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Psychosocial evaluation and temporomandibular dysfunction in undergraduate Dentistry students

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Abstract The present study aimed to analyze the occurrence of psychosocial factors and temporomandibular dysfunction (TMD) in undergraduate Dentistry students. A cross-sectional, quantitative, descriptive and analytical study was accomplished. For data collection, 3 validated questionnaires were used, in order to evaluate the students' sense of coherence (SOC), anxiety, depression and TMD, in addition to questions related to academic development. 108 students participated, 75% female and 49.1% self-assessed as having TMD symptoms. Approximately 36% had low levels of anxiety, being higher in women. The majority are satisfied with their academic performance, despite learning difficulties, dissatisfaction with their routine and fear to speak in public. The glossophobia was statistically more frequent in women. Also, in intermediate periods it was identified a higher level of dissatisfaction with routine. The sense of coherence was 56,67± 8,27 and it demonstrated lower in those with high levels of depression. The anxiety in high levels was associated with DTM symptoms. Therefore, it is concluded that nearly half of Dentistry students present any of DTM symptoms, anxiety and depression in lower levels, median SOC and satisfaction with academic performance, despite curricular adversities.
Descriptors: Temporomandibular Joint Dysfunction Syndrome. Anxiety. Depression. Students, Dental.

Evaluación psicosocial y disfunción temporomandibular en estudiantes de pregrado en Odontología.
Resumen El presente estudio tuvo como objetivo analizar la aparición de factores psicosociales y Disfunción de Articulación Temporomandibular (DTM) en estudiantes de Odontología. Se realizó un estudio transversal, cuantitativo, descriptivo y analítico. Para la recolección de datos se utilizaron 3 cuestionarios validados, con el fin de evaluar el sentido de coherencia (SC), ansiedad, depresión y DTM de los estudiantes, además de preguntas relacionadas con el desarrollo académico. Participaron 108 estudiantes, 75% mujeres y 49,1% autoevaluados con síntomas de DTM. Aproximadamente el 36% tenía niveles bajos de ansiedad, siendo mayores en las mujeres. La mayoría está satisfecha con su rendimiento académico, a pesar de las dificultades de aprendizaje, la insatisfacción con su rutina y el miedo a hablar en público. La glosofobia fue estadísticamente más común entre las mujeres. Además, en los periodos intermedios se identificó mayor insatisfacción con la rutina. El SC promedio de los participantes fue 56,67 ± 8,27 y fue menor en aquellos con altos niveles de depresión. Un alto nivel de ansiedad se asoció con síntomas de DTM. Por lo tanto, se concluye que aproximadamente la mitad de los estudiantes de Odontología presentan algún signo de DTM, ansiedad y depresión en niveles bajos, SC promedio y satisfacción con el rendimiento académico, a pesar de las adversidades curriculares.
Descriptores: Síndrome de la Disfunción de Articulación Temporomandibular. Ansiedad. Depresión. Estudiantes de Odontología.

Avaliação psicossocial e disfunção temporomandibular em graduandos em Odontologia
Resumo O presente estudo objetivou analisar a ocorrência de fatores psicossociais e disfunção temporomandibular (DTM) em graduandos em Odontologia. Realizou-se um estudo transversal, quantitativo, descritivo e analítico. Para a coleta de dados foram utilizados 3 questionários validados, a fim de avaliar o senso de coerência (SOC), ansiedade, depressão e DTM dos discentes, além de perguntas relacionadas ao

desenvolvimento acadêmico. Houve adesão de 108 estudantes, 75% do sexo feminino e 49,1% se autoavaliaram com sintomas de DTM. Aproximadamente 36% obtiveram níveis baixos de ansiedade, sendo maior nas mulheres. A maioria encontra-se satisfeito com o desempenho acadêmico, apesar da dificuldade de aprendizado, insatisfação com a rotina e medo de falar em público. A glossofobia foi estatisticamente mais frequente entre as mulheres. Ainda, nos períodos intermediários identificou-se maior insatisfação com a rotina. O SOC médio dos participantes foi de 56,67±8,27 e mostrou-se mais baixo naqueles com elevados níveis de depressão. A ansiedade em níveis altos foi associada com os sintomas de DTM. Portanto, conclui-se que cerca de metade dos discentes de Odontologia apresenta algum sinal de DTM, ansiedade e depressão em níveis baixos, SOC mediano e satisfação com o desempenho acadêmico, apesar das adversidades curriculares.
Descritores: Síndrome da Disfunção da Articulação Temporomandibular. Ansiedade. Depressão. Estudantes de Odontologia.

INTRODUCTION

Temporomandibular dysfunction (TDM) is a collective term for amendments that affect masticatory muscles, the temporomandibular joint (TMJ) and associated structures. They are considered the main causes of non-dental pain in the orofacial region. Individuals with commonly TDM present asymmetric mandibular movements, joint noses, headache, muscle pain, joint pain, fatigue and hum. It has a complex and multifactorial etiology, whose medical history can identify factors called initiators, that is, those responsible for its inception, such as trauma, overload or parafunction; predisposing, those that increase the risk of the dysfunction becoming established, such as pathophysiological conditions, psychological and structural (TMJ); and perpetual, those that influence the progression or remission of TMD, which include behavioral, social, emotional and cognitive problems[1,2]. In some circumstances, a single factor, such as psychological factor, can play one or all of these roles[2].

Anxiety disorders and stress represent important challenges in modern society, particularly in human care areas, reason why there is a growing search for knowledge about the factors that can trigger them and their implications[3].

Relationships between stress, anxiety, tension and musculoskeletal dysfunctions have been widely observed. However, the mechanism linking these factors has not been described yet[4,5]. The vast majority of health professionals report high levels of anxiety, a characteristic that begins during their undergraduate years and has repercussions not only on academic performance, but also increasing the risk of other diseases[2,4].

Levels of somatic stress and emotional distress among undergraduate students are generally high and personal resources and sense of coherence can act as a mitigating factor[6]. The sense of coherence (SOC) is considered the central point of the salutogenic theory, introduced in the 1970s by Antonovsky, and represents a new approach to health promotion, which seeks to understand what makes people healthy. The explanation about the factors that promote health was called SOC. This ability can be defined as a way to see life and the ability to successfully manage the many stressors that are encountered in the course of one's life[7].

There is a growing concern in today's society about preventing psychosocial and organizational stress in students. A study conducted with medical students revealed a high incidence of TMD symptoms and parafunctional oral behaviors. Negative correlations between SOC and levels of distress, anxiety and depression were found on these students, especially in women[7]. A study of undergraduate dental students found a high prevalence of TMD and anxiety[8]. Situations such as the first contact with patients in clinical care, the fear of failing facing the professional challenges, the fear of the unknown and the need to prove to oneself and others one's ability to perform activities based on theory, can reveal a high level of anxiety[8].

The literature also points out that most students need support to deal with the challenges of the curriculum, as well as the structural determinants of stress, such as the workload and time of curricular exams, which directly influences the occurrence of physiological muscle alterations[4,7]. Thus, with the aim of contributing to a greater understanding of the impact of psychosocial changes on students, this study aimed to evaluate psychosocial factors and TMD in undergraduate dental students at a higher education institution.

METHOD

This research followed the guidelines of Resolution 466/2012 of the National Health Council and was approved by the Research Ethics Review Committee of the State University of Montes Claros (Opinion no.5.290.206, ERC: 55434522.3.0000.5146).

The methodology adopted was cross-sectional, quantitative, descriptive and analytical, carried out in a virtual environment using questionnaires made available through Google Forms survey application. The online questionnaire was configured to not allow multiple submissions by the same participant. The study population was composed of 108 undergraduate dentistry students from the Faculty of Dental Sciences (FCO) in the city of Montes Claros/MG, enrolled in the 1st, 2nd, 5th, 6th, 8th or 9th periods of the day and night shifts.

Data collection was performed according to the availability of participants, using convenience sampling. At first, students indicated their course period, gender and performed a self-assessment of their academic experience regarding learning difficulties, satisfaction with the routine, fear of public speaking and satisfaction with academic performance. In order to assess the students' profile in relation to their undergraduate internships, the participants were categorized as beginners (1st and 2nd periods), intermediate (5th and 6th periods) and graduates (8th and 9th periods).

To materialize the research, 3 validated questionnaires were also used to collect data. The first, with 13 questions, aimed to gather information about SOC, which is considered an important predictor of health[6].The second questionnaire collected informations on symptoms of anxiety and depression, using 18 questions taken from the questionnaire designed to assess symptoms of stress and psychosocial manifestations using 4 scales (Four-Dimensional Symptom Questionnaire, 4DSQ)[9].The 4 approaches of the scale are suffering, anxiety, depression and systematization. The third instrument assessed the presence of TMD symptoms and orofacial pain using a questionnaire composed of three screening questions for TMD (Three Screening Questions/Temporomandibular Disorders, 3Q/TMD)[10].

Each question in the questionnaire that assesses SOC was classified using alternatives that portray the incidence of the feeling/event described in the question, and was answered with scores ranging from 1 (never) to 7 (always)[7]. From this perspective, the sum of all the items provides a score from 13 to 91, and higher scores indicate higher SOC[7].Regarding the questionnaires about depression and anxiety, each question answered received a score from zero to five, subdivided into the following response characteristics: “no”, “sometimes”, “regularly”, “often”, and “very often". Subsequently, each item was reclassified into 0, 1 or 2 points. The absence of symptoms was assigned a score of 0; next, 1 point if a symptom was classified as “sometimes”; and 2 points if one of the classifications is present, which are “regularly”, “frequently” or “very often”.[9] After adding all depression scale scores, the participant was classified as having a low level of depression (score of 0-2); moderately high level (3-5) and very high level (6-12). As for the anxiety approach, it was considered low level when classified from 0-7; moderately high, a score of 8-12, and very high, a score of 13-24. The 4DSQ methodology states that low scores do not need special attention. As for moderately high scores, there may be depression or anxiety, and treatment should be recommended to the patient. In high score case, the action taken should be treatment with a qualified professional, given the evidence of anxiety or depression[9]. The presence of a positive response to the 3Q/TMD questionnaire classified the participant as symptomatic for TMD, with a probable diagnosis of dysfunction. In case of all negative responses, the participant was considered asymptomatic for TMD[9].

All data obtained were subjected to descriptive and statistical analyzes using the Statistical Package for the Social Sciences (SPSS)®, 19.0 (IBM, Armonk, NY, USA) software with statistical confidence of 95%. Associations between study variables with course periods, gender and TMD were examined using the chi-square (X2) and Fisher's exact tests. Furthermore, the Kolmogorov-Smirnov normality test was used for numerical variables ($p > 0.05$), and analysis of variance (Anova one-way) was used to evaluate the difference between the SOC values and the other variables studied. Differences between groups were considered statistically significant when $p < 0.05$.

RESULTS

108 Dentistry students participated, 37 from the initial periods of the course, 36 from the intermediate periods and 35 completing the course (Table 1). The distribution of students according to gender identified a predominance of women, totaling 75.9%. Among the anxiety levels classified as low, moderately high and very high, there was a homogeneous distribution of anxiety levels among students on the course, with the low level prevailing with 39 students (36.1%). In the analysis of depression, the low level stood out, represented by 45.4%; the moderately high level was portrayed by 28.7% and 25.9% made up the very high category. Regarding TMD, 50.9% assessed themselves as asymptomatic. The characterization of students regarding their academic experience showed that 59.3% were satisfied with their performance in the course, 51.9% reported learning difficulties, 68.5% were afraid of speaking in public and 75.0% were dissatisfied with their routine. The students' average SOC was 56.67±8.23.

Table 1. Profile of Dentistry graduates.

Variables	Frequency	Percentage
Graduation Periods		
Initials	37	34,3
Intermediaries	36	33,3
Graduates	35	32,4
Gender		
Masculine	26	24,0
Feminine	82	76,0
Anxiety		
Low	39	36,1
Moderately high	34	31,5
Very high	35	32,4
Depression		
Low	49	45,4
Moderately high	31	28,7
Very high	28	25,9
Temporomandibular dysfunction		
No	55	50,9
Yes	53	49,1
Performance Satisfaction		
Dissatisfied	05	04,5
Not very satisfied	29	26,9
Satisfied	64	59,3
Very satisfied	10	9,3
Learning difficulties		
No	52	48,1
Yes	56	51,9
Routine Satisfaction		
No	81	75,0
Yes	27	25,0
Fear of Public Speaking		
No	34	31,5
Yes	74	68,5

In order to determine a possible variation in anxiety, depression and TMD as a result of the course period and gender, these data were crossed (Table 2). Anxiety levels considered moderately high and very high predominated among students in the initial periods (35.1% in both). Also in the intermediate and concluding periods, there was a predominance of students with low level of anxiety, with the concluding periods having a higher frequency of low-level depression, although this was not statistically significant ($p > 0.05$). Female graduates were more vulnerable to anxiety, compared to the 65.4% of male students with lower anxiety levels ($p = 0.001$). At the same time, 53.7% of female participants were symptomatic for TMD, while 65.4% of males reported no symptoms ($p > 0.05$). The analysis of depression according to gender did not show statistical significance ($p > 0.05$). Regarding TMD, periods were not associated with the manifestation of the dysfunction ($p > 0.05$). Furthermore, gender and course periods were not statistically associated with satisfaction with academic performance and learning difficulties. The intermediate periods were the most dissatisfied with the routine (91.7%) ($p = 0.017$), with a high frequency of dissatisfaction among women, although gender was not statistically associated with this variable ($p = 0.069$). Fear of speaking in public was also higher among women (76.8%), in contrast to 42.3% of men who were afraid of speaking in public.

Table 2. Distribution of anxiety, depression and temporomandibular dysfunction parameters according to period and gender.

Variables	Periods				Gender		
	Initials n (%)	Intermediaries n (%)	Graduates n (%)	p value	Masculino n (%)	Initials n (%)	Intermediaries
Anxiety							
Low	11 (29,8)	14 (38,9)	14 (40,0)		17 (65,4)	22 (26,9)	
Moderately high	13 (35,1)	10 (27,8)	11 (31,4)	0,877	06 (23,1)	28 (34,1)	0,001*
Very high	13 (35,1)	12 (33,3)	10 (28,6)		03 (11,5)	32 (39,0)	
Depression							
Low	11 (29,8)	16 (44,4)	22 (62,9)		13 (50,0)	36 (43,9)	
Moderately high	13 (35,1)	08 (22,3)	10 (28,6)	0,220	09 (34,6)	22 (26,8)	0,359
Very high	13 (35,1)	12 (33,3)	03 (8,5)		04 (15,4)	24 (29,3)	
Temporomandibular dysfunction							
Yes	16 (43,2)	19 (47,2)	18 (51,4)	0,678	09 (34,6)	44 (53,7)	0,091
No	21 (56,8)	17 (52,8)	17 (48,6)		17 (65,4)	38 (46,3)	
Performance Satisfaction							
Dissatisfied	02 (5,4)	02 (5,6)	01 (2,9)		00 (0,0)	05 (6,1)	
Not very satisfied	13 (35,1)	08 (22,2)	08 (22,9)	0,720	07 (26,9)	22 (26,8)	0,394
Satisfied	20 (54,1)	23 (63,9)	21 (60,0)		15 (57,7)	49 (59,8)	
Very satisfied	02 (5,4)	03 (8,3)	05 (14,2)		04 (15,4)	06 (7,3)	
Learning difficulties							
No	14 (37,8)	19 (52,8)	19 (54,3)	0,299	13 (50,0)	39 (47,6)	0,828
Yes	23 (62,2)	17 (47,2)	16 (45,7)		13 (50,0)	43 (52,4)	
Routine Satisfaction							
No	24 (64,9)	33 (91,7)	24 (68,6)	0,017*	16 (61,5)	65 (79,3)	0,069
Yes	13 (35,1)	03 (8,3)	11 (31,4)		10 (38,5)	17 (20,7)	
Fear of public speaking							
No	10 (27,0)	15 (41,7)	9 (25,7)	0,271	15 (57,7)	19 (23,2)	0,001*
Yes	27 (73,0)	21 (58,3)	26 (74,3)		11 (42,3)	63 (76,8)	

* statistically significant difference ($p < 0,05$).

Due to its relevance, TMD was evaluated with all the variables explored in the research (Table 3).The symptomatic portion of the sample showed the highest levels of anxiety and depression, but only anxiety was statistically different between those with or without the dysfunction ($p = 0.001$). Both dissatisfaction with routine, satisfaction with academic performance, learning difficulties and fear of speaking in public were not statistically related to the presence of TMD symptoms ($p > 0.05$). The students' SOC, when evaluated according to the study variables, revealed that low levels of depression had the highest mean SOC (58.14 ± 8.24) compared to moderately high levels (56.25 ± 7.10) and very high (54.54 ± 9.25) ($p = 0.022$) (table 4). The other variables investigated did not show a statistical relationship with SOC ($p > 0.05$).

Table 3. Distribution of anxiety, depression and academic experience in relation to self-assessment of temporomandibular dysfunction.

Variables	Temporomandibular dysfunction		p value
	No n (%)	Yes n (%)	
Anxiety			
Low	29 (52,7)	10 (18,9)	0,001*
Moderately high	13 (23,6)	21 (39,6)	
Very high	13 (23,6)	22 (41,5)	
Depression			
Low	30 (54,5)	19 (35,8)	0,093
Moderately high	15 (27,3)	16 (30,2)	
Very high	10 (18,2)	18 (34,0)	
Performance Satisfaction			
Dissatisfied	02 (3,6)	03 (5,7)	0,332
Not very satisfied	11 (20,0)	18 (34,0)	
Satisfied	37 (67,3)	27 (50,9)	
Very satisfied	05 (9,1)	05 (9,4)	
Learning difficulties			
Yes	26 (52,7)	30 (43,4)	0,344
No	29 (47,3)	23 (56,6)	
Routine Satisfaction			
Yes	17 (30,9)	10 (18,9)	0,185
No	38 (69,1)	43 (81,1)	
Fear of public speaking			
Yes	35 (63,6)	39 (73,6)	0,304
No	20 (36,4)	14 (26,4)	

* statistically significant difference ($p < 0,05$).

Table 4. Profile of Dentistry undergraduates regarding sense of coherence.

Variables	Mean ± Standard deviation	p value
Graduation Periods		
Initials	56,78 ± 7,74	0,203
Intermediaries	56,33 ± 9,65	
Graduates	56,89 ± 7,46	
Gender		
Masculine	58,00 ± 7,60	0,504
Feminine	56,24 ± 8,47	
Anxiety		
Low	57,54 ± 8,66	0,077
Moderately high	57,12 ± 7,51	
Very high	55,26 ± 8,58	
Depression		
Low	58,14 ± 8,24	0,022*
Moderately high	56,25 ± 7,10	
Very high	54,54 ± 9,25	
Temporomandibular dysfunction		
No	57,04 ± 8,57	0,252
Yes	56,28 ± 8,01	
Performance Satisfaction		
Dissatisfied	55,80 ± 8,07	0,428
Not very satisfied	58,00 ± 11,04	
Satisfied	56,02 ± 7,21	
Very satisfied	57,40 ± 5,62	
Learning difficulties		
No	58,10 ± 7,86	0,272
Yes	55,34 ± 8,49	
Routine Satisfaction		
No	56,56 ± 8,67	0,887
Yes	57,00 ± 7,06	
Fear of Public Speaking		
No	58,56 ± 9,83	0,560
Yes	55,80 ± 7,36	

* statistically significant difference ($p < 0,05$).

DISCUSSION

Currently, the influence of biopsychosocial factors on the etiology of TMD has gained prominence in research, being evidenced in different populations[5,11,12]. In view of this, the occurrence of psychosocial factors was evaluated, specifically anxiety, depression, SOC, and TMD in dentistry students, justified by the need for more studies that evaluate the high emotional burden to which students are exposed and the appearance of illnesses. Mental disorders such as depression, somatization and anxiety play an important role in the etiology and symptomatological evolution of TMD, contributing to the appearance or perpetuation of the disorder, by increasing muscle activity and tension in the facial muscles[13]. Additionally, this research also identified satisfaction with routine and academic performance, learning difficulties and fear of speaking in public among dentistry graduates, characterizing all the parameters studied in terms of gender and course period.

As shown in the results obtained from the sample, just over half showed symptoms of TMD. Furthermore, regarding anxiety and depression rates, the majority of the sample presented symptoms at moderately high and very high levels, totaling 63.9% and 54.6%, respectively. These data are in agreement with other research that found TMD in 57.1% of academics in the health areas[14], and a prevalence of anxiety between 40.0 and 66.7%15-16. In the same studies, depressive disorders were evidenced in around 30% of the sample[15-16]. Comparatively, a literature review carried out based on 14 studies on common mental disorders in dentistry students revealed a prevalence of 30 to 45% of mental disorders among students[17]. This fact highlights the relevance of preventive measures to minimize the onset of diseases and harmful coping strategies[17].

Stressful events are motivators for depressive episodes, especially in those who have a genetic predisposition to develop the illness[18]. The transition from the school to the academic environment can be considered a stressful event. In the initial periods, a greater frequency of depressive symptoms was observed at high levels. Focusing on the total sample analyzed, the highest levels of depression occurred among women. This data corroborates studies that show the lifetime prevalence of depression in up to 20% in women and 12% in men[18]. Specifically in the academic world, females have been the target of a greater presence of depressive and anxiety symptoms. This predominance has its genesis in the emotional overload and intense routine of women today, as they continue to be primarily responsible for taking care of household chores, the family and themselves. In this scenario, a feeling of impotence may arise due to difficulties in being able to understand all the tasks and obligations efficiently in their daily lives[19].

In addition to the change from secondary to higher education, academic life requires the ability to speak in public, feared by most students. Studies report that 60-70% of academics have glossophobia[20]. Consistent with this, 68.5% of the current study sample stated that they were afraid of speaking in public, and females were the most affected, with 79.2% of them still dissatisfied with their routine. Situations that require the student to speak in public, such as work presentations, oral assessments and participation during classes, may constitute coercive practices under aversive control that provoke excessive anxiety. In these circumstances, it is common to observe escape and avoidance behaviors (skipping classes, refusing to participate in activities) that end up harming the student's academic performance or even increasing school dropout rates[21]. From this perspective, it is understood that this fear may be linked to academic development, and influences learning difficulties, reported by 51.9% of university students in the research. Despite this, it is noted that, in a self-analysis, the majority were satisfied with their academic performance, despite 75% being dissatisfied with the university routine. Students in intermediate periods were the most dissatisfied with the routine. Possibly, factors in the academic curriculum that become more pronounced in intermediate periods, as well as work, interpersonal relationships and extracurricular activities, cause overload and consequently psychic shocks that fluctuate throughout the course[5].

The perspective that displays anxiety as a cause and intensifier of TMD is confirmed in the present study, with statistical proof of high levels of anxiety related to the occurrence of TMD symptoms. Depression, despite not being statistically related to TMD in the sample studied, was evidenced at a low level predominantly in individuals without symptoms of the disorder. From this perspective, it is recalled that emotional factors play an important role in the origin and evolution of TMD symptoms, due to the muscular activity and toning of facial muscles generally present in altered emotional states[22].

SOC is an important strategy for coping with adversity. The study was encouraged because it is considered fundamental for understanding psychological conditions and improving the diagnostic, preventive and therapeutic approach to TMD. Thus, an average SOC of 56 was identified, given that it varies from 13 to 91. An average SOC of 56 was also evidenced in nursing students[23], being considered high and higher than that of students from other areas, such as psychology[24] . Low SOC was predominant in medical students who reported depressive symptoms[25]. Similarly, the SOC of dental students was higher in those who had low levels of depression. Period, gender, anxiety, TMD, and the other factors studied were not associated with the SOC of these students. It is understood that the sample size may have been a limitation for these interpretations. However, from a multidisciplinary and integrated perspective, it is clear that despite the stressors identified in this study, resilience, built according to comprehensibility, the ability to manage problems and the significance attributed to them, contributes to the different profiles of dentistry students can react to everyday adversities, and should pay special attention to enhancing the SOC of those who present depressive symptoms. In academia, the highest SOC values have been identified in academics who are most motivated to study, despite demands and stressful situations, contributing to greater resistance to stress[23].

This was a pioneering study in portraying anxiety, depression and sense of coherence of dentistry students, faced with the challenges of the academic curriculum and the structural determinants of stress. Furthermore, such psychosocial manifestations were investigated for the occurrence of signs and symptoms of TMD. Although one of the premises of the research was to reveal information about the profile of dentistry students, their adherence was low. It is believed that a larger sample size would enable better interpretations of the variables, especially the SOC, which can also be analyzed categorically. Another limitation of the research is its internal validity; the results were generated from a single higher education institution and should not be generalized to a general population. Despite this, the information generated favors the understanding of the phenomenon and the ability to act preventively in the institution itself. Furthermore, the aim was to understand the incidence of psychosocial factors and their evolution in dental graduation.

CONCLUSION

The majority of dentistry students had low levels of anxiety and depression and an average ability to cope with problems, with around half of them showing signs or symptoms of TMD. The majority were satisfied with their academic performance, despite learning difficulties, dissatisfaction with their routine and fear of speaking in public. A careful look should be directed at the intermediate periods of the course and at women, as the intermediate periods showed the highest percentages of people dissatisfied with the routine, and women reported higher levels of anxiety and fear of speaking in public. Students with higher levels of depression have less ability to manage challenges, and higher levels of anxiety are associated with the occurrence of TMD symptoms. The importance of supporting these students to deal with harmful environmental factors and promote health promotion is highlighted.

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