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Reasons for seeking treatment for cessation of Oral Habits - A Cross Sectional Study Among Parents.

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Abstract: Oral habits like thumb sucking, lip/cheek biting and tongue thrusting may produce harmful effects on the development of maxillofacial regions which results in anterior open bite and posterior crossbites in growing children. The aim of this study was to assess the reasons for seeking treatment for cessation of oral habits of the children among the parents reporting to the department of pediatric dentistry. This was a retrospective study which was performed in a university setting where the required data of pediatric patients who were diagnosed with oral habits in the department of pedodontics at a private teaching hospital, Chennai from June 2019 to March 2020, was collected by reviewing patients records and the analysis of data of 86000 patients. The collected data was cross verified using photographs, reviewed by a reviewing expert and tabulated in Microsoft excel . The Sample size of the total number of patients diagnosed with oral habits seeking for treatment was n=24. The tabulated data was imported to SPSS software (statistical package for social studies) version 22.0 (IBM corporation) for statistical analysis .There was an equal gender distribution involved in this study. Regarding the awareness among the parents 50% of the parents were aware and 50% were not aware about the harmful oral habits of their children. There was no statistical significance among the gender, and oral habits and also the association between awareness of the parents and oral habits of the children. Thumb sucking habit was the most common habit among these patients(n=11), and incase of male children this habit was very common(n=7) while tongue thrusting habit was the most common among female children(n=5) and thumb sucking habit was the most commonly known habit among the parents(n=9).

Keywords: Cross bite; open bite; dummy sucking; thumb sucking; tongue thrusting.

INTRODUCTION

A habit is a sign of lack of harmony between an individual and his environment. The American Academy of Pediatric Dentistry (AAPD) recognizes that an infant's, child's, or adolescent's health can be affected by oral habits creating a need for effective individual management of the same.('The American Academy of Pediatric Dentistry', 1995; Somasundaram et al., 2015; Govindaraju, Jeevanandan and E. M. G. Subramanian, 2017b) Adverse oral habits like thumb sucking, tongue thrusting, lip and cheek biting may produce harmful effects on the development of maxillofacial complex, like anterior open bites(Cozza et al., 2005, 2007; Govindaraju, Jeevanandan and E. M. G. Subramanian, 2017a; Jeevanandan, 2017) and posterior crossbite in children.(Larsson, 2001; Adair, 2003; Jeevanandan and Govindaraju, 2018) The habit may have a deep rooted emotional factor involved and may be associated with insecurities, loneliness, or neglect experienced by the child. The relative prevalence of oral habit in school going children in India has been reported to be as low as 3% in North India and 30% in South India.(Balraj et al., 2016; Govindaraju, Jeevanandan and E. Subramanian, 2017; Ravikumar, Jeevanandan and Subramanian, 2017; Veerale Panchal, Jeevanandan and Subramanian, 2019) Oral habits are considered harmful based on some determining factors, such as duration, frequency, and intensity. These determinants, associated with genetic factors, will define the occurrence, type, and severity of facial, occlusal and muscular changes. In view of therefore mentioned complications, there arises a need to highlight the current ill-practices in the society and encourage the cultivation of healthful habits and lifestyle.(Christabel and Linda Christabel, 2015; Gurunathan and Shanmugaavel, 2016; Packiri, Gurunathan and Selvarasu, 2017; Stuart-Macadam, 2017)

Malocclusion, as a worldwide health issue, has economic, psychological and social effects as well as functional and esthetic issues.(Peres et al., 2007; Júnior et al., 2009; Germa, Kaminski and Nabet, 2010) Although

malocclusion is the result of a combination of genetic or environmental influences, anthropological studies have shown that the primary etiology for changes noticed in the populations' pattern of occlusion is environmental condition. Among these environmental conditions are oral habits which can be categorized into nutritive and nonnutritive.(Al-Jobair and Al-Emran, 2004; Ize-Iyamu and Isiekwe, 2012; Govindaraju and Gurunathan, 2017; Subramanyam et al., 2018) Non-nutritive sucking, such as the use of a pacifier, bottle-feeding and early weaning,(Castelo et al., 2010; Romero et al., 2011) is a common behavior among young children and its prevalence among different populations ranges from 0% to 46% in children.(Vasconcelos et al., 2011) Persistent non-nutritive sucking of the thumb or other fingers leads to sagittal and irreversible discrepancies in of the maxilla and the mandible, depending on the intensity and the duration of the habit.(Vasconcelos et al., 2011; 'Fluoride, Fluoridated Toothpaste Efficacy And Its Safety In Children - Review', 2018; Nair et al., 2018) Despite the fact that digit sucking and oral breathing habits and their adverse effects are usually detected, most parents often lack the appropriate motivation and knowledge to encounter the causes and fail to demand help from dentists when it is necessary. The etiology, prevalence, adverse effects and management of digit-sucking habits in children have been studied in the literature. Little attention has been paid to the parents' attitudes towards digit-sucking which is an important point to consider in elimination of the habit.(Danaei et al., 2011) To improve public information about dentofacial discrepancies, we must first determine the present level of knowledge and sources of information.(Danaei et al., 2011) Helping individuals take responsibility for maintaining their oral health is a vital aim which cannot be served without public motivation and education. Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Deogade, Gupta and Ariga, 2018; Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Jeevanandan and Govindaraju, 2018; J et al., 2018; Menon et al., 2018; Prabakar et al., 2018; Rajeshkumar et al., 2018, 2019; Vishnu Prasad et al., 2018; Wahab et al., 2018; Dua et al., 2019; Duraisamy et al., 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu et al., 2019; Mehta et al., 2019; Rajendran et al., 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma et al., 2019; Varghese, Ramesh and Veeraiyan, 2019; V. Panchal, Jeevanandan and Subramanian, 2019; Gomathi et al., 2020; Samuel, Acharya and Rao, 2020)

The aim of this study was to investigate the reasons for seeking treatment for cessation of oral habits of children among the parents reporting to the department of pedodontics.

MATERIALS AND METHODS

This was a retrospective study which was performed in a university setting where the required data of pediatric patients who were diagnosed with oral habits in the department of pedodontics at a private teaching hospital, Chennai from June 2019 to March 2020, was collected by reviewing patients records and the analysis of data of 86000 patients. The collected data was cross verified using photographs, reviewed by a reviewing expert and tabulated in Microsoft excel . The Sample size of the total number of patients diagnosed with oral habits seeking for treatment was n=24 of which patients with Thumb sucking habit n=11, lip biting n=6, tongue thrusting habit n=7.The tabulated data was imported to SPSS software (statistical package for social studies) version 22.0 (IBM corporation) for statistical analysis . To minimize sampling bias, collection of data was done by simple random sampling methods within the university. There is high internal validity and low external validity. Incomplete , censored and repeated data were excluded from the study.

RESULTS AND DISCUSSION

The total sample size of this study was 24 patients, among them there was an equal gender distribution (Table 1 and Graph 1) . Regarding the awareness among the parents 50% of the parents were aware and 50% were not aware about the harmful oral habits of their children (table 2 and Graph 2) . There was no statistical significance among the gender and oral habits (Table 3 and Graph 3) Thumb sucking habit was the most common habit among these patients(45.8%) and it was more common among males(n=7) than females(n=4) and thumbsucking was the most commonly known habit among the parents(n=9) (Table 4 and Graph 4).

Deforming oral habits are defined as a form of behaviour that is picked up due to its frequent repetition. They have no functional use nor they are necessary. Also they exert unnatural forces on the teeth, which can lead to malocclusion over the years due to continuous repetition of the habits.(Reyes Romagosa et al., 2014) There are nutritional habits such as chewing, swallowing and normal breathing; deforming habits like mouth breathing, lip/cheek biting, thumb sucking, tongue thrusting, beyond the age of three years of age is known as deforming oral habits.

From this study it is seen that awareness among the parents regarding the oral habits of their children were equally distributed i.e, 50% of the parents were aware regarding the habits while 50% were not aware of the harmful habits of their children. The prevalence of sucking habits varies between different countries. Scandinavian studies report the frequency of sucking habits to be slightly above 80% with dummy sucking as the prevalent type.(Larsson and Dahlin, 1985) In a study done in nigerian pre-school children,(Onyeaso and Sote, 2002) thumb sucking habit was dominant having a prevalence rate of 8.1% out of the 99% and this was

also seen in other studies reported by Kerosuo et al.(Kerosuo, 1990) and fukuta et al.(Fukuta et al., 1996) These results coincided with our study, thumb sucking habit being the most common habit and also being the most common reason for seeking treatment.

No significant difference(P-value>0.5) was noted in the association between gender and the oral habits among the children, although thumb sucking habit was the most common habit among these patients(45.8%) but it should be noted that more commonly males(n=7) were involved in thumb sucking habits than the females(n=4) similar to the other studies. While in contrast to thumb sucking habits, females(n=5) were commonly involved in tongue thrusting habits compared to males(n=2).

From our study, Association between oral habits of the children and awareness among the parents showed statistical significance(P-value<0.5), most of the parents were aware regarding the harmful effects of thumsucking habit(n=9) and it is why they seeked dental care for the cessation of the habit while the rest of the habits were not as easy as thumb sucking habit to be identified by the parents and so they were not aware of the habits like tongue thrusting(n=6) and needed a dentists help to identify the habit of their children.

The study was geographically limited and predominantly consisted of the South Indian population. Data which were unclear were excluded thereby reducing the sample size. Within the limit of the study , it was found that thumb sucking habit is commonly presented in most of the patients, majorly affecting males. To ascertain the results of this study and to increase the level of significance, the sample size and the geographic area of coverage should be extended to at least most parts of South India. Conducting a multicentered study with extended geographic area and wide range of population in future we can obtain better results.

Table 1

Gender	Total Numbers
Male	12
Female	12
Total	24

Table 1: This table shows that frequency distribution of the study sample with relation to gender. There was an equal distribution of male(n=12) and female(n=12) among the population.

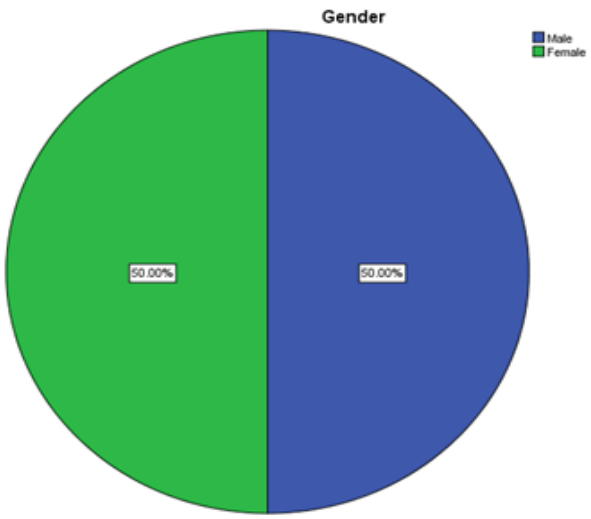

Fig.1: This chart represents the gender distribution among the entire population, blue denotes males and green denotes females. From this graph, it's seen that there was equal distribution among males and females involved in this study.

Table2

Awareness of the parent	Total numbers
Aware	12
Not Aware	12
Total	24

Table 2: This table shows the data related to awareness of parents with regards to whether the child has any deleterious oral habits. There was an equal distribution of awareness regarding the oral habits among the parents; Aware(n=12) and Not aware(n=12).

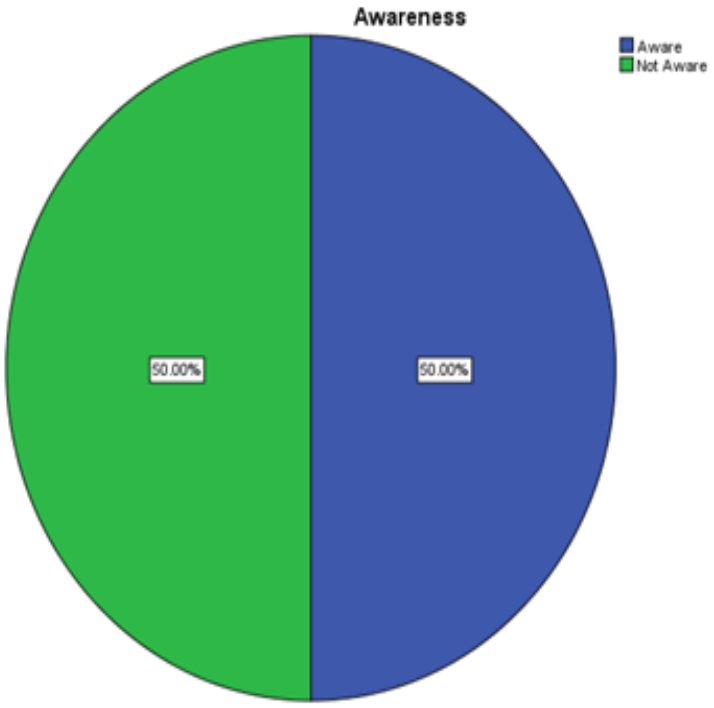

Fig.2: This chart represents the awareness among parents regarding their children's oral habits, blue denotes for 'aware' and green denotes for 'not aware'. From this graph, it is seen equal distribution of awareness among the parents regarding the oral habits of their children.

Table 3

GENDER	HABITS			TOTAL
	Lip biting	Thumb sucking	Tongue thrusting	
Male	**3**	**7**	**2**	**12**
Female	**3**	**4**	**5**	**12**
TOTAL	**6**	**11**	**7**	**24**

Table 3: This Table shows the association between gender and various oral habits, thumb sucking was more common in males(n=7) compared to females(n=4), tongue thrusting was common among females(n=5) than males (n=2). Chi-square test was done and was found to be statistically not significant [Chi-square value= 2.104; p=0.349(p>0.05)]

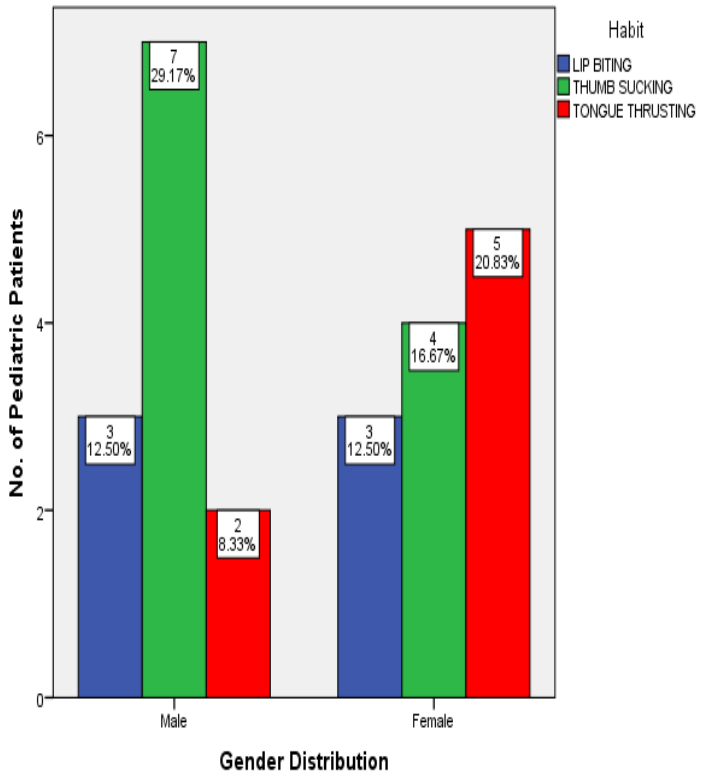

Fig.3: Bar graph showing the association between gender and various oral habits. X axis represents the gender distribution and Y axis represents the number of patients with various oral habits. From this graph we can infer, Thumb sucking (green) was more common in males compared to females, while tongue thrusting (red) was common among females compared to males. Chi-square test was done and was found to be statistically not significant [Chi-square value= 2.104; p=0.349(p>0.05)].

Table 4

AWARENESS	HABITS			TOTAL
	Lip biting	Thumb sucking	Tongue thrusting	
Aware	2	9	1	12
Not Aware	4	2	6	12
TOTAL	6	11	7	24

Table 4: This Table shows the association between awareness among parents and oral habits among the children, The parents were mostly aware of Thumb sucking habit(n=9) as it was easy for them to identify the habit and did not require the dentists help in identifying the habit compared to patients with tongue thrusting habit(n=6). Chi-square test was done and was found to be statistically significant [Chi-square value= 8.693; p=0.013(p<0.05)].

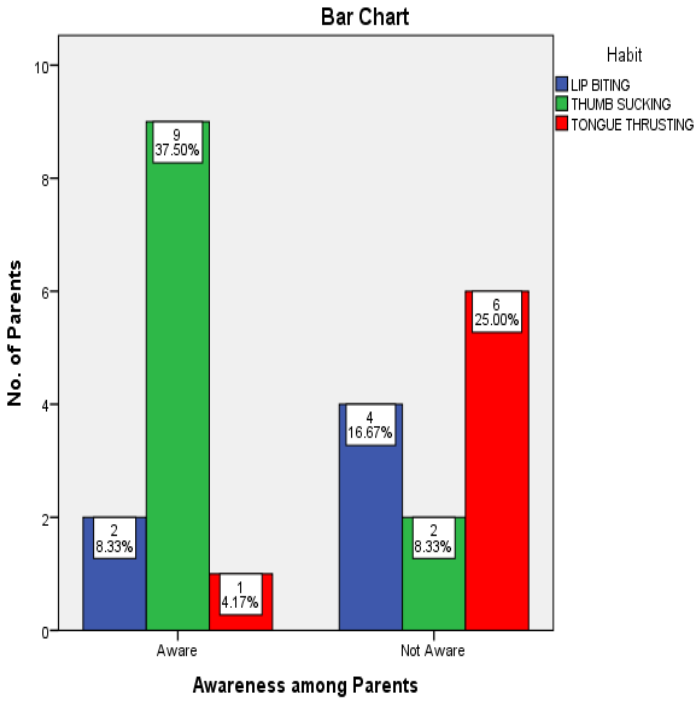

Fig.4: Bar graph representing the association between awareness among parents and oral habits among the children. The parents were mostly aware of Thumb sucking habits (green) compared to tongue thrusting habits (red). Chi-square test was done and was found to be statistically significant [Chi-square value= 8.693; p=0.013(p<0.05)].

Our institution is passionate about high quality evidence based research and has excelled in various fields ((Pc, Marimuthu and Devadoss, 2018; Ramesh et al., 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai et al., 2019; Sridharan et al., 2019; Vijayashree Priyadharsini, 2019; Mathew et al., 2020)

CONCLUSION

The awareness distribution among the parents regarding the harmful effects of the habits were 50% of the parents were aware about the harmful habits while the other 50% of the parents were not aware and had to be made aware of the harmful habits that their children have. Thumb sucking habit was the most common habit among these patients(45.8%) and it was most commonly involved among the male children(n=7) and tongue thrusting habit was commonly seen among female children(n=5) and the most commonly known habit among the parents regarding their children was thumb sucking habit (n=9).

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