their own between the ages of two and four. However, if a child continues to suck their thumb past age four, it can cause maldevelopment of teeth, maxilla, and mandible, leading to malocclusion, bite issues, and speech abnormalities [3].

(b) Tongue Thrusting:

Tongue thrusting is a habit where a child pushes their tongue against their lips or the roof of their mouth, often during swallowing, talking, or resting. Tongue thrusting is normal for babies, especially when they are feeding, but it should stop as they get older and develop a mature swallow. Improper bottle feeding, prolonged thumb sucking, poor oral health of gums during teeth eruption, and prolonged tonsillar and upper respiratory infections may lead to tongue thrusting. This can also be because of the forced discontinuation of a habit of thumb-sucking. Tongue thrusting beyond four years of age may lead to anterior open bite, maxillary protrusion, speech issues, and abnormal activity of the mentalis and temporal muscles [4].

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Correspondence to: Bharat Ram Chowdry Guttikonda, Department of Dentistry, Family HealthCare Network, 2114 N Fulgham St, Visalia, CA, USA.

Email: bhagut@gmail.com

(c) Mouth Breathing:

Mouth breathing in children may be related to the obstruction of the nasal passage from a nasal polyp, deviated nasal septum, or nasal congestion due to allergies. Since they cannot breathe through the blocked nose, they opt to breathe through the mouth. Some children continue to breathe through their mouths even after the underlying cause is treated, as they become habitual. This continued habitual mouth breathing may lead to malocclusion. A short upper lip causing incomplete closure of the mouth may lead to mouth breathing [5].

(d) Bruxism:

In the habit of bruxism and clenching of teeth, children may grind their teeth at night and less commonly during the day due to stress from a change in routine, anger, fear, or worrying about something. Pain from teething or an earache, increased inner ear pressure, taking certain medications, misaligned teeth, the presence of sleep apnea, and some medical conditions like cerebral palsy and hyperactivity predispose children to grind their teeth. Bruxism may lead to temporomandibular joint problems, hypertrophy of muscles of mastication, and increased mobility of teeth, leading to jaw pain, facial pain, ear pain, headaches, and tooth damage [6].

(e) Lip biting:

Lip biting and lip sucking are common behaviors in children that can cause dental and other issues if left untreated. It may lead to an overbite, affecting a child's ability to chew. It can also cause the incisors to tip and collapse, leading to maxillary protrusion. Constant lip-sucking can cause an symmetric jaw and the lips to become dry, cracked, and chapped. This can lead to a red ring around the mouth, which can increase the risk of skin infection, cold sores, or impetigo. Along with younger children, it is also observed in school-going children as a coping mechanism for unfamiliar situations [7].

(f) Nail biting:

Nail Biting, also called onychophagia, is a common habit where children repeatedly bite their fingernails, which may be related to stress, boredom, anxiety, or simply imitating others. Nail biting is usually not a serious issue and may not have a significant impact on malocclusion; however, it may cause rotation and minor crowding during tooth eruption. If the habit becomes excessive, causing infection of fingertips and discomfort, it may indicate deeper psychosocial reasons, and prompt management becomes necessary. It is one of the prevalent bad oral habits that is observed in older children and some adults [8].

Toddlers and young children often put non-food objects in their mouths as they learn about the world and explore new things. Chewing is a type of rhythmic motion that can help children with trouble processing sensory information. They may chew on objects if they have dental problems, like cavities or erupting molars. When they start using a pencil, they may start chewing it. Pencil biting may cause gingival problems and bacteria to enter the oral cavity, which may enter the bloodstream, causing systemic illnesses, may cause oral injuries, and damage to the teeth [9].

(g) Pacifier use:

Pacifier use in children can be beneficial in the first few months of life. Pacifiers can help a crying baby and promote relaxation, aiding in sleep. Some studies suggest that pacifier use during sleep may reduce the risk of Sudden Infant Death Syndrome (SIDS). It can provide parents with a way to comfort their baby without constantly holding them. During the initial visits with a pediatrician, a pacifier can keep the baby calm, which can help carry out thorough physical examinations. Pacifiers used excessively for prolonged duration can lead to misaligned teeth, particularly overbite, especially if used beyond the recommended age. In some cases, prolonged pacifier use may increase the risk of ear infections. If a child becomes overly reliant on a pacifier, it can be challenging to wean them off [10].

Effects of oral habits on children

Dental effects such as malocclusion, dental decay, caries, increased risk of infection, speech difficulty, and gingivitis are known to occur due to bad oral habits. Persistent bad oral habits can lead to more serious psychological effects. The child can feel low self-esteem and become socially withdrawn from their surrounding [11].

Role of Parents

The most important advice to caregivers would be to avoid shaming the child for their behavior and forcefully removing the habit, as it may worsen the habit. Advise parents to avoid sugary foods and drinks, avoid excessive screen time, engage children in active outdoor play, and encourage relaxation techniques like deep breathing. Advise parents to talk to the child about their feelings and help them deal with stress. Parents should be counseled about raising their children in a safe, healthy, and clean environment and not exposing the child to secondhand smoke. Encourage parents to practice positive reinforcement by praising and offering rewards to encourage the child to use healthier coping strategies. Setting small goals to encourage the child may help eliminate the habit completely [12].

Parents can pay more attention to investigating the triggers and help children avoid them. Parents can try reading a bedtime story or bathing the child before bed to divert them and avoid using the oral habit that they may use to self-soothe themselves to help them sleep, especially thumb sucking. Parents can offer alternative comforting options such as soft toys. Most children will grow out of lip biting and sucking, but if the habit persists, advise using a lip balm or lip cream to improve the health of the lips and offer water regularly to hydrate the lips. Children may be given sugar-free candies to

suck on instead, and during stressful situations, try to divert the child's attention to positive activities [12].

Dental management of oral habits

The American Association of Orthodontics recommends referring to orthodontics by the age of seven if any oral habits or signs of malocclusion are noticed during routine dental visits. During the early age when the spongy maxilla is still forming, the success rate of treating malocclusion is very high. Treatment can be done by placing palatal expanders and using different types of oral appliances. A dentist may recommend using a mouth guard or mouth splint for bruxism [13].

Mouth breathing must be identified early as it not only causes malocclusion but also is indicative of nasal obstructions due to adenoids or enlarged pharyngeal tonsils. It is also indicative of prolonged inflammation of the nasal mucosa due to allergies or chronic infections [14-16].

In a study, Orofacial myofunctional therapy (OMT) has dramatically and positively influenced patients treated for tongue thrust. It may help to enjoy eating, speaking, and correct breathing while regaining confidence, self-esteem, and improved quality of life. OMT can improve swallowing, the posture of the tongue, and improper muscle function, and reduce relapse of previous orthodontic treatments [4]. Speech therapy might be needed if tongue thrusting causes speech problems [17].

Parental advice, behavioral therapy, and orthodontic interventions are recommended strategies for managing digit sucking habits. Behavioral modification techniques include applying bitter-tasting substances to the thumb or finger, positive reinforcement, reward calendars, and counselling [18, 19].

Pediatricians role in the management of oral habits

Caregivers are the first people to notice these oral habits. Sometimes, especially for single working parents, school teachers or daycare teachers may be the first to notice them. Usually, children are brought to the pediatricians for the initial consultation. If pediatricians find any oral deformities or oral diseases related to oral habits, they can refer the patients to dentists. The significant aspect of the management plan would be finding the underlying cause of the oral habit [14].

A detailed history of life stressors through physical examination is recommended. Caregivers need to be educated and motivated to report any possibility of child abuse or neglect to Child Protection Services. If caregivers fail to report, pediatricians have to advocate for their patients. To deal with underlying stressors and management of psychosocial triggers, referral to a behavioral health specialist is recommended [15].

A blocked nose leading to mouth breathing warrants the treatment of the underlying cause. Pediatricians can teach nose breathing exercises. Pediatricians must place an ENT referral for possible nasal polyps or a deviated nasal septum. Nasal congestion related to seasonal allergies needs prompt control of symptoms with a prescription of daily antihistamines and nasal sprays. Speech difficulties warrant timely intervention by referring to a speech pathologist [5]. Please refer to Table 1 for a summary of oral habits, their possible causes, and management [1-15].

Table 1: Summary of oral habits, their possible causes, and management [1-15]

Oral habits	Possible causes	Management options
Nail biting	Anxiety, nervousness, boredom, habitual	Stress management Bitter-tasting nail coating Behavioral therapy Positive reinforcement
Lip biting	Tension, habit, boredom	Reward system Use of lip balms Maintain hydration
Pencil biting	Explore objects, oral fixation, Chewing rhythmic movement helps with stress	Healthy chewable alternatives Redirect attention
Thumb sucking	Comfort habit	Gradual weaning Use of bandages, bitter-tasting nail polish Positive reinforcement
Tongue thrusting	Habit, swallowing difficulty, orthodontic issues	Speech therapy Myofunctional therapy Orthodontic evaluation
Prolonged use of the pacifier	Comfort, soothing, habit, dependency on a pacifier	Gradual weaning Alternative comfort methods Positive reinforcement
Mouth breathing	Allergies, nasal obstructions, oral habits, enlarged tonsils/adenoids	Treatment of allergies, nasal congestion, and nasal obstruction Nose breathing exercises Orthodontic evaluation
Bruxism	Stress, anxiety, misaligned teeth, neurological conditions, and medication side effects.	Nightguards or mouthguards Stress management Relaxation practices before bedtime

CONCLUSION

Early detection of the underlying cause of oral habits and timely management may prevent a significant impact on the medical, dental, behavioral, and psychological health and may help improve the overall well-being of the child. Further research is needed for the education and training of caregivers,

pediatricians, and dentists. The age at which children are allowed to have some of these oral habits and the age beyond which they have to be discontinued needs to be discussed with caregivers.

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