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PREVALENCE OF ORAL HABITS IN CHILDREN AND ITS CORRELATION WITH MALOCCLUSION – A CROSS SECTIONAL STUDY

Dental Science

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ABSTRACT

The aim of the study is to assess the prevalence of oral habits and the correlation between the existing deleterious oral habit and the occurrence of malocclusion in school going children.

MATERIALS AND METHODS: School going children (n=426) were screened for oral habits and the associated malocclusion present. 124 children (male = 71; female = 53) were found to have either a single habit or a combination of two or more habits.

RESULTS: The results of the study shows 29% of prevalence of oral habits in the evaluated population with the highest frequency of thumb sucking (16.9%) and tongue thrusting(16.9%) followed by other oral habits and the most prevalent malocclusion is open bite (94.4%) followed by crossbite (76.6%) .

CONCLUSION: Sucking habit, tongue thrusting and mouth breathing were found to be the major risk factor for the occurrence of malocclusion in school going children.

KEYWORDS

Prevalence, Oral Habits , Malocclusion,

INTRODUCTION:

The increased prevalence of malocclusions represents a secular trend attributed to the interaction of genetic and environmental factors (1) Malocclusion can occur as a result of various factors and it is a growth and development deviation, mainly of the muscles and jaw bones during childhood and adolescence, and may be related to harmful habits of early childhood. (2) Oral habit is one such cause that can lead to malocclusion where “Habit” is a practice acquired by the frequent repetition of the same act, which occurs consciously at first, then unconsciously. (3) So, it is necessary to understand the relation existing between the oral habits and malocclusion for early diagnosis, intervention and treatment of both. This study is an attempt to evaluate the correlation between the oral habits and the associated malocclusion in the school going children.

This study aimed at prevalence of oral habits among the school going children and the correlation between oral habits and associated malocclusion.

AIMS AND OBJECTIVES:

To assess the prevalence of oral habits in school going children

To assess the correlation between the existing oral habits and the associated malocclusion present.

MATERIALS AND METHODS:

An Epidemiological cross-sectional study was conducted among the school going children to assess and evaluate the prevalence of oral habits and their correlation with the associated oral habits present. The study was approved by the institutional review board and ethical clearance was obtained. Prior permission was obtained from the head of the institution of the respective schools through a letter explaining the purpose of the study. A total of 426 school children were examined using random sampling method with an average of 50-60 students in each school.

A questionnaire was prepared for recording the demographic details of the child and contained questions regarding presence of any oral habits and the duration for the same, when do the children involve at the habit, any intervention had been done on consultation with a dentist, and the duration of the habit breaking appliance worn for correction of the deleterious oral habit. The intraoral examination was performed using mouth mirror under natural light illumination. The findings included emphasis on overjet, overbite, palatal arch form, crowding, spacing, open bite, cross bite and attrition. The data obtained in the study was tabulated and subjected to statistical analysis using Statistical Package for the Social Sciences (SPSS Software)

RESULTS:

The results of the present study revealed that, out of the 426 children who took part in the study, 124 children had deleterious oral habits. The results of gender predilection and other queries obtained from the questionnaire are mentioned in tables 1 and 2 respectively.

TABLE 1:

	Frequency	Percent	Valid percent	Cumulative percent
GENDER				
Male	71	57.3	57.3	57.3
Female	53	42.7	42.7	100.0
Total	124	100.0	100.0	

TABLE 2:

	Frequency	Percent	Valid percent	Cumulative percent
Do you have / had any of the following deleterious oral habits?				
Thumb sucking	21	16.9	16.9	16.9
Tongue thrusting	21	16.9	16.9	33.9
Mouth breathing	17	13.7	13.7	47.6
Lip biting	12	9.7	9.7	57.3
Nail biting	4	3.2	3.2	60.5
Thumb sucking + Tongue thrusting	4	3.2	3.2	63.7
Thumb sucking + Mouth breathing	10	8.1	8.1	71.8
Thumb sucking + Lip biting	19	15.3	15.3	87.1
Mouth breathing + Nail biting	4	3.2	3.2	90.3
Thumb sucking + Tongue thrusting + Nail biting	4	3.2	3.2	93.5
Thumb sucking + Mouth breathing + Nail biting	4	3.2	3.2	96.8
Tongue thrusting + Mouth breathing + Lip biting	4	3.2	3.2	100.0
Total	124	100.0	100.0	

At what all occasion do you have the habit?				
Watching TV	12	9.7	9.7	9.7
Sleep	65	52.4	52.4	62.1
Others	18	14.5	14.5	76.6
Playing + Watching TV	7	5.6	5.6	82.3
Playing + Sleep	7	5.6	5.6	87.9
Watching TV + Sleep	15	12.1	12.1	100.0
Total	124	100.0	100.0	
Did you visit any doctor / dentist to control / stop your habit?				
Yes	18	14.5	14.5	14.5
No	106	85.5	85.5	100.0
Total	124	100.0	100.0	
Did your wear any habit breaking appliance to stop your habit?				
Yes	15	12.1	12.1	12.1
No	109	87.9	87.9	100.0
Total	124	100.0	100.0	
If yes, How long did you wear the habit breaking appliance?				
NA	109	87.9	87.9	87.9
ONE	15	12.1	12.1	100.0
INTRAORAL FINDINGS				
Overjet				
1 – 2 mm	27	21.8	21.8	21.8
2 – 4 mm	21	16.9	16.9	38.7
4 – 6 mm	48	38.7	38.7	77.4
Greater than 6mm	28	22.6	22.6	100.0
Total	124	100.0	100.0	
Overbite				
1 – 2 mm	37	29.8	29.8	29.8
2 – 4 mm	57	46.0	46.0	75.8
4 – 6 mm	26	21.0	21.0	96.8
Greater than 6mm	4	3.2	3.2	100.0
Total	124	100.0	100.0	
Palate - Arch form				
U shape (Normal)	79	63.7	63.7	63.7
V shape (Constricted / High arched)	45	36.3	36.3	100.0
Crowding				
Present	42	33.9	33.9	33.9
Absent	82	66.1	66.1	100.0
Total	124	100.0	100.0	
Spacing				
Present	43	34.7	34.7	34.7
Absent	81	65.3	65.3	100.0
Total	124	100.0	100.0	
Open bite				
Present	7	5.6	5.6	5.6
Absent	117	94.4	94.4	100.0
Total	124	100.0	100.0	
Crossbite				
Present	29	23.4	23.4	23.4
Absent	95	76.6	76.6	100.0
Total	124	100.0	100.0	
Attrition				
Present	4	3.2	3.2	3.2
Absent	120	96.8	96.8	100.0
Total	124	100.0	100.0	

From the above results, there was a 29% of prevalence of oral habits in the examined population and thumb sucking and tongue thrusting being the most adapted and also occurred in combination with other oral habits. The frequency of the habit was more when the child was asleep accounting 52.4% or when the child is doing no physical activity. 14.5% of the population consulted the dentist for intervention of the habit and only 12% were found to use the appliance given for correction of the habit. 85.5% of the population had no attempts made to overgo the oral habits.

On intraoral examination, 61.3% and 24.2% had increased (4-6mm or greater) overjet and overbite respectively. 36.3% had high arched palate, 66.1% had crowded dentition, 65.3% had spaced dentition. Changes in relation bite also sought to occur wherein, 94.4% of the examined population had open bite and 76.6% had crossbite which is more associated to the most adapted oral habits such as thumb sucking and tongue thrusting. Only a smaller range of attrition was observed that accounted to 3.2% of the children examined.

DISCUSSION:

In the present study, 29% of the who were evaluated exhibited oral habits. A similar result was derived by Kharbanda et al where 25.5% of the assessed children revealed the presence of oral habits in Delhi (4) The most prevalent habit was reported to be thumb sucking and tongue thrusting which was 16.9% each, followed by mouth breathing seen in 13.7% of the children who had parafunctional habits. A similar study by Barre et al reported that bruxism was the most common habit which was displayed in 14.4% of the children, followed by mouth breathing (12.6%) and digit sucking (9.2%) (5)

Bosnjak et al reported nail or object biting to be the most common oral habit (28.07%), followed by non-nutritive sucking, tongue thrusting and lip or cheek biting (6)

Children practice these anomalous habits to attract attention, probably due to lack of parental attention, emotional maturity or due to poor physical health and chronic illness during infancy (7) In the present study, however the frequency of the habit was more the child was sleeping or when there was no physical activity performed by the child A study by Oropeza et al in Mexico reported that open bite was most prevalent (35.1%), followed by lower anterior crowding (26.4%), upper anterior crowding (19.6%) and lastly posterior crossbite (12.8%) (8) A study by Dubey et al concluded that 28.8% of the children with deleterious oral habits had malocclusion. In the present study, 61.3% of the children displayed increased overjet and 24.2% displayed increased overbite. Crowding was seen in 66.1% while spacing in 65.3%. in accordance with the previous studies, open bite was the most prominent malocclusion accounting to 94.4% (9)

CONCLUSION:

Thumb sucking, tongue thrusting being the most prevalent oral habit explains the occurrence of open bite in most of the children. Mouth breathing the second most common habit explains on open bite that appears to be the second most common malocclusion. From the current study results, it is evident that the awareness of early intervention and correction of the oral habit is critically low that can pose a serious threat to the upcoming generation with untreated malocclusion. It is necessary to improve the knowledge and the adverse effects of continued deleterious oral habits among the school going children to avoid the ill effects on function and aesthetics.

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