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ORAL HABITS IN PATIENTS SEEKING ORTHODONTIC TREATMENT AT THE UNIVERSITY COLLEGE HOSPITAL, IBADAN
Temisanren Orighoye T., BChD. FWACS, Department of Child Oral Health, College of Medicine, University of Ibadan; Fakuade Babatunde O., BChD. FMCGD, FAO, Department of Dental/Maxillofacial Surgery, Federal Teaching Hospital, Gombe; Kanmodi Kehinde K., Dental Student, Faculty of Dentistry, College of Medicine, University of Ibadan

Corresponding Author: Temisanren Orighoye T., BChD. FWACS, Department of Child Oral Health, College of Medicine, University of Ibadan. Email: oyetemisanren@hotmail.com

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O. T. Temisanren, O. B. Fakuade and K. K. Kamodi

ABSTRACT

Background: **One common sequelae of malocclusion is individuals indulging in different kinds of oral habits that are detrimental to the developing occlusion. The persistence of these different oral habits could affect the occlusion in a number of ways which include increased overjet, decrease overbite, anterior open-bite and posterior cross bite.**
Objectives: **This study assessed the prevalence of different oral habits in patients presenting at the orthodontic clinic and their occlusal manifestations.**
Design: **Clinical based retrospective study.**
Setting: **University College Hospital, Ibadan.**
Subjects: **234 orthodontic patient's case notes as well as the clinic daily attendance records of those who presented for treatment over a period of forty two months. The socio-demographic data, type of oral habits and the presenting malocclusion by the patients were extracted. Data was analyzed using SPSS version 16. Level of significance was set at $p<0.05$.**
Results: **The mean age was 14.94 ± 6.92 years. Sixty eight point eight percent (161) had no persistent habit while 32.2% (73) had one form of habit or the other and in some cases patient indulge in more than one form of oral habit. Oral habit prevalence was found to be 31.2% and digit sucking was the most prevalent oral habit. Associated occlusal anomalies observed were 53.4% and 31.5% (P=0.009) for increased overjet and anterior open bite respectively**
Conclusion: **There is a steady rise in the prevalence of oral habits and this is associated with an equivalent rise in different occlusal manifestations. Therefore, there is a need for increased dental education.**

INTRODUCTION

Oral habits are formed reactions that are resistant to change (1). An oral habit at infancy and early childhood is considered normal and is related to need to satisfy urge for security. Diagnosing oral habits in young children above 3 year of age is an important finding during orthodontic clinical assessment as their persistence may result in

significant but preventable long-term oro-facial and other systemic problems.

Malocclusion sometimes referred to as dental anarchy can be sequelae to oral habits especially in situation where the habit duration is prolonged. In Nigeria, the prevalence of oral habit is put at between 8.1% – 50% (2, 3, 4, 5, 6). Persistent oral habits were found to have very little effect on health although; malocclusion could occur which can affect skeletal growth, arch relationship, aesthetics and oral function (7). Oral habits have also been reported to be associated with dento-alveolar and or skeletal deformation in some patients. The extent of this deformation is related to the frequency, duration, direction and intensity of some oral habits (8). Among these factors, the duration of which the habit is practiced plays the most critical role in the movement of the teeth as clinical and experimental studies have suggested that a force placed on tooth/teeth for 4 – 6 hours is capable of carrying out tooth movement. The occlusal effects of oral habits range from dental effects affecting both the maxillary and the mandibular teeth to the skeletal effects showing obvious skeletal developmental anomalies. The likely dento-alveolar anomalies that may be observed with oral habit are anterior open bite, cross-bites, alteration of bone growth and interference with normal tooth positioning problems (8) increased overjet, decreased overbite and class II malocclusion. Oral habits behavior that may results into malocclusion include among others thumb and finger sucking, tongue thrusting, lip sucking, mouth breathing and bruxism. Forty percent (40%) of malocclusion in primary dentition has been found to be related to oral habits (9).

The purpose of this retrospective study is to assess the prevalence and occlusal presentation of patients with oral habits seeking orthodontic management for their presenting malocclusion at the University College Hospital, Ibadan, Oyo state, Nigeria.

MATERIALS AND METHOD

The study is retrospective and descriptive involving 234 orthodontic patients' case records at the University College Hospital, Ibadan who presented for treatment over a period of forty two months. The inclusion criteria include all patients that was attended to and examined at the orthodontic clinic without prior orthodontic treatment. The exclusion criteria include those with incomplete information. The records of patients on retrieval were assessed for sociodemographic information and orthodontic occlusal parameters.

All selected individuals' case notes were carefully examined for the inclusion criteria and their occlusal presentation which includes; overjet, anterior open bite, mid-line diasthema, mid-line shift, crossbite, molar relationship, lip competence and oral habit they indulged in were all documented. All data obtained was in keeping with ethical standards in accordance with the Helsinki declaration on ethical guidance of research for human studies. The data were analyzed using statistical package for the Social Sciences (SPSS) software version 16 and results are presented in the form of tables and charts. Level of statistical significance was set at $p < 0.05$.

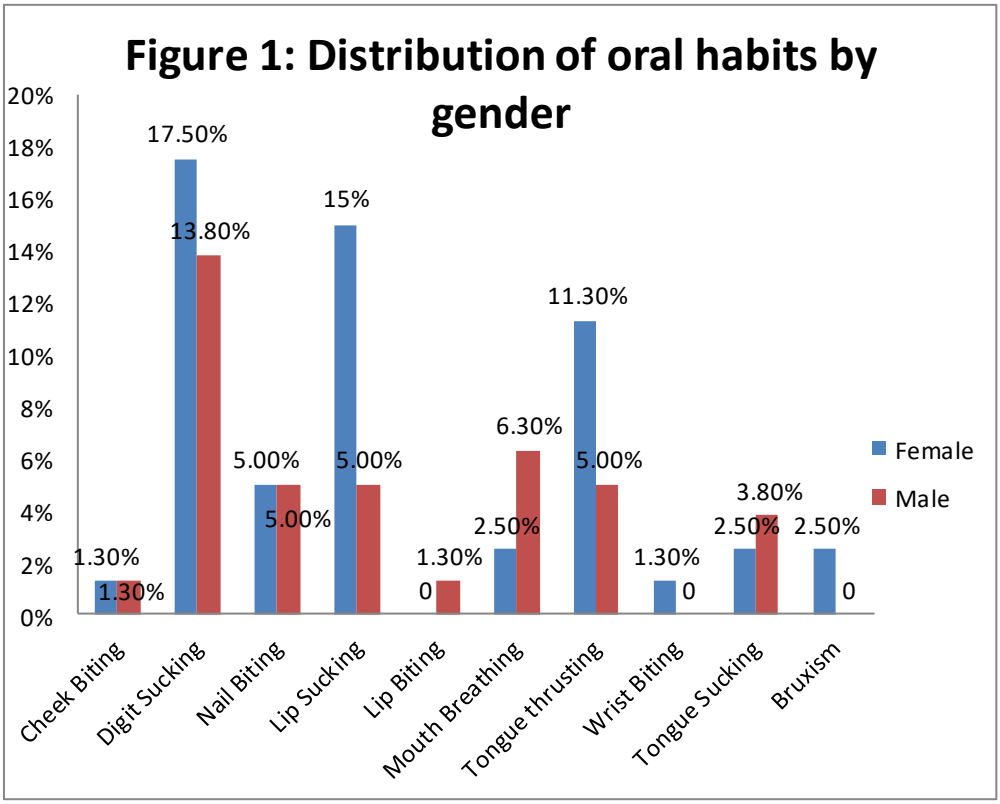
RESULTS

The total number of patients' case notes reviewed was 241. Seven case notes were excluded from the study for incomplete information and a total of 234 case notes were finally reviewed with age range of 6 years – 40 years with majority (58.1%) of the subjects falling into the second age decade (Table 1). The mean age was 14.94 ± 6.92. There were 126 females (53.8%) and 108 males (46.2%). Seventy three (31.2%) patients' was involved in one form of oral habit or the other while 161 (68.8%) patients'

had no habit. Ninety one point eight percent of the subjects indulge in a single type of oral habit while 8.2% of them were found to be involved in multiple oral habits simultaneously. A greater number of female's subjects (60.3%) were found to indulge in one form of oral habit or the other when compared to their male counterpart. The most common oral habit in the studied population was digit sucking 31.3% and this was closely followed by lip sucking habit and tongue thrusting habits which were 20.0% and 16.3% respectively. Other habits observed such as bruxism, cheek biting lip biting, mouth breathing, nail biting, tongue sucking and an unusual oral habit 'wrist sucking all recorded in 10.0% or less each in subjects with positive oral habit (figure 1).

Table 1
Age range – Gender distribution of subjects

Gender	0-9years	10-19years	20-29years	30-39years	40-49years
Male	20	67	16	5	-
Female	25	69	26	5	1
Total	45	136	42	10	1



In relation to occlusion, 53.4% and 12.3% of the subjects were observed to present with increased and reduced overjet respectively. Thirty one point five percent of the subjects were observed to have anterior open bite, 12.3% presented with cross bite, 19.2% presented with midline shift and 49.3% with maxillary midline diastema. Relating the

Angle's molar relationship to oral habits, 75.3% of the subjects that indulges in one form of oral habit or the other had Angle's class I thereby making it the most prevailing molar relationship irrespective of the habit type while 13.7%, 2.7%, 8.2% had Angle's class II, III and asymmetrical molar relationships respectively. Seventy nine point five percent of the subjects with oral habits were also found to have associated in-competent lips at rest (Table 2).

Table 2: Occlusal trait distribution among oral habit individuals

Trait	Number of patients with trait	Percentage of patient with trait (%)	P Value
Overjet	39	53.4	0.464
Cross-bite	9	12.3	1.000
Midline shift	14	19.2	0.085
Diastema	36	49.3	0.486
Anterior Open Bite	23	31.5	0.009
Lip incompetent			
Incompetent	41	56.2	0.156
Potentially competent	17	23.3	0.702
Molar Relationship			
Angie's Class I	55	75.3	
II	10	13.7	
III	2	2.7	
Asymmetrical	6	8.2	

DISCUSSION

There is documented evidence that oral habits have a significant impact on quality of life and can affect the stomatognathic system of the body (10). It has also been established that a positive correlation exist between oral habit and malocclusion (9, 11). Notwithstanding these direct negative consequences, oral habit prevalence seems to be on a steady increase in our environment and it should be expected that there would be exponential increase in malocclusion. Onyeaso (4) and Quashie et al (2) in a field study found the prevalence of oral habits in Ibadan and Lagos to be 9.9% and 34.1% respectively. In this our clinic based study; we found prevalence to be 31.2% which is comparable with that observed by Quashie et al (2) and much higher than that observed by Onyeaso (4) in the same environment. This is an indication that oral habits prevalence could be much higher in our environment than that found in our study and might not be unconnected with neglect of our young ones due to the increasing level of stress present in our today's world on parent's following the economic downturn.

The most common oral habit remains the same in all the studies found in literature. This is also the case for our study though with a higher prevalence. Onyeaso (4) and Quashie et al (2) observed that digit sucking is the most prevalent oral habit and was found in 8.1% and 17.0% respectively. In our study, digit sucking was the most prevalent and was found in 31.3% (Figure 1) which is similar to finding in a recent Nigerian study by Ize Iyamu et al (3) who observed 26.6% further confirming the rise in oral habit .Understanding the aetiology of these habits is key to their management. They are usually managed in a systematic order and this begins with counselling and dental education to the use of deterrent appliances. In the process of trying to discontinue some oral habits by parents and or guardians without knowledge of the mental developmental process may lead to the

persistence of the habit (9). This was the case in a subject in our study where the patient commenced her habit through thumb sucking and then progressed to other digit sucking and eventually ended with wrist sucking following several attempts by parents to discontinue the initial thumb sucking habit.

The prevalence of associated malocclusion with oral habit is quite common. Children with associated malocclusion with oral habit were found to have an incidence of 74% compared with 25.1% incidence of children without oral habit (9). This indicates that oral habit has a major role to play in the development of malocclusion. There was a marginal increase in mean overjet for individuals with oral habit is 4.88 ± 2.9mm compared with does without oral habit which was 4.49 ± 3.4mm. Fifty three point four percent and 31.5% (P=0.009) of the subjects presented with increased overjet and anterior open bite respectively(Table 2). The anterior open bite is much higher than what was observed by Ize Iyamu et (3) (10.9%) in their study but in agreement with the observation found in other different studies in literature (12, 13). Other associated malocclusion traits include cross-bite which is present in 12.3%, midline shift in 19.2% diastema in 49.3% and lip incompetence in 79.5% of which 23.3% are potentially competent (Table 2). Only 13.9%, 2.7% and 8.2% were found to present with Angle's molar relationships of II, III and asymmetrical molar relationship respectively (Table 2).

CONCLUSION

Oral habit prevalence was found to be on the increase and also has a direct relationship on the occlusal presentation of the studied subjects. Therefore, an increased awareness in the form of dental education of the deleterious effects of these oral habits is needed to reverse this trend.

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