

105 - DTM PREVALENCE AND PARAFUNCTIONAL HABITS IN STUDENTS OF A HIGHER EDUCATION INSTITUTION

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INTRODUCTION

Temporomandibular dysfunction (TMD) is a term defined by the American Academy of Orofacial Pain as a disorder that encompasses a number of changes affecting the temporomandibular joint (Bonato et al., 2012). Signs and symptoms may include noises, pain, and limitations in the joint (FERNANDES et al., 2014).

TMD corresponds to a set of clinical alterations affecting the temporomandibular joint and other associated structures. The main characteristics are: pain in the temporomandibular region and in the masticatory muscles; limitations of jaw movement and characteristic noises (PARENTE and SERDEIRA, 2013).

These dysfunctions may be multifactorial and related to structural, neuromuscular and occlusal factors (dental losses, dental wear, maladaptive dentures, caries, among others), psychological (due to tension there is an increase in muscle activity, where it generates spasm and fatigue), traumatic or degenerative TMJ injuries, and parafunctional habits (PARENTE and SIERDEIRA, 2013).

Temporomandibular disorders cause disorders that are often not diagnosed rapidly, only in more severe cases. These dysfunctions end up altering bodily and cognitive functions that can often be imperceptible.

Over time, some theories have been proposed to explain the etiology of TMD, but these theories generally considered only a single factor causing the dysfunctions. With the passing of the years, studies have emerged that attributed the existence of several factors to trigger temporomandibular disorders, such as: anatomical factors; neuromuscular factors; postural deviations; psychological factors; traumas; parafunctional habits (TOLEDO et al., 2008).

According to Zanini (1999), parafunction is defined as all neuromuscular activities that produce hyperactivity of muscle groups and increase the internal pressure of TMJ, leading to microtraumas and contributing to the appearance of TMDs.

Parafunctional habits are situations in which the masticatory system is activated without functional purpose.

These habits are usually pleasant, they appear from psychological needs, bringing personal satisfaction to the individual who performs it. However, repetitive microtraumas occur on the joint surfaces, contributing to the development of TMDs.

The literature broadly describes the impact that parafunctional habits cause on TMJ. These alterations may alter craniofacial development, leading to malocclusion as crossbites or open bites, and they also say about the importance of preventing these habits and the consequences triggered (ZANINI, 1999; LUCINDO, 2006; TOLEDO, 2008).

Considering the multifactorial nature of the TMDs, this work aimed to identify the prevalence of temporomandibular disorders in students of the physiotherapy, physical education and nursing courses of the University Center of Planalto de Araxá - UNIARAXÁ.

METHODOLOGY

This work was previously approved by the Research Ethics Committee with protocol nº 001294/36.

The research was developed at the Centro Universitário do Planalto de Araxá, Araxá - MG, being this type of exploratory, quantitative and descriptive.

The number of students enrolled in the physiotherapy, physical education and nursing courses was studied in the respective periods studied. The sample consists of 154 students, of whom 42 were physical therapy students, 70 physical education students and 42 nursing students. Based on these data, the minimum number of participants was calculated, for a range of confidence of 95% and 5% error.

Inclusion criteria were: individuals of any sex, over the age of 18 years, who were properly enrolled in physiotherapy, physical education and nursing courses, and who were duly enrolled in the first or last year of the selected courses.

And for exclusion criteria were: participants with dental prostheses, students who were absent at the time of evaluation or who did not want to participate in the study.

The participants were informed about the procedures, objectives and conduct of the experiment, and after they had answered the questions, the participants signed the Informed Consent Term (TCLE) in accordance with Resolution 466/2012 of the CNS, where the anonymity was highlighted due to the non-identification of the participant.

Then, each participant answered, individually, the Adapted Socio-Demographic Questionnaire, which contained questions on gender, marital status, alcoholism and smoking.

The students answered a questionnaire about parafunctional "Yes" and "No" answers with the following questions: grinding teeth, gritting teeth, chewing gum, biting objects (pencil, eraser), chewing gum, hand, biting the tongue, biting the lips,

unilateral chewing, sleeping on one side, supporting the objects with the chin (cellular) or none of these habits (FIGUEIREDO, 2009; OLIVEIRA et.al, 2008).

Next, the questionnaire of Fonseca et al. (1991), containing questions regarding the symptoms of temporomandibular dysfunction, which allowed to classify the individuals in relation to the presence and severity of the dysfunction.

This questionnaire consists of 10 points scored, where the "yes" equals 2 points, "sometimes" equals 1 point and "no" equals zero point. At the end, the sum of the questions was taken and the TMD index was classified as follows: up to 3 points, absent; between 4 and 8 points, light DTM; between 9 and 14 points, moderate; and above 15 points, severe TMD. It is sought to identify if the patients feel TMJ pain, headache, difficulty opening the mouth, among others (FONSECA, 1991).

The data of all the questionnaires were tabulated through the Microsoft Office Excel 2013 program. The percentage of variables: gender, marital status, smoking status, severity of symptoms and the presence of parafunctional habits were then calculated. The mean and standard deviation of age were calculated. For this, the program Bioestat 5.0 was used.

Then, the logistic regression test was performed in relation to the occurrence of parafunctional habits and the occurrence of temporomandibular dysfunction with a 5% error and a significance level of 95%.

RESULTS AND DISCUSSION

In the research, considering the inclusion and exclusion criteria, 114 students participated: 34 of physiotherapy, 32 of nursing and 48 of physical education. The distribution of the participants in relation to the course is represented in figure 1.

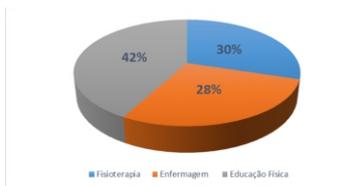


Figure 1: Chart with the students' distribution of the course.
Source: Research Data

The majority of the sample studied was female (69.3%). Several authors (NASCIMENTO, 2014; PARENTE, 2013; OLIVEIRA et al., 2008) also identified a higher prevalence of female subjects in their studies, which reflects the greater participation of women in health care courses.

The average age of university students was 23 ± 5.26 years and the majority of the sample were single (86.8%).

These data are close to that found in the studies of Queiroz (2015), Nascimento (2014) and Pedroni (2003) that identified on average 20, 21 and 23 years, respectively. Regarding the marital status, the data obtained agree with the studies of Nardelli (2015), Parente (2013) and Nascimento (2014), who found the prevalence of 97.6%, 83% and 74.9%, respectively, were single.

Among the students who are alcoholics and smokers, we identified that proportionally the students of the physical education course are the ones that most present these habits, 35% of whom declared themselves an alcoholic and 6.2% with a smoking habit.

After the application of the Fonseca et.al. (1991), we found that the majority of students had mild TMD (49%). These data are represented in figure 2.

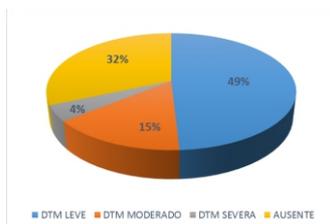


Figure 2: Distribution of participants regarding the severity of TMDs
Source: Research Data

It is estimated that between 20% to 25% of the population has symptoms of TMD, and almost 70% may show signs at some stage of life. (CARNEIRO, 2003; NASCIMENTO, 2014).

In the present study, 68% of the participants presented some level of TMD impairment. According to Nascimento (2014) that verified in his study that 74% of the population evaluated had some symptom. On the other hand, Parente (2013) (n = 80) showed that only 41.25% of the participants presented some impairment.

With the use of this questionnaire, we were able to distinguish the different degrees of severity. Our study found that most of the changes were mild (49%) followed by those who did not change (32%). These data are similar to those obtained by Granja and Lima (2006) light DTM (37.5%), absence of TMD (37.5%).

Regarding the parafunctional habits, it was identified that the habits most performed by the participants were to support the chin with the hand (70.2%), chewing gum (59.6%) and biting the lips (56.1%). is less accomplished was biting the tongue (14.9%). All data are described in Table 1.

Table 1: Distribution of the participants regarding the accomplishment of parafunctional habits of the students of the physical education, nursing and physiotherapy courses, of the first and last year.

PARAFUNCTIONAL HABITS	n	%
Has a habit of supporting the chin with the hand	80	70.2
Has a habit of chewing gum	68	59.6
Has a habit of biting the lips	64	56.1
Has a habit of biting objects (pencil, eraser, etc.)	60	52.6
Has a habit of nail biting	55	48.2
You have a habit of sleeping only on one side	42	36.8
When chewing some food, the mastication is made unilateral	41	36.0
Has a habit of clenching his teeth (biting hard)	40	35.1
Has a habit of supporting objects with the chin (cellular, books etc.)	30	26.3
Has a habit of grinding teeth	21	18.4
Has a habit of biting the tongue	17	14.9

Source: Research Data

Logistic regression was performed to analyze the relationship between parafunctional habits and the occurrence of TMJ dysfunction. For this analysis a 95% confidence interval and 5% error were considered. By the analysis of the data we observed that the variables that presented significant value were: chin support with the hand ($p = 0.0129^*$), unilateral chewing ($p = 0.0500^*$) and sleeping only on one side ($p = 0, 0221^*$). These data are represented in table 2.

Table 2: Logistic regression analysis of the relationship between parafunctional habits and the occurrence of TMD dysfunction, with significance level p 95% confidence interval

Variable	P	IC 95%
Ranger teeth	0.7502	0
Tighten teeth	0.4175	0,5
Nail biting	0.2272	0,7
Bite object	0.6610	0,2
Chewing gum	0.0805	0,9
Support chin with hand	0.0129*	1,34*
Biting the tongue	0.0761	0,8
Biting the lips	0.3332	0,6
Unilateral chewing	0.0500*	1*
Sleeping only on one side	0.0221*	1,21*
Support objects with the chin	0.9410	0,3

* significant value

Source: Research Data

When analyzing the probability of occurrence between parafunctional habits and TMD through logistic regression, considering the 95% confidence interval, we observed that those who do not have any parafunctional habit have a 7.4% chance of developing the disorder. Those who only support the chin with the hand presents a 23.9% chance. Of those who present only unilateral chewing, 19.7% of chances of developing the disorder, and of those who say they only sleep on one side, 22.6% of chances.

When calculating the probability of association between the habits of greatest impact with the occurrence of TMD, through logistic regression, we observed that people who have a habit of unilateral mastication and sleep only on one side present a chance of developing TMDs of 47, 3%. People who have the habits of supporting the chin by hand and perform unilateral chewing, the odds of developing TMD is 49.2%. If you have a habit of holding your chin by the hand and sleeping only on one side, chances are 53.5%. When the three habits are presented, the odds of developing TMD are 77.9%.

When calculating the probability of association between the habits of least impact with the occurrence of TMD, through logistic regression, we observed that a combination of five occurrences (grinding of teeth, grinding of teeth, biting of nails, biting of objects and support objects with the chin) so that the risk of developing the TMD is 100%.

CONCLUSION

Through the survey we found that, in relation to age, the mean was 23 ± 5.36 years, a higher prevalence of the female gender, unmarried, non-smoker and non-alcoholic.

We were able to identify that the degree of TMD is the most found in this study.

We have identified that among the participants' parafunctional habits, supporting the chin with the hand is the most accomplished. In addition, we have been able to identify that, with this habit, the probability of developing TMD is very high.

Parafunctional habits have been considered significant in the development and progression of TMDs. This study demonstrated this significance because all the participants reported having some habit and the prevalence of 78% of some level of TMD.

Keywords: Temporomandibular joint; Dysfunction; Parafunctional habits.

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TMD PREVALENCE AND PARAFUNCTIONAL HABITS IN STUDENTS OF A HIGHER EDUCATION INSTITUTION

The objective of the study was to identify the prevalence of TMD in first and last year students of physical education, nursing and physiotherapy courses at the Centro Universitário do Planalto de Araxá - UNIARAXÁ and its relationship between parafunctional habits. The collection was performed through the application of an adapted socio-demographic questionnaire, a questionnaire on the parafunctional habits and the questionnaire of Fonseca et. al (1991), in 114 students. We identified the highest participation of female students, single, non-smokers, non-alcoholic, with a mean age of 23 years, a higher prevalence of mild TMD among the participants. Parafunctional habits are significant in the development and progression of TMDs. This study demonstrated this significance because all the participants reported having some habit and the prevalence of 78% of some level of TMD.

Keywords: Temporomandibular joint; Dysfunction; Parafunctional habits.

PRÉVALENCE TMD ET HABITUDES PARAFONCTIONNELLES CHEZ LES ÉTUDIANTS D'UN ÉTABLISSEMENT D'ENSEIGNEMENT SUPÉRIEUR

Le but de l'étude était d'identifier la prévalence des étudiants dans de TMD la première et dernière année de cours d'éducation physique, les soins infirmiers et de physiothérapie au Centro Universitário do Planalto de Araxá - UNIARAXÁ et la relation entre les habitudes délétères. La collecte des données a été réalisée en appliquant un questionnaire sociodémographique adapté un questionnaire sur les habitudes délétères et questionnaire Fonseca et. al (1991), chez 114 élèves. Nous identifions la plus forte proportion d'étudiantes, seule, non fumeuses, âge non alcoolique, avec une moyenne de 23 ans, la prévalence élevée de la lumière parmi les participants PTM. Les habitudes parafonctionnelles sont importantes dans le développement et la progression des TMD. Cette étude a montré que l'importance pour tous les participants ont déclaré avoir des habitudes et la prévalence de 78% d'un certain niveau de TMD.

Mots-clés: articulation temporomandibulaire; Dysfonction Habitudes parafonctionnelles

PREVALENCIA DE DTM Y HáBITOS PARAFUNCIONALES EN ESTUDIANTES DE UNA INSTITUCIÓN DE ENSEÑANZA SUPERIOR

El objetivo del estudio fue identificar la prevalencia de DTM en estudiantes del primer y del último año de cursos de educación física, enfermería y fisioterapia del Centro Universitário do Planalto de Araxá - UNIARAXÁ y su relación entre los hábitos parafuncionales. La recolección fue realizada a través de la aplicación de un cuestionario sociodemográfico adaptado, un cuestionario sobre los hábitos parafuncionales y el cuestionario de Fonseca et. (1991), en 114 estudiantes. Se identificó la mayor participación de estudiantes del género femenino, solteros, no tabaquistas, no etilistas, con edad promedio de 23 años, mayor prevalencia de DTM leve entre los participantes. Los hábitos parafuncionales son significantes en el desarrollo y la progresión de DTM. Este estudio demostró esa significancia pues todos los participantes relataron poseer algún hábito y la prevalencia del 78% de algún nivel de DTM.

Palabras clave: Articulación temporomandibular; Disfunción; Hábitos parafuncionales

Palabras clave: Estilo de vida sedentario, índice de masa corporal, Militar.

PREVALÊNCIA DE DTM E HáBITOS PARAFUNCIONAIS EM ESTUDANTES DE UMA INSTITUIÇÃO DE ENSINO SUPERIOR

O objetivo do estudo foi identificar a prevalência de DTM em estudantes do primeiro e do último ano de cursos de educação física, enfermagem e fisioterapia do Centro Universitário do Planalto de Araxá - UNIARAXÁ e sua relação entre os hábitos parafuncionais. A coleta foi realizada através da aplicação de um questionário sócio-demográfico adaptado, um questionário sobre os hábitos parafuncionais e o questionário de Fonseca et. al (1991), em 114 estudantes. Identificamos a maior participação de estudantes do gênero feminino, solteiros, não tabagistas, não etilistas, com idade média de 23 anos, maior prevalência de DTM leve entre os participantes. Os hábitos parafuncionais são significantes no desenvolvimento e na progressão de DTM's. Este estudo demonstrou essa significância pois todos os participantes relataram possuir algum hábito e a prevalência de 78% de algum nível de DTM.

Palavras-chave: Articulação temporomandibular; Disfunção; Hábitos parafuncionais.