

Comparison of the existence of bruxism in different class students at the faculty of dentistry

Abstract

Aim: The aim of this study was to evaluate the rate of bruxism among the students attending Necmettin Erbakan University, Faculty of Dentistry according to class by using a questionnaire and possible causes of this distribution.

Material and Method: A total of 396 students aged between 18 and 26 were included to the study. Before the study, the individuals were informed about the survey and they were allowed to fill the questionnaires in private. SPSS 17 software and chi-square test was used for statistical analyses.

Results: Bruxism rate was found as 66.5%. Among the classes, the rates were 73.6%, 66.3%, 61.3%, 59.7% and 72.5% in first, second, third, fourth and fifth grades respectively. In females the bruxism rate was 75.2% and 51.7% in males. It was found that there was no significant difference among the classes ($P>0,05$) in bruxism rates and distribution of both sexes ($P>0,05$). Bruxism was higher in females than males, except for the first grade.

Conclusion: The bruxism rate that was higher in first grade was decreasing towards fourth grade but it was starting to increase again in fifth grade. Besides, the bruxism rate was higher in females than males, except for the first class. These results suggest that bruxism is closely related with stress.

Keywords: bruxism, dentistry, stress

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Tuncdemir MT,¹ Tigli HK,² Uysal O²

¹Department of Dentistry, Necmettin Erbakan University, Turkey

²Department of Medicine, Bezmialem Vakıf University, Turkey

Correspondence: Makbule Tugba Tuncdemir, Necmettin Erbakan University, Dentistry Faculty, Karacıgan Neighborhood, Ankara Street, 74/A Karatay/Konya, Turkey, Tel:+903322200025, Email makbule.erkana@hotmail.com

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Introduction

Bruxism is defined as a repetitive jawbone movement, characterized by the compression or grinding of teeth by pressing and/or moving the mandible. It is classified as a “parafunction” because it is not a functional target such as chewing, phonation or swallowing.¹ It has a high prevalence in society, 32.4% in children, and 54.51% in adults.^{2,3} There are two daily cycles of strangulation, sleeping and awake.⁴ Bruxism, which is experienced in a state of alertness, is more likely to manifest itself as a reaction to stress and anxiety and manifested by the tightness of the jaw muscles.⁵ In sleep bruxism, both teeth clenching and tooth creaking are observed.⁶ When dealing with diagnosis, both types can be grouped as “possible” (according to one’s own expression), “likely” (self-expression and clinical examination), and “definitive” (according to self-expression, clinical examination and polysomnographic records).⁴⁻⁷ According to the commonly accepted idea, the etiology of bruxism is multifactorial.⁸ Overloading of muscles due to tooth tightening in bruxism disrupts local blood flow and ischemia leading to pain.⁹ Although there is no definite relationship between bruxism and temporomandibular joint (TMJ) disorders in the literature, studies show that there is a high positive correlation.⁷⁻¹⁰ Various techniques have been used to detect sleep bruxism. In this respect, the most advanced applications are polysomnography and electromyography. However, the high cost of operation and the difficulty of accessing this equipment limit their use and lead to more convenient methods such as surveys.³ The purpose of this study is to determine the distribution of bruxism among the students of the dental faculty and to have knowledge about the distribution according to the classes.

Materials and methods

A total of 396 students aged between 18 and 26 who attended the Faculty of Dentistry Studying at Necmettin Erbakan University participated. The only condition for participants to be included in the study was that they continued to study in various classes at the Faculty of Dentistry. Before the study, the individuals were informed about the research and were asked to complete the questionnaire form on their own (Table 1). Students who participated in the study were asked to fill in the questionnaire form about the bruxism appropriately (n=396). In the questionnaire form, it was accepted that there were habit of tightening teeth at the subjects who answered yes to at least two questions about bruxism etiology.¹¹ Because our aim was to rate bruxism awareness according to the classes in the dental school, statistical analysis was done according to the classes. SPSS 17 program and chikare test were used for statistical analysis. Statistical significance level was accepted as $p < 0.05$.

Results

According to statistical analysis results, the ratio of bruxism among dental students was 66.5%. When the ratios according to the classes were examined, bruxism was found in 73.6% for the first class, 66.3% for the second class, 61.3% for the third class, 59.7% for the fourth class and 72.5% for the fifth class. Distribution of bruxism is seen according to class on Table 2. Bruxism was found to be 75.2% in females and 51.7% in males. Table 3 shows distribution according to the class and genders. There was no significant difference in terms of bruxism according to the classes ($p=0,229$) and there was no significant difference in terms of gender distribution according to the classes ($p=0,141$). Each class has its own sex; there is no difference

in grade 1, but in other classes the rate of bruxism in women is significantly higher than in men.

Table 1 Questionnaire form

Name:	Surname:	
Age:	Class:	Gender
Are you aware of occasional or frequent creaking or tightening of your teeth while you sleep (Yes / No)		
Has anyone ever told you that you creaked your teeth in your sleep? (Yes / No)		
Do you feel pain or fatigue when you wake up?(Yes / No)		
Did you feel fatigue or tension in your facial muscles when you wake up?(Yes / No)		
Do you find your teeth tight when you wake up (Yes / No)		
Have you ever woken up when your wake is locked and you cannot? (Yes No)		
Do you wake up with a headache, backache or pain behind your tongue? (Yes No)		
Do you think your teeth are worn out (Yes / No)		
Do you feel your teeth are swinging when you wake up? (Yes No)		
Do you have tenderness or pain in your teeth and gums when you wake up? (Yes No)		
Do you have pain in your temples when you wake up? (Yes No)		
Do you have difficulty in opening the mouth when you wake up? (Yes No)		
Does your teeth have sensitivity to the cold? (Yes / No)		
Are you aware that during the day you have no teeth or gnashing your teeth? (Yes No)		

Table 2 Distribution of bruxism according to classes

Classes	Bruxism	
	0	I
1	23	64
2	28	55
3	33,7%	66,3%
4	31	49
5	38,8%	61,3%
	31	46
	40,3%	59,7%
	19	50
	27,5%	72,5%

0: No bruxism I:Bruxism

Discussion

According to our research, the rate of bruxism in 396 individuals aged between 18 and 26 is 66.5%. This rate is consistent with the literature that Reding and colleagues found that bruxism most often occurs between the ages of 20-40.¹² In the first year of the faculty, there was a high level of bruxism as high as 73.6% due to the difficulties of studying in the first year and the difficulties in the adaptation process. But it seems that this rate is gradually falling as much as the 4th class and it is falling as 59.7%. It may be thought that

the reason for this is that the students are adapting to the school over time and learning to cope with their existing stress. However, it is noticed that the bruxism rate of the students in the last grade is clearly visible. It can be considered that the reason for this is that they are in a different process as in the first case. In other words, as the 5th Grade students can not finish both at school and at the end of the school year, the ambiguity and the uncertainty about what they will do will lead to increased stress and accompanying bruxism. Das and colleagues demonstrate compliance with the study of bruxism in 2015 that shows interest in emotional stress.¹³ Some studies have also shown that the rate of bruxism increases markedly in stressful situations such as work problems.¹⁴ As a result, the rate of bruxism in all classes except for grade 1 is higher in women than in men. We think that men are more comfortable in coping with problems than women and that this difference occurs because they can cope more easily with stress. The results of some studies in the literature are in parallel with our results.¹⁵⁻¹⁸ Allen and colleagues have reported that women are more likely to be bruxism than men.¹⁹ But in some studies it seems that there is no significant difference in the presence of bruxism compared to gender.^{20,21} Limitations of our work include adherence to the answer of the users as in all the questionnaires, and evaluation based on the subjective criteria and evaluation of the different parameters in the questionnaire. But it is an advantage for us to have a large number of participating samples. Our greatest advantage is that the people who answer the questions asked in the questionnaire are dental students. It may be thought that by responding to the questions in a more conscious way, we can achieve a more accurate result.

Table 3 Distribution of bruxism by class and gender

Classes	gender	Bruxism	
		0	I
1	M	13	23
	F	36,1%	63,9%
2	M	10	41
	F	19,6%	80,4%
3	M	16	18
	F	47,1%	52,9%
4	M	12	37
	F	24,5%	75,5%
5	M	19	15
	F	55,9%	44,1%
1	M	12	34
	F	26,1%	73,9%
2	M	15	12
	F	55,6%	44,4%
3	M	16	34
	F	32,0%	68,0%
4	M	9	8
	F	52,9%	47,1%
5	M	10	42
	F	19,2%	80,8%

M:Male F:Female

Conclusion

In our study, the distribution of bruxism in classes and sexes diagnosed after the survey was examined. As a result, the bruxism rate, which was high in the first grade, was found to show a decreasing rate as the fourth grade but it was found to increase again in the fifth grade. Except for the first year students, women had higher bruxism than men. All these results suggest that bruxism is closely related to stress. It is difficult to diagnose bruxism because it does not give objective data.

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None.

Conflict of interest

The authors declare that there is no conflict of interest.

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