

PARAFUNCTIONAL ACTIVITIES IN BRAZILIAN CHILDREN AND ADOLESCENT

Prevalência de hábitos parafuncionais em crianças e adolescentes brasileiros

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ABSTRACT

The etiology of TMD in children and adolescents is considered multifactorial and has been related to parafunctional habits. The objective of this research was to determine the prevalence of parafunctional habits in elementary school students of "Colégio Ipê de Assis" (Assis, SP - Brazil). In the present research was administered questionnaire (15 questions) proposed by the Center for Diagnosis and Treatment of TMD, School of Dentistry of Araçatuba, UNESP. The sample was composed of 80 elementary school students of the "Colégio Ipê de Assis" (Assis, SP - Brazil). The project was approved by the Ethics Committee in Research of the School of Dentistry of Araçatuba/ UNESP. All parents and responsible of the students received instruction about the research and preservation of identity and provide clarification if in doubt. Beyond that, they were requested to sign the informed consent in order to facilitate the participation of students. Females comprised 47,5% and males 52,5%, with age ranging from 10 to 14. The students were classified into two groups as follows: Group I-female, Group II- male. In addition, brazilian students from Groups I and II were classified according to type of oral habits presented. All students presented a parafunctional habit. Among the parafunctional habits chewing gum was the most common in both groups (72.2%, Group I and 78.5%, Group II) followed by resting chin on hand for both genders (69,5% for Group I and 67% for Group II). Tongue biting (5%) was less founded in Group II and stomach sleeping in Group I. The results obtained show the necessity of carrying out preventive programs. Beside, resources of Health should increase preventive treatments.

UNITERMS: Stomatognathic system, child, puberty

INTRODUCTION

The parafunction can be defined as any non-functional neuromuscular activities of the system stomatognathic, because of the repetition of a act, generally pleasant for the individual. It causes hyperactivity of craniomandibular muscle groups and

increase the internal pressure of the temporomandibular joint. when parafunction exceeds the tolerance level of the individual can bring occlusal compromises, muscle and / or joint¹.

Tomé et al.²⁸ studied the influence of oral habits, either directly or indirectly, in determining the

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deviation in tooth morphology. Concluded to be related with abnormal bone growth, poor tooth position, breathing problems and phonation, oral motor skills and changes in psychological disorders.

Okeson²¹ believes that the activities of masticatory system may be functional or parafunctional. Functional activities are chewing, swallowing and speech, which permits the stomatognathic system perform the necessary functions with a minimal damage to structures. Among the parafunctional activities are bruxism, clenching, nail biting and other bad oral habits.

The parafunctional activities can occur during the day or at night (during sleep). The daytime activities include clenching, biting lip, cheek or other objects, thumb sucking, poor posture, as well as other habits which the individual performs, in most often unconsciously. The activity more frequent during sleep is clenching, known as bruxism^{4,8,9,16,17,28}.

The bad oral habits cause isometric muscle contraction, inhibition of normal blood flow to muscle tissue, increase of carbon dioxide and metabolic waste in the muscle tissues, culminating with fatigue, muscle spasms and pain. For this reason there is a greater likelihood of parafunctional activities cause changes in muscular system and the temporomandibular joint, since the structures of the masticatory system tolerates a certain amount of power generated by hyperactivity, which are outdated lead to a collapse in the tissues^{18,28}.

Bianchini² believes that the parafunctional habits may affect the stability of the stomatognathic system. Dawson⁴ and Durso⁵ said that these activities take place without the person knows what they are doing. However, Bianchini² reports that the majority of patients it had awareness of the achievement of deleterious habits, although they did not know the harm they caused.

Sleep bruxism (SB) is an oral activity associated with jaw movements and tooth grinding. Sleep bruxism is believed to be highly variable over time, with subjects showing no activity on some nights and intense activity on others. Interestingly, during sleep, the jaw is usually open due to motor suppression, tooth contact most likely occurs in association with sleep arousal. This suggests that the central and/or autonomic nervous systems, rather than peripheral sensory factors, have a dominant role in SB genesis. However, some peripheral sensory factors may exert an influence on SB through their interaction with sleep-wake mechanisms. The consequences of SB may include tooth destruction, jaw pain, headaches, or the limitation of mandibular movement, as well as tooth-grinding sounds that disrupt the sleep of bed partners^{6,10-15,29}.

Moreover, it is believed that the parafunctions can interfere in craniofacial development leading to malocclusion, cross or open bites. This makes it very important to intercept and prevent these habits and

their consequences, considering that some changes present the character of irreversibility. If the habits occur during facial growth can lead to abnormal and persistent muscle forces and relevant changes in the structures of the stomatognathic system.

The etiology of TMD in children and adolescents is considered multifactorial and has been related to parafunctional habits. The objective of this research was to determine the prevalence of parafunctional habits in elementary school students of "Colégio Ipê de Assis" (Assis, SP - Brazil).

MATERIALS AND METHODS

In the present research was administered questionnaire (Figure 1) proposed by the Center for Diagnosis and Treatment of TMD, School of Dentistry of Araçatuba, UNESP. Each question offered two answer options: YES or NO. The sample was composed of 80 elementary school students (Figures 2 to 5) of the "Colégio Ipê de Assis" (Assis, SP - Brazil). The project was approved by the Ethics Committee in Research of the School of Dentistry of Araçatuba/UNESP. All parents and responsible of the students received instruction about the research and preservation of identity and provide clarification if in doubt. Beyond that, they were requested to sign the informed consent in order to facilitate the participation of students. Females comprised 47,5% and males 52,5%, with age ranging from 10 to 14. The students were classified into two groups as follows: Group I- female, Group II- male. In addition, brazilian students from Groups I and II were classified according to type of oral habits presented.

FIGURE 1 – Parafunctional Habits Questionnaire (Center for Diagnosis and Treatment of TMD, School of Dentistry of Araçatuba, UNESP)

Parafunctional Habits Questionnaire	
1.	Do you chew gum?
2.	Do you bite pen, pencil or other objects?
3.	Do you clench your teeth at day?
4.	Do you rest the chin on hand ?
5.	Do you chew on one side?
6.	Do you sleep on one side only?
7.	Do you sleep on stomach?
8.	Do you bite the tongue?
9.	Do you bite the lips?
10.	Do you bite the cheek?
11.	Do you bite the nail?



Figure 2 – Ipê de Assis School



Figures 3 and 4 – Children and Adolescent covered by the project



Figure 5 – Courtyard of the college

RESULTS

Figure 6 shows the distribution by gender of the chewing gum, resting chin on hand, chewing on one side, one side sleeping and stomach sleeping.

The results for lips biting, nail biting, objects biting, cheek biting, tongue biting and diurnal clenching are shown in Figure 7.

DISCUSSION

In this study all students presented parafunctional habits. Among the parafunctional habits chewing gum was the most common in both groups (72.2%, Group I and 78.5%, Group II) followed by resting chin on hand for both genders (69,5% for Group I and 67% for Group II). Tongue biting (5%) was less founded in Group II and stomach sleeping in Group I.

These results corroborate those of Alves-Rezende et al.¹ and those Cerqueira et al.³ who investigated the prevalence of deleterious habits between students of Dentistry (Araçatuba Faculty, Unesp) and Physiotherapy Course (Minas Faculty, Faminas), respectively.

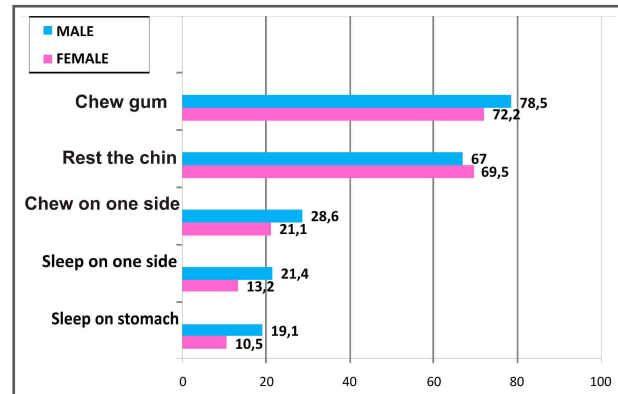


Figure 6 – Distribution by gender of the chewing gum, resting chin on hand, chewing on one side, one side sleeping and stomach sleeping.

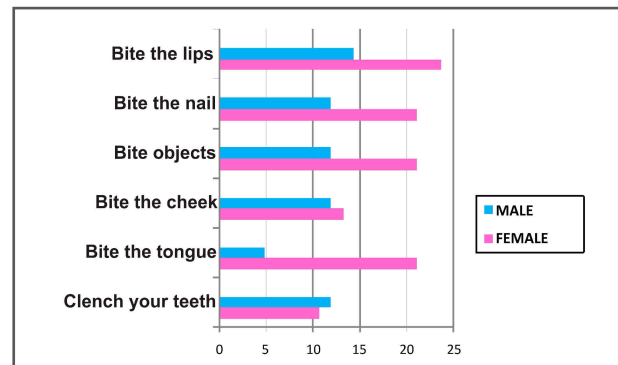


Figure 7 – Distribution by gender of the lips biting, nail biting, objects biting, cheek biting, tongue biting and diurnal clenching.

The habit of chewing gum has a high impact on mastication, occlusion, salivary function and maintenance of dental health. Patients who try quit other habits such as smoking or onychophagy with the aid of gum just substituting one activity for another, through mechanism called compensation^{20,21,26}.

Friedman⁷ attributes to chewing gum the cause of temporomandibular disorder. Schiffman et al.²⁵ examined patients who attributed their temporomandibular disturbances to chewing gum

Tomé et al.²⁸ remember that often habit triggers another one harmful habit, which in turn worsens the first, forming a vicious circle that must be stopped to the success of treatment.

Rugh and Harlan²⁴ said that the deleterious habits often remain, even when their etiology has been resolved. Some habits of posture inadequate jaw are related occupational factors, such as violinists call center workers and divers without equipment or switchboard appropriate.

An important factor that can not forget is that the consequences of a vicious habit depend on

frequency, intensity, duration and individual predisposition^{22, 23, 27}.

Stress, anxiety, sleep difficulties and some medications are factors that can increase intensity and frequency of parafunctional activities of mandible¹.

Bianchini² remembers the importance of emotional aspects in the emergence of deleterious habits and the difficult treatment of the same without an expert.

CONCLUSION

The results obtained show the necessity of carrying out preventive programs. Beside, resources of Health should increase preventive treatments.

RESUMO

O crescimento craniofacial é o resultado da interação de mecanismos genéticos, hormonais e neurológicos, influenciados pela ação do meio ambiente e da função. As variações das funções normais de respiração, mastigação, deglutição, sucção e fonação, podem, devido à sua interdependência morfofuncional com o crescimento da face, resultar em má oclusões, as quais exercem papel determinante na conformação óssea e neuromuscular do sistema estomatognático. A prevenção e interceptação dos hábitos parafuncionais é de fundamental importância para o desenvolvimento físico e emocional da criança. O propósito deste trabalho foi determinar a prevalência de hábitos parafuncionais em alunos do ensino fundamental do Colégio Ipê de Assis (Assis, SP). No presente estudo foi aplicado questionário proposto pelo Núcleo de Diagnóstico e Tratamento das DTMs da Faculdade de Odontologia de Araçatuba, Unesp. O universo e a amostra foram compostos pelos 80 alunos do ensino fundamental do Colégio Ipê de Assis (Assis, SP). A execução do projeto foi autorizada pelo Comitê de Ética em Pesquisa da Faculdade de Odontologia de Araçatuba/Unesp. Todos os responsáveis pelos alunos receberam instrução a respeito da pesquisa quanto à preservação de identidade e prestação de esclarecimentos em caso de dúvida. Ademais, foi solicitado que assinassem o termo de consentimento esclarecido, a fim de viabilizar a participação dos alunos. Os alunos (10 a 14 anos) foram classificados em dois grupos: Grupo I – gênero feminino e Grupo II - gênero masculino. Além disso, os Grupos I e II foram classificados segundo as séries em curso e os hábitos bucais apresentados. Entre os hábitos parafuncionais detectados, mascar chiclete foi o hábito mais prevalente para ambos os grupos (72,2% no Grupo I e 78,5% no Grupo II) e em todos os anos, seguido de apoiar a mão no queixo (69,5% para o Grupo I e 67% para o Grupo II). Morder a língua foi o hábito menos prevalente no Grupo II e dormir de bruços no Grupo I.

A alta prevalência de hábitos parafuncionais aponta para a importância da sua prevenção e interceptação.

UNITERMOS: Sistema estomatognático, Criança, Puberdade

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