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RESEARCH ARTICLE

ORAL PARA-FUNCTIONAL HABITS – A HAWK-EYE VIEW

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ABSTRACT

Oral habits are learned patterns of muscle contraction and have a very complex nature. They areassociated with anger, hunger, sleep, tooth eruption and fear. Some children even display oral habits for release of mental tension. Such habits are the most frequent cause of these malformations mostly seen in the early childhood and mixed dentition stages. Other than the forces created by the oral habits there are many forces that are acting on the structures of the oral cavity.Oral habits, if persist beyond certain developmental age, can pose great harm to the developing teeth, occlusion, and surrounding oral tissues. In the formative years, almost all children engage in some non-nutritive sucking habits. Clinicians, by proper differential diagnosis and thorough understanding of natural growth and developmental processes, should take a decision for intervening. Parental awareness about the adverse oral habits is also another factor which needs to be looked into, negligence of the parents can become a cause to the dentofacial anomalies in the children. This article was aimed to give an insight into different oral habits and their management as a guide to parents and dentists.

INTRODUCTION

A habit is a repetitive action that is being done automatically. Habits are one of the major etiologic factors which will leads to malformation in dento-facial structures (Brash, 1929). Repetitive behaviours are common in infantile period and most of them are started and finished spontaneously. As the mouth is the primary and permanent location for expression of emotions and even 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 (Bear, 1987). Deleterious habitual patterns of muscle behaviour, often are associated with perverted or impeded osseous growth, tooth malposition, disturbed breathing habits, difficulties in speech, imbalance the facial musculature and psychological problems. Oral habits could be divided into 2 main groups they are acquired oral habits which Include those behaviors which are learned and could be stopped easily and when the child grows up, he or she can give up that behavior and start another one and Compulsive oral habits Consist of those behaviours which are fixed in child and when emotional pressures are intolerable for the child, he or she can feel safety with this habit, and preventing the child from these habits make him or her anxious and worried (Finn, 1998).

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THUMB SUCKING

Thumb sucking is the most common oral habit and it is reported the incidence ofthumb sucking is more than 50% (Graber, 2009). The prevalence of this habit is decreased as age increases, and mostly, it is stopped by 4 years of age (Maguire, 2000). Continuation of the habit past the age at which the permanent incisors erupt may however, prove detrimental. The more persistent the habit the greater its contribution to the disturbance of forces operating on the teeth. There is a relationship between the level of education in parents, the child nutrition and the sucking habit (Farsi, 1997). It is better to regard sucking habits as a normal feature of infant behaviour, certainly upto the age of 3yrs. If the child chooses this habit in the first year of his or her life, the parents should move away his or her thumb smoothly and attract the child's attention to other things such as toys. After the second years of age, thumb sucking will decrease and will be appear just in child's bed or when he/she is tired (Maguire, 2000).

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 (Johnson, 1993). Thumb sucking has 2 types they areactive: in this type, there is a heavy force by the muscles during the sucking and if this habit continues for a long period, the position of permanent teeth and the shape of mandible will be affected (Van Norman, 1997). and passive: In this type, the child puts his/her finger in mouth, but because there is no force on teeth and mandible, so this habit is not associated with skeletal changes (Gale, 1979). Types of malocclusion that may develop due to thumb sucking depends upon a number of factors which include position of digits, oro-facial muscle contraction, position of mandible, facial skeletal pattern, forces acting on teeth ad alveolar process. The duration, frequency and intensity of suckling action determine the intensity of malocclusion.

TONGUE THRUSTING (Josell, 2000):

Forward positioning of the tongue at rest so that the lip is against or between the anterior teeth. A person with tongue thrust may demonstrate one or more of the following signs or symptoms:

Clinical manifestations may include the following

- Facial grimace and/or pursing of the lips when swallowing.
- Mouth breathing due to allergies or enlarged tonsils and adenoids.
- An open bite condition of the teeth.
- Difficulty with speech, especially the s and z sounds.
- When at rest an open mouth position with a forward tongue posture is noted. Example, while watching television or reading a book.

As stated that both tongue thrust swallow and teeth apart swallow favour development of disto-occlusion, extreme maxillary over jet and open bite.

USE OF PACIFIER

The use of pacifier is common in most countries and if it is not stopped until 2 or 3 years of age, it will not cause permanent changes in dentition, but the use of pacifier after the 3 years of age has harmful effects on dentition development, and if it is used more than 5 years old, These effects would be more severe (Poyak, 2006). The children who use pacifier are not willing to suck their fingers (Maguire, 2000). It is suggested that pacifier should be replaced in children who have the habit of finger sucking, because the harmful effects of sucking pacifier are less than finger (Warren, 2002). In comparison between different pacifiers, despite the claims, it has been shown that there is no significant advantage for physiologic pacifiers over conventional ones (Zardetto, 2002).

MOUTH BREATHING

Effects of mouthbreathing include:

Effects on intra oral structures (Woodside, 1991; Katherine, 1998):

Moulding action of upper lip on incisors is lost thereby resulting in proclination and spacingof maxillary anteriors.The lower lip is heavy and everted. V-shaped maxilla and high palatal vault. This is due to lack of normal musculature stimulation from the tongue and owing to the increased pressure on the cuspid and primary molar areas by the strained orbicularis oris and buccinator muscles, the buccal segments of the maxilla collapse giving a V shaped maxilla and a high palatal vault. The patients are more likely to have posterior dental cross bite. Anterior open bite may be seen.Mandible is rotated in a clockwise manner so that the mandible is in a more vertical and backward direction, causing elongation of the lower anterior face height, open bite and retrognathia. Mandible shows more obtuse gonial angle. The increasing overjet and increased pressure from the stretched cheeks might cause a narrower maxillary dental arch.Experimental data for the relationship between malocclusion and mouth breathing are derived from studies of nasal/oral ratio in normal versus long face children (Fields *et al*, 1991). But most of the long face groupwere predominantly nasal breathers.

Effects on periodontal tissues and dental caries (Gulati *et al*., 1998):

In mouth breathers, children will hold their lips apart.So the gingiva becomes air-dried and causes irritation.Saliva over the exposed gingiva becomes viscous, debris collects on the gingiva as well as on the tooth surfaces, and the bacterial population becomes enormously increased. Subsequent to mouth breathing, most commonly anterior marginal gingivitis called mouth breathing gingivitis is seen.

NAIL BITING OR ONYCHOPHAGIA

Nail biting is a common and untreated medical problem among children.This habit starts after 3 to 4 years of age and is in its peak in 10 years of age. Its rate increases in adolescence, while it declines later. This problem is not gender dependent in children less than 10 years of age, but its incidence in boys is more than girls among adolescents (Tanaka *et al*., 2008). Complications caused by nail biting include malocclusion of the anterior teeth, teeth root resorption intestinal parasitic infections, change of oral carriage of Enterobacteriaceae, bacterial infection and alveolar destruction (Tanaka *et al*., 2008). Moreover, about one forth of patients with temporomandibular joint pain and dysfunction have been shown to suffer from nail biting habit.More than half of parents of children with nail biting, have a kind of psychological disorders such as depression. It is seen in clinic that boys with nail biting have a kind of psychological disorder especially attention deficient hyperactivity disorder (ADHD) more than girls (Saheeb, 2005; Ghanizadeh, 2008; Ghanizadeh, 2009).

LIP CHEWING

This problem happens almost in all cases in inferior lip and can cause the upper incisors to tip labially and the lower incisors to collapsed lingually with the lower lip wedged between the upper and lower anterior teeth (Finn, 1998). This habit is related to dryness and inflammation of lip and in severe cases will cause vermilion hypertrophy and in some people can cause chronic cold sore or lip crack (Ghanizadeh, 2008).

BRUXISM

The actions of masticatory system are divided into 2 groups. Functional actions such as mastication, speaking and

swallowing, and parafunctional actions such as teeth impacting (clenching) and bruxism.However, bruxism in nights is unconsciously and mostly it is with sound production. Sleep bruxism in the adult occurs during stages first and second of non rapid eye movement (REM) sleep and REM sleep. Sleep bruxism has 2 types: Primary or idiopathic and secondary or iatrogenic. The first type is without any medical reason and the secondary type is whether with use of drug or without the use of drug (Kato *et al*., 2001). Clinical findings of sleep bruxism include; report of grinding or impacting sounds of teeth; erosion of the teeth occlusal surfaces and breakdown of repairs; hypertrophy of masticatory muscles; hypersensitivity of teeth to cold air; joint sounds (Kato *et al*., 2001).

Conclusion

Old habits are hard to break and new habits are hard to form because the behavioural patterns we repeat are imprinted in our neural pathways, but it is possible to form new habits through repetition. In order to replace the adverse oral habits by good habits, an holistic approach is indicated, which includes patient-parent counselling, behaviour modification techniques, use of habit breaking appliances, physical exercise, followed by recall visits and reinforcement. Prevention and interception of these deleterious oral habits at an early stage is utmost important for the good oral health of the children. Techniques to eliminate the undesirable oral habit should be introduced when a program plan, which will outline the replacementbehaviours, is established and when family and caregiver support is in place.

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