

Prevalence of Oral Habits in 11–13 year-old School Children in Gulbarga city, India

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Abstract:

Objective: To assess the prevalence of oral habits in 11-13 year old children in Gulbarga city, India.

Method: Data was gathered from 1000 children of age group 11-13 years, attending different primary schools of Gulbarga city. Information pertaining to the study was collected from the parents in the form of questionnaire, followed by the clinical examination of the subjects using torch, disposable mirror and the probe.

Results: Out of 1000 children examined, 38% had oral habits, out of which 18% children had tongue thrusting habit, 17% had mouth breathing habit and only 3% had nail biting habit. There was no significant difference in prevalence of habits between male and female except for nail biting habit. Prevalence of the oral habit decreased with the increasing age.

Conclusions: The data revealed that most of the children had oral habits. This highlights the importance of identifying children who are in need of preventive orthodontic treatment to avoid future occurrence of malocclusion. Further it is suggested that the same pattern of research has to be done on wide strata to identify the potentially occurring malocclusions.

INTRODUCTION

Prolonged habits can have deleterious effects on the occlusion. The extent of these effects varies from case to case, depending on a wide range of variables including the actual habit employed, the duration and intensity of the habit, and the inherent dental and skeletal relationship. Some of the negative sequelae associated with prolonged habits like digit sucking and tongue thrusting include a higher incidence of anterior open bite, maxillary incisor protrusion, Class II canine relationship, distal step molar relationship, posterior cross bites, and lip incompetence.¹

Oral habits especially if they persist beyond the preschool age have been implicated as an important environmental etiological factor associated with the development of malocclusion²⁻¹². Environmental influences during the growth and development of the face, jaws and teeth consist largely of pressures and forces related to physiologic activity. Function must adapt to the environment. Pressures against the jaws and teeth will occur during oral activities and could affect how jaws grow and teeth erupt.¹³

Burlington Growth study, which comprised approximately 90% of the pediatric population of Burlington, Ontario, showed that, there was a significant association between the prevalence of class II malocclusion and persisting digit sucking in the different age groups. As the duration of the habit increased, the probability of a child developing a class II malocclusion increased. If the habit was stopped early (before 6 years), the effects on occlusion were often transitory.¹⁴

The prevalence of oral habits in school children has not been clearly documented in different population groups across India. Hence an attempt has been made to study the prevalence of oral habits in children of 11-13 years age group in Gulbarga city, India.

Materials and methods:

The study comprised of 1000 children of age 11-13 years, attending different government and private schools of Gulbarga city. Out of 1000 children 540 were males and 460 were females. Survey was conducted in two steps, which included oral examination followed by questionnaires.

Simple random sampling was executed. Dr DB did the examination of the children on the upright chair using torch light, disposable mouth mirror and simple probe. The recording of the data and interviewing the children, as well as the parents for the questionnaire was done by Dr. TS. Questionnaire included the personal data, only the presence or absence of oral habits like tongue thrust, mouth breathing, nail biting, bruxism, thumb sucking and lip biting was recorded. Prevalence rates of different oral habits studied were calculated. SPSS version 15.0 statistical package was used. Chi-square test was done to compare the prevalence of oral habits among different sexes, the value of $p < 0.05$ was regarded as significant.

Results:

Age wise and sex wise distribution of the sample represented in table I. Prevalence of oral habits in total population is shown in graph I. The results showed that 18% children had tongue thrusting habit, 17% had mouth breathing and 3% had nail biting habit.

Prevalence of oral habits in different age groups is shown in table III. Prevalence of oral habit was by 10% in 11 year children, 12% in 12 year old children and 8% in 13 year old children.

Sex wise prevalence of oral habits is dissipated in table III. 18% female children had oral habits and 20% of male had oral habits, showing negligible difference. But there existed significant difference between male and females when nail biting habit was considered.

Age (Yrs)	N	Prevalence No. (%)
11	460	100(10%)
12	320	120(12%)
13	220	80(8%)

Table II. Age wise prevalence of oral habits

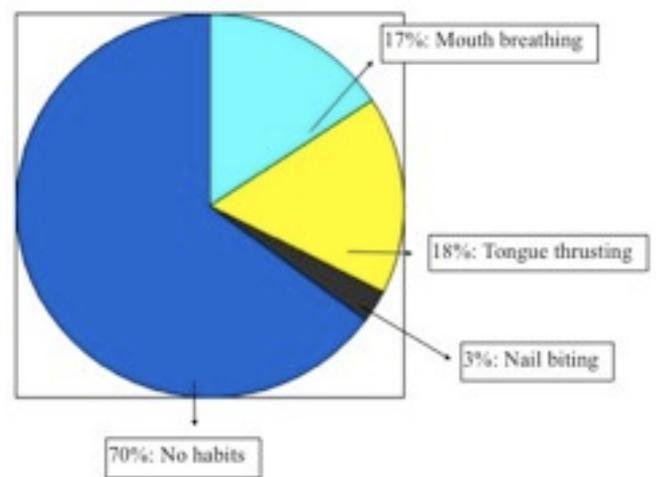
Age (yrs)	Sex		Total
	Males	Females	
11	250	210	460
12	180	140	320
13	110	110	220
Total	540	460	1000

$P > 0.05$ (N.S.)

Table I. Sample Size Distribution.

Type of Habits	Males (%) (N=540)	Females (%) (N=460)	P Value
Thumb sucking	0(0%)	0(0%)	-
Tongue Thrusting	100(10%)	80(8%)	> 0.05 (N.S.)
Mouth Breathing	90(9%)	80(8%)	> 0.05 (N.S.)
Bruxism	0(0%)	0(0%)	-
Lip Biting	0 (0%)	0 (0%)	-
Nail Biting	10(1%)	20(2%)	< 0.05 (S.)

Table III. Sex-wise prevalence of oral habits



Graph I. prevalence of oral habits in total population

Discussion:

Present study was conducted with aim of knowing the prevalence of oral habits in 11-13 year old children of Gulbarga city, so that deleterious effects of same can be prevented.

The findings of our study showed that 38% of the children examined had oral habit of some or the other kind. This finding is in agreement with the results of Quashie-Williams¹⁵, who found 34.1% of the children examined presented with an oral habit. In contrast to this observation low prevalence of oral habits (29.7% & 25.5%) was reported by Shetty et al., (1998)¹⁶ and Kharbanda et al., (2003)¹⁷ who studied prevalence of oral habits in south and north Indian children respectively. Further, Guba et al.,¹⁸ reported that only 3% of children demonstrated oral habits, which is very much in disagreement with our findings. But higher prevalence (50%) of oral habits had been reported by Gildasya et al.,¹⁹ who did a study on children of age 6-12 years.

Tongue thrusting and mouth breathing were the most prevalent oral habits in the present study sample. Our findings do agree with the observation of Guba et al.,¹⁸ and Kharbanda et al.¹⁷ Whereas digit sucking was the most frequently occurring oral habits seen in 50% of the children in the reports of Quashie-Williams et al.¹⁵ present study revealed that Tongue thrusting habit was prevalent in 18% of the children; same is supported by the findings of Kharbanda et al.,¹⁷ who reported 18.1% of children with tongue thrusting habit. However, our findings differed with the findings of Shetty and Munshi¹⁶ who found a comparatively low prevalence (3.02%) of tongue thrust among Mangalore children in the age range of 3-16 years.

Mouth breathing habit was the second most prevalent habit in our study with the incidence rate of 17%. This incidence was higher when compared to the findings of the previous studies.^{16,17} Amr Abou-El-Ezz et al.,²⁰ in their study on prevalence of mouth breathing habit and its probability as etiological factor of malocclusion have concluded that malocclusion is highly associated with habits existence and this relationship is statistically highly significant ($p < 0.001$).

Nail biting habit was seen only in 3% of children and it was the most prevalent habit after tongue thrusting and mouth breathing. This observation is in disagreement with the findings of Shetty and Munshi¹⁶ who reported 12.7% of children with nail biting, which was higher in comparison to our study. Data revealed that the other habits like thumb sucking, bruxism and lip biting were absent in the present group of the children. However, the previous literature on the oral habits suggests higher prevalence of bruxism, thumb sucking and lip biting.^{15, 16,17,19} Recently Baydas B et al.,²¹ showed that Enterobacteriaceae were more prevalent in the oral cavities of children with nail-biting habits than in children with no oral habit. This warrants the need for early reorganization of this habit.

There existed difference in prevalence of oral habits in different age. Oral habits were more prevalent in 12 year old children with 12% prevalence. Whereas least prevalence of 8% was found in 13 year old children. This difference in age wise prevalence is also reported by Shetty and Munshi.¹⁶ A steady decrease in oral habits with an increase in age was observed by Quashie-Williams.¹⁵

When the Prevalence of oral habits was compared between the male and female, there existed no significant difference between the genders except for nail biting habit, which showed higher prevalence in females than the males. Whereas karbhanda et al.,¹⁷ observed that thumb sucking was more common in girls than boys and mouth breathing was more common in boys compared to girls. Further Gildasya et al.,¹⁹ also showed gender wise difference in the prevalence of the habits, with boys showing slight majority. Similar difference was displayed by Quashie-Williams¹⁵ with high prevalence in boys, but the difference was statistically insignificant. The reason behind the gender wise difference in the occurrence of oral habits is due to the fact that oral habits in boys are more persistent for longer period than girls because boys tend to openly fight against family's or surrounding society's rules than girls, including when they are told to stop practicing oral habits.²²⁻²⁴

Conclusion:

The over all prevalence rate of oral habits in the present group of children was high. This data provides the base for planning the preventive strategies in eradicating the oral habits and this reduce the occurrence of malocclusal traits, further contributing in the rise of national level of oral health.

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