



PREVALENCE OF ORAL HABITS IN SCHOOL GOING CHILDREN OF CHENNAI SUBURBAN AND RURAL AREA OF POPULATION DURING THEIR MIXED DENTITION PERIOD – AN EPIDEMIOLOGICAL STUDY.

C.Karunanithi¹, I.Nanda Balan² K.T.Saranya³

1. Dean Prof and Head, Dept of Orthodontics, Madha Dental College and Hospital
2. Reader, Dept of Public Health Dentistry, Madha Dental College and Hospital.
3. Senior Lecturer, Dept of Orthodontics, Madha Dental College and Hospital

Abstract:

The objective of this study was to determine the prevalence of oral habits among 2000 school going children of Chennai suburban and rural areas of population, during their mixed dentition period so as to take preventive measures to recognise and minimize the potential irregularities in the development of dentofacial complex.

Key words:

Oral habits, prevalence, mixed dentition period, school going children.

Introduction:

Epidemiological studies on the prevalence of oral habits have been the subject of investigation for a long time. Several attempts have been made to identify orthodontic problems in different parts of the world. Many researches have discussed the cause and effects of oral habits and irregular facial development occurring during childhood.

Documented in studies from different parts of the world regarding oral habit have well confirmed that affects the occlusion, hence play a pivotal role in facial appearance of the child. Continuation of oral habits may be responsible for some form of malocclusion including anterior open bite, over jet, posterior cross bite, proclined maxillary anteriors, retroclination of lower anteriors, narrow maxillary arch and lip incompetence. Protruded anterior teeth in addition to being aesthetic and likely to invite problem of fracture due to trauma in view of their forward positioning. These type of dentofacial deformities are harmful to the physical, psychological and social wellbeing of the person by adversely affecting the health, function and aesthetic of the facial, oral and dental tissues.

The prevalence of oral habits in school going children in India has been reported to be as low as 3% in North India and 30% in South India. Very few studies have been conducted in Chennai population. But no data are available regarding the prevalence of oral habits in school going children in Chennai suburban and rural area.

Hence an attempt has been made to study the prevalence of oral habits in the mixed dentition period.

Materials and methods:

Sufficient numbers of sterile instruments were made available for the oral examination during the study. 1. Torch light. 2. Mouth mirror. 3. Tweezers. 4. Probe. 5. Kidney trays (one for used and another for sterile instruments) 6. Sterilized gauze piece and cotton. 7. Gloves and mouth mask. 8. Data recording proforma.

The criteria for the selection of subjects were as follows:

1. Children with congenitally missing teeth.
2. No history of orthodontic treatment or extraction.
3. No history of systemic problems which affect the growth and development of facial structures.
4. Handicapped children, children with cleft lip/palate.
5. Children not willing to participate were excluded from the study.

All the students were examined after obtaining informed consent from the subjects and their parents. Approval to conduct the study was obtained from the appropriate school authority. The study was carried out for a period of six months starting from February 2017 to July 2017

The present study was carried out on 2000 school going children in the age group of 6 to 12 years (mixed dentition period) belonging to different government and private schools randomly selected from various sub urban and rural areas in and around Chennai city. Out of 2000 children 1000 were males and 1000 were females.

Survey was conducted in two steps which included oral examination followed by questionnaire. The completed sample was further subdivided according to type of school, gender and age. The questionnaire included personal data and presence of oral habits were recorded. All occlusal relationship were recorded at a centric occlusion position which was achieved by asking the subject to swallow and then bite on his/her teeth.

The sample was divided into normal occlusion group and malocclusion group on the basis of Angle classification. The collected data were tabulated and analysed statistically.

Results:

The present sample consists of 2000 school going children with different age groups including 1000 males and 1000 females. The prevalence of oral habits was found to be 29.4% in the total sample studied. Tongue thrusting was the most prevalent habit affecting 14.7% of children whereas 12.65% of children had mouth breathing habit followed by 1% of children having thumb sucking/finger sucking habit. Prevalence of nail biting, bruxism, lip biting was found to be 0.45%, 0.35% and 0.25% respectively.

Table 1: distribution of study population based on age and gender:

Age in Years	Male		Female		Total
	n	%	n	%	
6	150	50	150	50	300
7	160	50	160	50	320
8	130	50	130	50	260
9	120	50	120	50	240
10	160	50	160	50	320
11	120	50	120	50	240
12	160	50	160	50	320
Total	1000	50	1000	50	2000

Table 2: Distribution of Children according to location and oral habits:

Location	No of children with habits
Rural (government school)	320
Urban (Private school)	268
Total	588

Table 3: Prevalence of various oral habits according to gender:

Oral habits	Male		Female		Total	
	N	%	n	%	n	%
Thumb sucking	8	0.8	12	1.2	20	1
Tongue thrusting	160	16	134	13.4	294	14.7
Mouth breathing	153	15.3	100	10	253	12.65
Nail biting	4	0.4	5	0.5	9	0.45
Bruxism	5	0.5	2	0.2	7	0.35
Lip biting	3	0.3	2	0.2	5	0.25
Total	337	33.7	251	25.1	588	29.4

Graph 1: prevalence of oral habits according to age:



The number of children with oral habits was found to be higher among government school going children 360 children as compared 228 private school going children. It was found that urban children were having more knowledge than rural children.

Discussion:

Malocclusion is a very prevalent disorder in Children. These disorder are frequently the result of deleterious oral habits such as thumb sucking, lip biting, mouth breathing, bruxism, nail biting directly or indirectly to the occurrence of different types of Malocclusion and imbalance of facial components thus affecting aesthetics, phonetics, mastication and swallowing. Major transition are observed during mixed dentition period. Immediate measures should be undertaken to break the oral habits.

The finding of our study showed that 29.4% of children had oral habit. This finding is in agreement with the result of Shetty et al (1998) and Kharbada et al (2003) who found that 29.7% and 25.5% of the children presented with an oral habits. Guba et al reported that only 3% of children had oral habits which is very much in disagreement with our findings. But higher prevalence of oral habits 50% had been reported by Gildasya et al who did a study on children of age 6-12 years. The results of our study were in accordance with the result of Baalack and Frisk who studied on Swedish Children and reported 30.7% of prevalence of oral habits.

Tongue thrusting was the most prevalent oral habits in the present study with the prevalence rate of 14.7%. Amongst all oral habits lip biting habit had the least frequency. Shetty and Munshi found a comparatively low prevalence rate of tongue thrusting 3.02% among children in Mangalore which is low when compared to our study showing 14.7% children in the age group of mixed dentition period.

Mouth breathing was the second most prevalent habit in the present study with the prevalence rate of 12.65%. This habit have been reported to be more prevalent in the mixed dentition period because of more frequent oral pressure habits during that period. It may be tempting to consider that during the age of 9,10,11,12 years the association of inflammation of the lymphoid tissue or the tonsils and adenoids may have contributed to the mouth breathing habit and regression of lymphoid tissue and after the time of puberty may reduce the prevalence of this condition. This prevalence was higher when compared to the findings of the previous studies. Amar – El – Ezz et al in 2006 found that mouth breathing is one of the etiological factor for alteration in normal growth of face.

Thumb sucking was seen in 1% of Children and it was the most prevalent habit after tongue thrusting and mouth breathing. When the prevalence of oral habits was compared between the males and females there exist no significant difference except for thumb sucking which showed higher prevalence in females than males. Karbhandia et al observed that thumb sucking was more common in girls than boys.

Other oral habits such as lip biting, bruxism and nail biting are sometimes observed in children but to a lesser extent. These lesser prevalence rate could be due to difficulty to notice such habits.

Baydas et al reported prevalence of lip biting rate of 6.9% whereas Shetty and Munshi reported 6% prevalence with higher incidence among girls. In the present study lip biting study was the least observed with prevalence rate of 0.25%

The prevalence of nail biting was found to be 0.45% this is in disagreement with the findings of Shetty and Munshi who reported 12.7% of Children with nail biting which was higher in comparison to our study. This habit starts after 3 to 4 years of age and it is peak in 10 years of age.

Bruxism was seen in 0.35% of Children which contrasted the study by Liu et al which reported 6.5% of 2 to 12 years old children in China. It was higher to what was reported in our study. The prevalence of Bruxism in Children of Saudi Arabia was reported to be 8.4% by Farsi.

Conclusion:

This study was undertaken to determine the prevalence of oral habits in the mixed dentition period of the school going children of Chennai suburban and rural area of population. The prevalence of oral habits was found to be 29.4%. Prevalence of oral habits was found to be higher among rural school going children due to the lack of awareness regarding oral health. All oral habits was found to be higher among males when compared to thumb sucking which was found to be more among females. Tongue thrusting was the most common oral habit (14.7%) followed by mouth breathing (12.65%). Oral habits was found to be the major public health programme among both government and private school children of Chennai suburban and rural population which needs immediate attention. Habits should be diagnosed early and proper intervention to be done to avoid future abnormalities.

Acknowledgement:

The study was conducted independently and not sponsored by any outside body. The author would like to thank all participants for their valuable help and cooperation.

References:

1. Kharbanda O, Sidhu S, Sundaram K, Shukla D. Oral habits in school going children of Delhi. J Ind Soc of Pedo and preventive dentistry 2003 21(3) 120-124
2. Oral habits in children of Rajnandgaon, India. Ragavendra Manjunath Shetty, Manoj Shetty, Nailaldy Sridhar Shetty, Hanumanth Reddy, Sunaina Shetty. International journal of Public Health Dentistry 2013.
3. Prevalence of oral habits in 11-13 yrs old school children in Gulbarga City. D. PBhayya, T.R Shyagalli. Virtual Journal of Orthodontics 2009 – Jan 10 page 1-4.
4. Prevalence of oral habits in homeless children under care of Yayasan Bahtera Bandung. Gildasya, Eriska Riyanti and Syarif Hidayat.
5. Non nutritive sucking behaviours in preschool children – a longitudinal study. Pediatric dentistry 2000, 187-191.
6. The effect of oral habits in the oral cavity of children and its treatment. Meririn Gartika- Dept of pedodontics Padjadjaran.
7. Oral habits in school going children of Pune: A prevalence study. Shwetajajoo, Yusuf Chunnawala, Mohammad Nadeem, Roshan Shah, Amol Kamble. Journal of International oral health 2015; 7(10) 1-6.

8. Tandon S. Textbook of Pediatric Dentistry. 2nd edition Philadelphia Saunders, Elsevier 2008.

9. Prevalence of oral habits among 11 to 13 yrs old children in Jaipur. International Journal of Clinical Pediatric dentistry 2015 sept 8(3) 206-210

10. Incidence of oro facial habits in children during mixed dentition phase and their effect on overjet and over bite. Atrinaik, Santhos Kumar Goje, Parvesh Shah, Avinash. Vol 4 issue 1 an 2014.

11. William P. Tips on beautiful balanced face, the first 9 yrs The most critical time. ISO 2006 17:3

12. An epidemiological study to know the prevalence of deleterious oral habits among 6 to 12 yrs old children. J B Garde, Rajendra K, Suriya Vmshi, Bushan Arun Sawale. Journal of International Oral Health 2014 6(1) 38 – 43.

13. Oral habits part 1; the dental effects and management of nutritive and non nutritive sucking. Silva M, Menton.

14. Deleterious oral habits. A review. G. Singaraju, Prasad Mandava; Imran Khan. AED 2015, 7(1) 4.3 Review article.