

Levels of Stress, Anxiety and Depression among Students at Alma Mater Europaea Campus College “Rezonanca,” Kosovo

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Abstract

Background: This study aims to assess the prevalence of psychological well-being, the level of psychological stress and perceived anxiety among dental students at the Alma Mater Europaea Campus College “Rezonanca.”

Methods and Results: We evaluated the stress and anxiety levels of 70 students in the fourth year of dentistry studies at the Alma Mater Europaea Campus College “Rezonanca” in Kosovo in the school year 2022/2023. The distribution of students was equal in terms of gender. Participants were surveyed using the DASS-21 questionnaire. A questionnaire with 25 questions was used to determine the most frequent causes of stress. This questionnaire was distributed to the students at the same time as the DASS-21 questionnaire. The questionnaire had 25 questions about stress. Students had the opportunity to choose the level of stress for the respective statement from 1 to 4. The evaluation was done on a Likert scale. Then, the answers were converted into points by multiplying the given answer by 10.

There was no statistically significant difference among female and male students on the mean points of depression, anxiety, and stress sub-scales. At the normal range of depression scores were 78.6% of students, followed by 67.1% for normal anxiety levels, and 92.9% for normal stress scores. We found no statistically significant difference in the distribution of the severity rating of depression, anxiety, and stress scores between female and male students.

Conclusion: Dental students are exposed to various sources of stress. Stress in DS begins before they are accepted into the dental program and continues until they graduate. To reduce the stress levels among dental students, it is recommended that dental faculties, their clinical mentors, their peers, and colleagues make an effective plan to reduce stress among their students. (International Journal of Biomedicine. 2024;14(1):122-126.)

Keywords: anxiety • depression • stress • student

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Introduction

Recent studies have shown that the study process at the faculty of dentistry can be highly stressful for students who should acquire theoretical knowledge and various abilities, such as clinical and communication skills.⁽¹⁾ The Dentistry Department at the Faculty of Medicine at the University of Pristina can enroll a very limited number of students, so the

level of competition is extremely high, and only the best students with the highest grades and performance indicators during their high school and on entrance exams are accepted. Competition continues throughout their studies as high grades and above-average performance represent value and success. Dental students feel more stressed about time management, mastering the volume of the study materials presented, and inconsistent feedback from faculty members. Students also must learn the technical skills they should master.⁽²⁾

Dental studies can be quite stressful and impact dentistry students' overall physical and mental well-being.⁽³⁾ The continuous demand to reach perfection and stability while working on a patient seated in a dental chair,

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under the surveillance of other students, clinical mentors, and professional staff, is also one of the main causes of psychological stress. The psychological stress of collaborating with frightened patients can also be the leading cause of influence on the cardiovascular system, manifesting itself with increased heart rate, high blood pressure, sweating, and hand shivering, as well as the feeling of being scolded and experiencing an anxiety attack.

Such stress starts as early as the first year of studies. The prevalence of anxiety among dental students ranges in different countries from 7.7%-65.5%.⁽⁴⁾ The perception of stress is due to dental students' tendency toward perfectionism based on their history of high achievement and excellence in previous school years and the fact that excellence is the norm in dental school.

Students with a positive family history of depression and anxiety and individuals who had lost a close relative in the previous years were more likely to have psychological disorders and be anxious than other individuals.⁽⁵⁾ Economic difficulties can also affect anxiety levels.⁽⁴⁾ There has been shown an association between sociodemographic data and the frequency of symptoms of depression, anxiety, and stress among university students in a medical college. The findings showed that females, university campus residents, pre-clinical students, and students with lower academic achievement had higher anxiety rates than the other groups.⁽⁶⁾ Other issues that can have a significant impact on the mental and emotional well-being of dental students and stimulate anxiety among them are long working and study hours, the pressure to master their medical knowledge, competition with their peers, and insufficient time for non-academic activities.

All these factors can be summarized as three main ones: academic performance, pressure to succeed, and plans after graduation.⁽³⁾ Further studies are required to determine the factors related to mental health, including anxiety, which affects the academic performance of dental and medical students. Stressed students can be helped by either reducing the number of stressors or increasing their coping skills related to stress. Reducing the number of stressors can be achieved in several ways, such as reducing the fear of failure and the pressure of the workload due to exams and course requirements. In addition, the content of the dental curriculum may be reduced, or its design may be changed.⁽¹⁾ Stress cannot be eliminated from dental practice. However, it should be minimized as much as possible to avoid numerous physical and emotional problems. A review of the literature reveals that there are a number of instruments designed to assess self-reported somatic symptoms related to mental health.⁽⁷⁾

Dentists experience considerable amounts of occupational stress beginning with their undergraduate years in dental school that can negatively affect these individuals' personal and professional lives and the quality of their clinical work.

We sought to create an objective scale to assess stress levels in students at dissimilar stages of their education and in practicing physicians. This study aims to assess the prevalence of psychological well-being, the level of psychological stress and perceived anxiety among dental students at the Alma Mater Europaea Campus College "Rezonanca."

Materials and Methods

We evaluated the stress and anxiety levels of 70 students (35 men and 35 women) in the fourth year of dentistry studies at the Alma Mater Europaea Campus College "Rezonanca" in Kosovo in the school year 2022/2023. The distribution of students was equal in terms of gender. Participants were surveyed using the Depression Anxiety Stress Scale 21 (DASS-21) questionnaire. Preliminary tests suggested that the DASS-21 has adequate convergent and discriminant validity.⁽⁸⁾ The DASS-21 has demonstrated satisfactory psychometric properties and is comparable to other reliable assessment scales. It includes three self-report scales designed to measure emotional states of depression, anxiety, and stress.

A questionnaire with 25 questions was used to determine the most frequent causes of stress. This questionnaire was distributed to the students at the same time as the DASS-21 questionnaire. The questionnaire had 25 questions about stress. Students had the opportunity to choose the level of stress for the respective statement from 1 to 4. The evaluation was done on a Likert scale. Then, the answers were converted into points by multiplying the given answer by 10. The average calculation was done for each question separately. The question with the highest average was considered more stressful. The questionnaire was divided into seven dimensions: Faculty and administration (questions 12, 18, and 19), Academics (questions 1, 2, 3 and 4), Manual skills (questions 6 and 10), Financial obligations (question 21), Patient care (questions 5, 7, 8 and 11), Personal problems (13,14,15,16,17,22 and 25), and Family (questions 19,20,23 and 24). Each dimension was calculated by taking the average of all dimension questions. Reliability analysis was done for the Albanian language version, and it came out acceptable (Cronbach's alpha of 0.903).

Statistical analysis was performed using the statistical software package SPSS version 21.0 (SPSS Inc, Armonk, NY: IBM Corp). Baseline characteristics were summarized as frequencies and percentages for categorical variables and mean \pm SD for continuous variables. Inter-group comparisons were performed using Student's t-test. Group comparisons concerning categorical variables are performed using the chi-square test. A probability value of $P < 0.05$ was considered statistically significant.

Results

There was no statistically significant difference among female and male students on the mean points of depression, anxiety, and stress sub-scales ($P > 0.05$) (Table 1). At the normal range of depression scores were 78.6% of students, followed by 67.1% for normal anxiety levels, and 92.9% for normal stress scores ($P > 0.05$) (Table 2). We found no statistically significant difference in the distribution of the severity rating of depression, anxiety, and stress scores between female and male students ($P > 0.05$) (Tables 3-5).

The five questions with the highest mean scores in order were: "Stress due to exams and grades," "Stress due to patient care responsibilities," "Stress due to difficulties in learning clinical procedures," "Stress due to other personal problems," and "Stress due to class assignments." (Table 6).

Table 1.
Stress, anxiety and depression by gender.

	Total (n=70)	Women (n=35)	Men (n=35)	P-value
Depression	6.06±4.74	6.09±4.39	6.03±5.12	0.958
Anxiety	6.34±4.82	6.47±4.11	6.22±5.47	0.830
Stress	7.37±4.83	7.23±4.40	7.50±5.25	0.816

Table 2.
Degrees of stress, anxiety, and depression

Category	Depression		Anxiety		Stress	
	n (%)	P-value	n (%)	P-value	n (%)	P-value
Normal	55 (78.6)	0.000	47 (67.1)	0.000	65 (92.9)	0.000
Mild	9 (12.9)		7 (10.0)		3 (4.3)	
Moderate	6 (8.6)		10 (14.3)		2 (2.9)	
Severe	0 (0)		5 (7.1)		0 (0)	
Extreme severe	0 (0)		1 (1.4)		0 (0)	

Table 3.
Distribution of the severity rating of depression between female and male students

Depression			
Category	Women, n (%)	Men, n (%)	P-value
Normal	27 (77.1)	28 (80.0)	0.937
Mild	5 (14.3)	4 (11.4)	
Moderate	3 (8.6)	3 (8.6)	

Table 4.
Distribution of the severity rating of anxiety between female and male students

Anxiety			
Category	Women, n (%)	Men, n (%)	P-value
Normal	24 (68.6)	23 (65.7)	0.850
Mild	4 (11.4)	3 (8.6)	
Moderate	5 (14.3)	5 (14.3)	
Severe	2 (5.7)	3 (8.6)	
Extreme severe	0(0.0)	1 (2.8)	

Table 5.
Distribution of the severity rating of stress between female and male students

Stress			
Category	Women, n (%)	Men, n (%)	P-value
Normal	32 (91.4)	33 (94.3)	0.840
Mild	2 (5.7)	1 (2.9)	
Moderate	1 (2.8)	1 (2.8)	

Table 6.
Frequencies and percentages of the highest stress score by questions

	Mean
Stress due to class assignments	19.14
Stress due to difficult tasks in class	16.71
Stress due to exams and grades	29.28
Stress due to competition among students	16.43
Stress due to patient care responsibilities	24.57
Stress due to difficulties in learning clinical procedures	20.86
Stress due to the patients' attitude towards me	17.71
Stress due to patients' attitudes towards dentistry	17.28
Stress from the atmosphere created by the clinic's professors	17.43
Stress from the difficulty of teaching precise manual skills in preclinical and practice	17.86
Stress due to the reliability of dental laboratories for the return of cases	18.14
Stress due to administrative responses to student needs	16.28
Stress due to sleeping in a room with a friend	14.00
Stress due to conflicts in the kite	14.00
Stress due to alcohol consumption	13.00
Stress due to drug use	13.57
Stress due to the reevaluation of dentistry as a career choice	15.00
Stress from the fear of being expelled from the faculty	14.28
Stress due to marriage	15.71
Stress due to childcare	15.71
Stress due to financial responsibilities	17.28
Stress due to personal physical health	17.71
Stress due to the health of other family members	18.57
Stress due to student-parent relationship	16.57
Stress because of other personal problems	19.57

The male-to-female student ratio was 50/50 (Table 7) No significant statistical difference was found between men and women in the average stress points according to the dimensions (Table 8). The highest average stress points were "Academics," "Patient care," and "Manual skills." When analyzed separately for men and women, in men, the highest average stress points were "Manual skills," "Academic skills," and "Patient care", while in women, they were "Academics," "Patient care," and "Manual skills" but without statistically significant differences (Table 9).

Table 7.

Percentage by gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	35	50.0	50.0	50.0
	Male	35	50.0	50.0	100.0
	Total	70	100.0	100.0	

Table 8.

Frequencies and percentages of the average stress points by questions and gender

	Total n (%)	Men n (%)	Women n (%)
Stress due to class assignments	6 (8.6)	4 (11.4)	2 (5.7)
Stress due to difficult tasks in class	2 (2.9)	1 (2.9)	1 (2.9)
Stress due to exams and grades	29 (41.4)	12 (34.3)	17 (48.6)
Stress due to competition among students	6 (8.6)	3 (8.6)	3 (8.6)
Stress due to patient care responsibilities	19 (27.1)	9 (25.7)	10 (28.6)
Stress due to difficulties in learning clinical procedures	11(15.7)	6 (17.1)	5 (14.3)
Stress due to the patients' attitude towards me	5 (7.1)	3(8.6)	2(17.1)
Stress due to patients' attitudes towards dentistry	5 (7.1)	3 (8.6)	2 (5.7)
Stress from the atmosphere created by the clinic's professors	8 (11.4)	3 (8.6)	5 (14.3)
Stress from the difficulty of teaching precise manual skills in preclinical and practice	10 (14.3)	5 (14.3)	5 (14.3)
Stress due to the reliability of dental laboratories for the return of cases	9 (12.9)	5 (14.3)	4 (11.4)
Stress due to administrative responses to student needs	7 (10.0)	4 (11.4)	3 (8.6)
Stress due to sleeping in a room with a friend	2 (2.9)	1 (2.9)	1 (2.9)
Stress due to conflicts in the kite	3 (4.3)	2 (5.7)	1 (2.9)
Stress due to alcohol consumption	3 (4.3)	2 (5.7)	1 (2.9)
Stress due to drug use	4 (5.7)	1 (2.9)	3 (8.6)
Stress due to the reevaluation of dentistry as a career choice	5 (7.1)	3 (8.6)	2 (5.7)
Stress from the fear of being expelled from the faculty	4 (5.7)	2 (5.7)	2 (5.7)
Stress due to marriage	7 (10.0)	3 (8.6)	4 (11.4)
Stress due to childcare	5 (7.1)	2 (5.7)	3 (8.6)
Stress due to financial responsibilities	6 (8.6)	2 (5.7)	4 (11.4)
Stress due to personal physical health	6 (8.6)	3 (8.6)	3 (8.6)
Stress due to the health of other family members	8 (11.4)	3 (8.6)	5 (14.3)
Stress due to student-parent relationship	4 (5.7)	3 (8.6)	1 (2.9)
Stress because of other personal problems	7 (10.0)	3 (8.6)	4 (11.4)

Table 9.

The dimensions with the average stress points

	Total	Men	Women	P
Faculty and administration	16.00±6.75	16.09±7.02	15.90±6.57	0.907
Academics	20.39±6.49	19.36±6.92	21.43±5.95	0.184
Manual skills	19.36±8.88	20.00±8.99	18.71±8.86	0.547
Financial obligations	17.28±10.20	17.71±9.73	16.86±10.78	0.730
Patient care	19.43±7.70	18.43±8.49	20.43±6.79	0.280
Personal problems	15.26±5.89	14.90±6.02	15.63±5.82	0.608
Family	16.64±6.63	15.93±6.62	17.36±6.67	0.371

Discussion

Dental education can be a significant source of stress among dental students, and research studies have observed higher levels of stress among dental students than in the general population.⁽⁶⁾ A part of the literature that examines stress in students has revealed a significant increase in stress that intensifies with the year of study.⁽⁸⁾ Students who experience stress, anxiety, or depression often find it difficult to meet the expectations of the dental curriculum and personal goals for their chosen career. In any profession, transitioning from student to graduation can be challenging.

Students may face psychological stress early in their careers. Initial signs and symptoms of anxiety or depression should be addressed as soon as possible.⁽⁹⁾ This is related to the responsibility for the well-being of their patients. Numerous studies have concluded that dentistry students have more stress than any other professional education. In the study conducted on dental professionals by Basudan et al.,⁽³⁾ 55.9% of respondents had abnormal levels of depression, 66.8% had anxiety, and 54.7% had stress. Severe and extremely severe scores for depression, anxiety, and stress were reported in 20.2%, 34.0%, and 20.2% of respondents.

Committed to the best care for patients, the student may be concerned about professional responsibility and ethical aspects if one part of their treatment plan goes wrong. In a study published in NCBI, a level of depression, anxiety, and stress was observed in 55.9%, 66.8%, and 54.7% of respondents.^(10,11)

Alarmingly, severe and extremely severe scores for depression, anxiety, and stress were reported by 20.2%, 34.0%, and 20.2% of respondents.

In a study of fourth-year Greek dental students, most were worried about their professional future and the lack of time off.⁽¹²⁾ According to them, the stresses perceived by dental students were related to individual and educational (type of curriculum, competition, and cost of education) factors.⁽¹³⁾ In addition, the causes of stress for dental students depend on the length of the studies. It was clarified that there is a lot of anxiety about the exams.⁽¹⁴⁾

In conclusion, dental students are exposed to various sources of stress. Stress in dental students begins before they

are accepted into the dental program and continues until they graduate. To reduce the stress levels among dental students, it is recommended that dental faculties, their clinical mentors, their peers, and colleagues make an effective plan to reduce stress among their students.

Competing Interests

The authors declare that they have no competing interests.

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