

Evaluation of Depression, Anxiety, Stress, and Postgraduate Plans of Dentistry Students

Diş Hekimliği Öğrencilerinin Depresyon, Anksiyete, Stres ve Mezuniyet Sonrası Planlarının Değerlendirilmesi

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ABSTRACT

Background: This study aimed to measure the depression, anxiety and stress levels of dental students using DASS-21. It was also aimed to evaluate the relationship between these levels and to investigate the effect of these stress levels on career motivation.

Materials & Methods: An online questionnaire that contains four-part was developed using Google Forms. The first section is related to the sociodemographics data of participants. The second section contains DASS-21 questions. The other sections are about choosing dentistry and postgraduate plans for the students. Data were analyzed with IBM SPSS V23. The Kruskal-Wallis H test was used to compare data according to groups of three or more, and multiple comparisons were examined with Dunn's test. The significance level was taken as $p < 0.050$.

Results: A total of 791 undergraduate dental students participated in the study. The study sample comprised 61,2% females ($n=484$) and 8% married ($n=6$). A statistically significant difference was found between the median stress scores according to gender ($p < 0.001$). It was observed that the stress level increased statistically significantly in the 5th grade ($p < 0,001$). The depression level of married people was statistically lower ($p=0.046$). Only 5.2% of the participants stated that they don't want to specialize in any branch.

Conclusion: Dentistry education is a complex process and can cause an increase in students' levels of stress, anxiety, and depression. The methods of coping with stress should be taught to students to train psychologically healthy. Students should be supported to make the most appropriate decisions in their career choices and post-graduation plans.

Keywords: DASS, dental education, depression, career motivation, postgraduate

ÖZ

Amaç: Bu çalışmada DASS-21 kullanılarak diş hekimliği öğrencilerinin depresyon, kaygı ve stres düzeylerinin ölçülmesi amaçlanmıştır. Ayrıca bu düzeyler arasındaki ilişkinin değerlendirilmesi ve bu stres düzeylerinin kariyer motivasyonu üzerindeki etkisinin araştırılması amaçlanmıştır.

Gereç ve Yöntemler: Google Formlar kullanılarak dört bölümden oluşan çevrimiçi bir anket geliştirilmiştir. İlk bölüm, katılımcıların sosyodemografik verileriyle ilgilidir. İkinci bölüm DASS-21 sorularını içermektedir. Diğer bölümler, öğrenciler için diş hekimliği ve lisansüstü planları seçme ile ilgilidir. Veriler IBM SPSS V23 ile analiz edildi. Verilerin üç ve üzeri gruplara göre karşılaştırılmasında Kruskal-Wallis H testi, çoklu karşılaştırmalar Dunn testi ile incelenmiştir. Anlamlılık düzeyi $p < 0,050$ olarak alınmıştır.

Bulgular: Çalışmaya toplam 791 dişhekimliği lisans öğrencisi katılmıştır. Araştırmanın örneklemini %61,2 kadınlar ($n=484$) ve %8 evliler ($n=6$) oluşturmaktadır. Cinsiyete göre stres puan ortancaları arasında istatistiksel olarak anlamlı bir fark bulunmuştur ($p < 0,001$). Stres düzeyinin 5. sınıfta istatistiksel olarak anlamlı düzeyde arttığı görüldü ($p < 0,001$). Evlilerin depresyon düzeyi istatistiksel olarak daha düşüktü ($p=0,046$). Katılımcıların sadece %5,2'si herhangi bir branşta uzmanlaşmak istemediğini belirtmiştir.

Sonuç: Diş hekimliği eğitimi karmaşık bir süreçtir ve öğrencilerin stres, kaygı ve depresyon düzeylerinde artışa neden olabilir. Öğrencilere psikolojik olarak sağlıklı yetişmeleri için strese baş etme yöntemleri öğretilmelidir. Öğrencilerin kariyer seçimlerinde ve mezuniyet sonrası planlarında en uygun kararları vermeleri desteklenmelidir.

Anahtar Kelimeler: DASS, diş hekimliği eğitimi, depresyon, kariyer motivasyonu, lisansüstü

Introduction

Stress is the body's normal response to excessive pressure.¹ Depending on the stress, mental or psychological tensions may be experienced in the face of adverse conditions.² The state of stress among dental students has been the subject of much research worldwide since the 1970s.³ Dentists have to cope with stress, anxiety, and depression since their student years.⁴ Many reasons cause stress in dentistry students, gender, workload, grades in preclinical years, learning clinical procedures and dealing with complex patients in clinical years, marital status, exams, the first choice of admission, monetary difficulties, living arrangement, and class. Stressors can affect dentistry students in different ways and cause negative effects such as a decline in academic performance, burnout, mood changes, frustration, and decreased concentration.^{4,7} In addition, a student under stress may be worried about the future, and career motivation and professionalism may change.

The concept of professionalism in dentistry has been defined as the commitment of dentists to adhere to behaviors, principles, and relationships that justify the public's trust in the dental profession.⁸ According to studies, students' positive attitudes towards patient-centered social responsibility and access to care at the beginning of

their dental education decrease as they progress through their program.⁹ The professionalism may change over time depending on the stress experienced, and considering these changes, it is thought that career plans after graduation may change over the years. Studies have been developed by increasing students' professional knowledge and clinical experience of attitudes toward professionalism and by continuously evaluating this knowledge during dental education.¹⁰ Supporting an educational environment that emphasizes student perspectives on learning experiences that can advance their professionalism, and role modeling of professional behavior reveals its need.¹¹ The literature shows that dental students' characteristics such as gender, age, academic proficiency, personality, and family history, can affect dental students' attitudes toward professionalism.^{8,12} Although the level of professionalism of dental students has been investigated worldwide; there is a lack of information about the factors affecting professionalism and career planning in Turkish dental students and this lack of information should be eliminated.⁸

The Depression, Anxiety, and Stress Scale (DASS-21) measure three dimensions of these psychological states on a single, comprehensive, and reliable scale.¹³⁻¹⁵ The DASS consists of 3 parts, each consisting of 7 questions, and for each question, participants are asked to rate their

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psychological state in the past week.¹⁵ DASS-21 has been used in many international studies to measure the depression, anxiety, and stress levels of university students.¹⁶⁻¹⁸ Although many studies evaluate stress levels and describe stress factors in the dental environment in Turkey, measures of depression and anxiety have never been used to assess psychological well-being. Therefore, this study aimed to measure the depression, anxiety, and stress levels of dentistry students in Turkey using DASS-21, to evaluate the relationship between these levels and stress factors in literature, and to investigate the effect of this stress on career motivation.

MATERIALS & METHODS

This study was reviewed and approved by the University of Karabuk Human Research Ethics Committee (Approved by decision number 2022/1164). An online questionnaire was developed using Google Forms. Participation was voluntary and anonymous and each participant gave consent to participate before starting the survey. All students enrolled in a dentistry program between grades 1-5 at different universities in Turkey were included. The purpose of the study was elucidated to all participants who signed consent forms before participation.

An online questionnaire was developed that consist of four sections. The first section includes sociodemographic questions, such as gender, nationality, marital status, and years of education. 21 questions from the short form version of the DASS form the second part of the questionnaire. The DASS shows acceptable psychometric properties and can be compared with other scales with confidence.^{14,19} It includes three parts, each consisting of seven questions. Each of the three rankings is scored on a Likert scale from 0-3 (0: never, 1: occasionally, 2: often, 3: always). Depression, anxiety, and stress scores are calculated by summing the scores of the relevant items and the score scale ranges from mild to very severe.

Three separate points will be taken from the scale regarding depression, anxiety, and stress. The lowest score that can be obtained from the scale is 0 for each section, and the highest is 14+, 10+, and 17+, respectively. Compared to other anxiety scales, it is an easy-to-understand, reliable scale that quantitatively measures the participants' stress levels. In the third part, there are questions about the selection process of the dentistry profession. In the fourth part, there are questions about career planning after graduation. Then, the obtained data will be analyzed, and the professional motivations and emotional states of dentistry students will be evaluated.

Data were analyzed with IBM SPSS V23. Suitability to normal distribution was examined by Kolmogorov-Smirnov and Shapiro-Wilk tests. Mann-Whitney U test was used for the comparison of non-normally distributed data for two groups; the Kruskal-Wallis H test was used for the comparison of non-normally distributed data for three or more groups. Multiple comparisons were analyzed with Dunn's test. The results of the analysis were presented as mean \pm standard deviation and median (minimum-maximum) for quantitative data and as frequency and percentage for categorical data with a significance level of $p < 0.05$.

RESULTS

A total of 791 undergraduate dental students participated in the study. The participants were between 17 and 42 years (overall mean age: $20,88 \pm 2,11$). The study sample comprised 61,2% females ($n=484$) and 8% married ($n=6$). The nationality of 90.7% of the participants was recorded as other. 64% of the participants stated that they were considering quitting dentistry and moving to another department during their education. All demographic and general information of the students is presented in Table 1.

Table 1. Sociodemographic characteristics of the participants

		Number	Percentage
		(n)	(%)
Gender	Female	484	61.2
	Male	307	38.8
Nationality	Turkey	714	90.3
	Other	77	9.7
Marital status	Single	785	99.2
	Married	6	0.8
Grade	1	169	21.4
	2	216	27.3
	3	139	17.6
	4	171	21.6
	5	96	12.1
Type of residence	With family	149	18.9
	Student house	230	29.2
	Dormitory	410	52.0
Psychological state	I don't want to specify.	43	5.5
	I don't receive any psychological support.	501	63.7
	I receive professional psychological support.	16	2.0
	I'm on psychiatric medication.	26	3.3
	I want to get psychological support, but I don't apply.	201	25.5
First choice in the department	Other	15	1.9
	Dentistry	452	57.3
	Pharmacy	6	0.8
	Engineering	36	4.6
	Medicine	280	35.5
People who are influential in choosing dentistry	Parents	179	22.7
	Friends	20	2.5
	Other	49	6.2
	Dentists	65	8.2
	My own	444	56.3
	Teachers	32	4.1
Having a dentist's parent	Yes	100	12.7
	No	689	87.3
Have you considered changing to another department?	Yes	280	35.5
	No	508	64.5

Table 2 shows the questions and answers regarding the participants' motivations in choosing dentistry. Looking at the results, it is striking that the participants chose dentistry because it is a prestigious profession with a high income.

Table 2. Responses of the participants regarding their motivation to choose dentistry

I choose to study dentistry because ...	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
	n (%)	n (%)	n (%)	n (%)	n (%)
that was my career plan.	14.8	13.2	26.1	22.4	23.5
it has a high income.	5.2	10.1	20.5	37.0	27.1
it is a prestigious profession.	4.7	5.9	14.4	34.1	40.9
i was impressed by my dentist.	39.9	20.4	15.3	10.4	14.1
it is easy to find a job.	14.5	15.7	27.5	26.4	15.9
i want to help people.	7.7	9.9	19.8	28.6	34.0
i can own my clinic.	6.9	11.3	17.4	26.5	37.9
my choice of dentistry was random.	20.0	11.7	16.4	20.6	31.3

A statistically significant difference was found between the median stress scores according to gender ($p < 0.001$). While the median stress score was 8 for women, it was 7 for men (Table 3). A statistically significant difference was found between stress, anxiety, and depression levels according to the student's grade ($p < 0.001$). The highest values were observed in senior students. A statistically significant difference was found between the median values of stress score according to the answers given to the question of who was affected when choosing dentistry ($p < 0.001$). The lowest median value of 7 was obtained in dentists and self-determination responses. The anxiety score was statistically significantly higher in those who responded that I received psychiatric medication support ($p < 0.001$). A statistically significant difference was found between the median values of depression scores according to marital status ($p = 0.046$). While the median depression score was 6 in singles, it was 3.5 in married people. A statistically significant difference was found between the median values of depression score according to the answers to the question "Is there any other dentist in your family" ($p = 0.037$). The depression score of those who thought about transferring to another undergraduate program was statistically significantly higher than those who did not ($p < 0.001$).

Table 3. Comparison of stress, anxiety, and depression scores according to the answers given to the questions

		Stress		Anxiety		Depression	
		Median	P	Median	P	Median	P
		(min-max)		(min-max)		(min-max)	
Gender	Female	8 (0-21)	<0.001 ^f	7 (0-21)	<0.001 ^f	7 (0-18)	<0.001 ^f
	Male	7 (0-21)		5 (0-21)		5 (0-18)	
Nationality	Turkey	8 (0-21)	<0.001 ^f	6 (0-21)	<0.001 ^f	7 (0-18)	<0.001 ^f
	Other	6 (0-21)		4 (0-21)		5 (0-18)	
Marital status	Single	7 (0-21)	0.956 ^f	6 (0-21)	0.050 ^f	6 (0-18)	0.046 ^e
	Married	7.5 (0-14)		4 (0-5)		6 (0-18)	
Grade	1	6 (0-18) ^a	<0.001 ^f	5 (0-19) ^a	<0.001 ^f	5 (0-17) ^a	<0.001 ^d
	2	7 (0-21) ^b		5 (0-21) ^{ab}		6 (0-18) ^b	
	3	8 (1-21) ^c		6 (0-21) ^{bc}		7 (0-18) ^{bc}	
	4	7 (0-21) ^{bc}		7 (0-21) ^c		7 (0-18) ^{bc}	
	5	9 (2-21) ^d		7 (0-18) ^c		7 (0-18) ^c	
Type of residence	With family	8 (0-20)	0.058 ^e	6 (0-18)	0.997 ^e	7 (0-18)	0.250 ^d
	Student house	8 (0-21)		6 (0-21)		7 (0-18)	
	Dormitory	7 (0-21)		6 (0-21)		6 (0-18)	
People who are effective in choosing dentistry	Parents	8 (0-20) ^a	<0.001 ^f	7 (0-19) ^a	0.007 ^e	7 (0-18) ^a	<0.001 ^d
	Friends	8.5 (1-21) ^{ab}		6 (0-21) ^{ab}		7 (1-18) ^{ab}	
	Other	9 (1-21) ^a		7 (0-21) ^{ab}		9 (2-18) ^a	
	Dentists	7 (1-21) ^b		6 (0-21) ^{ab}		6 (0-18) ^b	
	My own	7 (0-21) ^b		5 (0-21) ^b		6 (0-18) ^b	
	Teachers	9 (0-20) ^{ab}		7 (0-17) ^{ab}		7 (2-17) ^{ab}	
Having a dentist's parent	Yes	7 (0-21)	0.119 ^f	5 (0-21)	0.037 ^f	6 (0-18)	0.037 ^e
	No	7 (0-21)		6 (0-21)		6 (0-18)	
Have you considered changing to another department?	Yes	9 (0-21)	<0.001 ^f	7 (0-21)	<0.001 ^f	7 (0-18)	<0.001 ^d
	No	7 (0-21)		5 (0-21)		6 (0-18)	

^fKruskal Wallis H test, ^eMann Whitney U test, a-d: There is no difference between answers with the same letter.

The responses of the participants, who were compared with stress, anxiety and depression in the table, should be evaluated separately on the main headings. This table does not make a direct statistical evaluation about the relationship between stress, anxiety and depression levels.

As high as 59% of the participants stated that they would like to pursue their careers abroad (Table 4). The majority of the students said that they would like to work in their clinic after graduation. Only 5.2% of the participants stated that they don't want to specialize in any branch, while the others said they planned to advance their careers in various specializations. 61.6% of the participants reported changing their career plans after graduation for multiple reasons.

Table 4. Questions and answers regarding the postgraduate dental careers of the participants

	Number	Percentages
	(n)	(%)
Where do you plan to work after graduation?		
Public Hospital	95	12.1
Other	12	1.5
My clinic	196	50.0
Private clinic	114	14.5
University/Academic career	149	19.0
I don't plan to examine after patients.	5	0.6
I have not decided yet.	214	27.3
In which department do you want to specialize/doctorate after graduation?		
Oral and Maxillofacial Surgery	152	19.3
Oral and Maxillofacial Radiology	10	1.3
Endodontics	22	2.8
Orthodontics	146	18.5
Pedodontics	45	5.7
Periodontology	17	2.2
Prosthetic Dentistry	29	3.7
Restorative Dentistry	10	1.3
I don't want to do a Specialization/PhD.	41	5.2
It can be any branch.	39	4.9
I have not decided.	277	35.2
Would you like to continue your dental career abroad?		
Yes	466	59.1
No	145	18.4
I'm undecided	177	22.5
Have any changes in your plans for your postgraduate dentistry career in your education process?		
No	299	38.4
Yes, I made a career plan where I would be exposed to less stress.	75	9.6
Yes, I have a better understanding of the field of dentistry work.	197	25.3
Yes, I changed my career plan because of my education expenses.	15	1.9
Yes, I realized that I have different interests and abilities.	60	7.7
Yes, other	133	17.1

DISCUSSION

This study aims to determine the stress, anxiety, and depression levels of dentistry students during the education process to evaluate their motivation in choosing dentistry and their career plans after graduation. Adverse external or internal stimuli cause stress as a normal biological response in the body. Although stress is often a motivating stimulus, it can cause clinical disorders such as anxiety and depression.²⁰ Many researchers have conducted studies evaluating students' choice of dentistry and their motivation.²¹⁻²⁵ In most studies, different questionnaires were applied, so comparing the results became challenging. In previous studies, not being successful enough, education expenses, and continuing their dental education in line with the expectations of their families were stated among the factors that may cause stress.^{26,27}

Undergraduate dental education in Turkey is a 5-year program. The fourth and fifth years are internship programs, and students examine patients in all specialties under the guidance of teachers at certain times. The students started to treat patients in the 4th grade, and it was observed that the stress level increased statistically significantly in the 5th grade ($p < 0,001$). In general, as the student progresses through the academic program, the level of stress increases, mainly due to the transition to the clinical environment, anxiety about the future, and striving to succeed academically and clinically.⁷ These students may have difficulty managing patients, have an inadequacy in completing clinical tasks, and fear a future dental career. Bathla

et al. declared that students reported higher levels of anxiety and depression in the first and last years. In addition, they classified the factors that may cause stress as academic and non-academic and aimed to define the predisposing factors.¹

As a result of this study, it was seen that people who decided to study dentistry had the lowest anxiety, stress, and depression compared to others. Supporting these results, advising parents not to force their children to participate in educational programs they dislike is equally essential in reducing stress.²⁸ Similar to the results of the present study, previous studies also reported that students whose first choice was dentistry were less stressed.^{3,4,29,30} While 57.3% of the participants stated that dentistry was their first choice in this study, this rate was determined as 63.5% in the study of Basudan et al.⁴ Similarly, Sezer and colleagues reported that more than half (53.9%) of the students participating in the survey preferred dentistry as their first choice.²²

Previous studies reported that female students had higher levels of stress, anxiety, and depression, and the results of this study are in line with this information. The fact that women are more likely to express their concerns and feelings, and internal psychological differences between the genders, can explain this observation.^{3,29,30} Another variable evaluated in this study is marital status, and no significant difference was observed in the stress and anxiety levels of the participants. However, the depression level of married people was statistically lower ($p < 0.001$). Previous studies have shown that a student's marital status is not a significant factor in psychological status.^{31,32} However, the marriage relationship and care of children may be a source of support. In the present study, depression level was found to be significantly lower in married people compared to single people ($p = 0.046$). However, no significant difference was found in stress and anxiety levels.

Paudel et al. emphasized that if faculties work with an educational specialist to design and develop a student-oriented curriculum, psychological well-being and stress in dental students will increase and stress will decrease.³³ Students should be supported to develop coping methods, and training on stress-reducing options such as healthy living, yoga, and meditation should be included in the curriculum.³⁴

There is no study evaluating the relationship between stress areas with the level of anxiety, depression, and suicidal intention. However, Galán et al. reported the prevalence of suicidal ideation among dental students for preclinical and clinical years.³⁵ This study also showed that 25% of the participants want professional psychological support but have not applied yet. This may be associated with the fear of stigma in their social environment and the high costs of professional psychological help. Therefore, dentists should be routinely provided with psychological support both in their student years and professional dentistry lives by the affiliated institutions.

Considering who is influenced by students when choosing dentistry, Sezer et al.²² reported in their study that 66.4% of the participants stated that choosing dentistry was their own decision, this rate was recorded as 56.3% in the present study. As a result of this study, it has been observed that families are also very effective in students' choosing dentistry.

In previous studies to measure the stress situation, the Dental Environment Stress (DES) questionnaire was mostly used.^{5,36} While the DES is useful for investigating sources of stress, it does not provide information on stress levels. Although stress has been extensively investigated in dental students, anxiety and depression have been much less investigated.⁵ The DASS is a commonly used, well-validated, and reliable tool for quantitatively measuring stress levels.¹³⁻¹⁵ DASS was also preferred in the planning of this study.

More and Kohn declared that the profession's reputation and financial earnings were usually reported occupational motivations for studying dentistry in their study published in the 1960s.³⁷ Khalaf stated that economic status and reputation resonate worldwide in association with the dental profession.³⁸ The findings of our study are also consistent with these studies, and the participants reported that they agree that dentistry is a prestigious profession with a high income.

Shah et al found that dental students who participated in their study generally had positive attitudes toward professionalism.⁸ Postgraduate education or specialization is mainly seen as mandator In this study,

only 5.2% of the participants stated they did not want to receive any postgraduate education. When the branches to want to specialize in were evaluated, it was found that most participants wanted to specialize in oral maxillofacial surgery (19.3%) and orthodontics (18.5%). In other studies conducted in Turkey, it was observed that the participants mostly wanted to specialize in the same branches.^{22,25}

When the institutions they would like to work in after graduation were investigated, it was found that 50% of the students wanted to work in their clinics. On the other hand, Sezer et al²² reported that most participants preferred to work with another clinician because of the disadvantages, such as the costs and responsibilities of opening their clinics. In addition, a very high percentage of the participants (59.1%) stated that they want to continue their careers abroad.

This study has some limitations, such as the cross-sectional study design, a limited number of participants, regional sociocultural variations, and the probability that responses may include personal differences. To obtain more accurate results, the study can be designed longitudinally in future studies, and studies involving more schools and students can be conducted at national and international levels. In addition, predisposing factors were not evaluated in the current study, and both predisposing factors and coping methods can be investigated in future studies.

CONCLUSION

Dentistry education is a complicated process and can cause an increase in students' levels of stress, anxiety, and depression. For this reason, the curriculum should be revised, and the methods of coping with stress should be taught to students to train psychologically healthy dentists in their future professional lives. In career planning, students should be provided with more detailed information about the professions they want to study, and their career choices should be left to them. In addition, postgraduate education in dentistry is also critical, and students should try to find a more suitable specialization area during their education.

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It is declared that during the preparation process of this study, scientific and ethical principles were followed and all the studies benefited are stated in the bibliography.

Benzerlik Taraması / Similarity scan

Yapıldı - ithenticate

Etik Bildirim / Ethical statement

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KAYNAKLAR

1. Bathla M, Singh M, Kulhara P, Chandna S, Aneja J. Evaluation of anxiety, depression and suicidal intent in undergraduate dental students: A cross-sectional study. *Contemp Clin Dent.* 2015;6(2):215.
2. Davidovich E, Pessov Y, Baniel A, Ram D. Levels of stress among general practitioners, students and specialists in pediatric dentistry during dental treatment. *J Clin Pediatr Dent.* 2015;39(5):419-22.
3. Alzahem AM, Van der Molen HT, Alaujan AH, Schmidt HG, Zamakhshary MH. Stress amongst dental students: a systematic review. *Eur J Dent Educ.* 2011;15(1):8-18.
4. Basudan S, Binanzan N, Alhassan A. Depression, anxiety and stress in dental students. *Int J Med Educ.* 2017;8:179-86.
5. Garbee Jr WH, Zucker SB, Selby GR. Perceived sources of stress among dental students. *J Am Dent Assoc.* 1980;100(6):853-7.
6. Pani SC, Al Askar AM, Al Mohrij SI, Al Ohali TA. Evaluation of stress in final-year Saudi dental students using salivary cortisol as a biomarker. *J Dent Educ.* 2011;75(3):377-84.
7. Al-Samadani KH, Al-Dharrab A. The perception of stress among clinical dental students. *World J Dent.* 2013;4(1):24-8.
8. Shah AA, Dempster LJ, Singhal S, Quiñonez CR. What influences attitudes toward professionalism in dental students? *J Dent Educ.* 2022;86(10):1332-49.
9. Al-Sudani D, Al-Abbas F, Al-Bannawi Z, Al-Ramadhan A. Professional attitudes and behaviors acquired during undergraduate education in the College of Dentistry, King Saud University. *Saudi Dent J.* 2013;25(2):69-74.
10. Rubin RW. Developing Cultural Competence and Social Responsibility in Preclinical Dental Students. *J Dent Educ.* 2004;68(4):460-7.
11. Field J, Ellis J, Abbas C, Germain P. Teaching and assessment of Professional attitudes in UK dental schools-Commentary. *Eur J Dent Educ.* 2010;14(3):133-5.
12. Davidson PL, Nakazono TT, Carreon DC, Bai J, Afifi A. Practice plans of dental school graduating seniors: effects of the pipeline program. *J Dent Educ.* 2009;73:S283-96.
13. Crawford JR, Henry JD. The Depression Anxiety Stress Scales (DASS): Normative data and latent structure in a large non-clinical sample. *Br J Clin Psychol.* 2003;42(2):111-31.
14. Lovibond PF, Lovibond SH. The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behav Res Ther.* 1995;33(3):335-43.
15. Antony MM, Bieling PJ, Cox BJ, Enns MW, Swinson RP. Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychol Assess.* 1998;10(2):176.
16. Beiter R, Nash R, McCrady M, Rhoades D, Linscomb M, Clarahan M, et al. The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *J Affect Disord.* 2015;173:90-6.
17. Shamsuddin K, Fadzil F, Ismail WSW, Shah SA, Omar K, Muhammad NA, et al. Correlates of depression, anxiety and stress among Malaysian university students. *Asian J Psychiatr.* 2013;6(4):318-23.
18. Oei TPS, Sawang S, Goh YW, Mukhtar F. Using the depression anxiety stress scale 21 (DASS-21) across cultures. *Int J Psychol.* 2013;48(6):1018-29.
19. Nieuwenhuijsen K, De Boer A, Verbeek J, Blonk RWB, Van Dijk FJH. The Depression Anxiety Stress Scales (DASS): detecting anxiety disorder and depression in employees absent from work because of mental health problems. *Occup Environ Med.* 2003;60(suppl 1):i77-82.
20. Rada RE, Johnson-Leong C. Stress, burnout, anxiety and depression among dentists. *J Am Dent Assoc.* 2004;135(6):788-94.
21. Halawany HS. Career motivations, perceptions of the future of dentistry and preferred dental specialties among Saudi dental students. *Open Dent J.* 2014;8:129.
22. Sezer B, Kolay D, Şen Yavuz B, Güneyligil Kazaz T, Kargül B. Motivations, attitudes for choosing dental profession and preferred dental specialties amongst Turkish dental students. *Eur J Dent Educ.* 2022;26(2):422-33.
23. Yan X, Zhang X, Jinno Y, Tachibana K, Gao J, Koyano K, et al. Career choice and future design of dental students in China and Japan. *Int Dent J.* 2014;64(2):68-75.
24. Santos BF dos, Nicolau B, Muller K, Bedos C, Zuanon ACC. Brazilian dental students' intentions and motivations towards their professional career. *J Dent Educ.* 2013;77(3):337-44.
25. HATIPOĞLU Ö. Factors that Affect the Career and Speciality Preferences of Dentistry Students in Turkey. *J Clin Diagnostic Res.* 2019;13(6).
26. Elangovan S, Allareddy V, Singh F, Taneja P, Karimbux N. Indian dental education in the new millennium: challenges and opportunities. *J Dent Educ.* 2010;74(9):1011-6.
27. Tangade PS, Mathur A, Gupta R, Chaudhary S. Assessment of stress level among dental school students: an Indian outlook. *Dent Res J (Isfahan).* 2011;8(2):95.
28. Acharya S. Factors affecting stress among Indian dental students. *J Dent Educ.* 2003;67(10):1140-8.
29. Uraz A, Tocak YS, Yozgatligil C, Cetiner S, Bal B. Psychological well-being, health, and stress sources in turkish dental students. *J Dent Educ.* 2013;77(10):1345-55.
30. Divaris K, Mafla AC, Villa-Torres L, Sánchez-Molina M, Gallego-Gómez CL, Vélez-Jaramillo LF, et al. Psychological distress and its correlates among dental students: a survey of 17 Colombian dental schools. *BMC Med Educ.* 2013;13(1):1-12.
31. Muirhead V, Locker D. Canadian dental students' perceptions of stress. *JOURNAL-CANADIAN Dent Assoc.* 2007;73(4):323.
32. Al-Saleh SA, Al-Madi EM, Al-Angari NS, Al-Shehri HA, Shukri MM. Survey of perceived stress-inducing problems among dental students, Saudi Arabia. *Saudi Dent J.* 2010;22(2):83-8.
33. Paudel S, Subedi N, Shrestha A. Stress and its relief among undergraduate dental students in a tertiary health care centre in eastern Nepal. *Dentistry.* 2013;3(157):1122-2161.
34. Dahan H, Bedos C. A typology of dental students according to their experience of stress: a qualitative study. *J Dent Educ.* 2010;74(2):95-103.
35. Galán F, Ríos-Santos J V, Polo J, Ríos-Carrasco B, Bullón P. Burnout, depression and suicidal ideation in dental students. *Med Oral Patol Oral Cir Bucal.* 2014;19(3):e206.
36. Elani HW, Allison PJ, Kumar RA, Mancini L, Lambrou A, Bedos C. A systematic review of stress in dental students. *J Dent Educ.* 2014;78(2):226-42.
37. More DM, Kohn Jr N. Some motives for entering dentistry. *Am J Sociol.* 1960;66(1):48-53.
38. Khalaf ME, Abubakr NH, Alenezi H, Ziada H. The motivation and confidence in choosing dentistry as a career amongst dental students: A mixed-methods study. *Eur J Dent Educ.* 2022;26(1):66-75.
39. Shah AA, Dempster LJ, Singhal S, Quiñonez CR. What influences attitudes toward professionalism in dental students? *J Dent Educ.* 2022;