

# The Perception of Stress among Clinical Dental Students

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## ABSTRACT

**Objective:** To determine the prevalence of stress among clinical students from Faculty of Dentistry, King Abdul Aziz University, Jeddah.

**Materials and methods:** A cross-sectional descriptive study was carried out in May 2012 on fourth, fifth and sixth year clinical dental students from Faculty of Dentistry, King Abdul Aziz University, Jeddah, using a modified form of dental environment stress (DES) questionnaire. A total of 353 questionnaires were distributed and incomplete questionnaires were excluded from the study. SPSS version 15 was used to do statistical analysis.

**Results:** A total of 353 students were asked to complete the questionnaire and 232 (65.7%) responded; of these 120 (51.7%) were males and remaining 112 (48.3%) were females. More or less all the students were having stress. In male students severe stress was due to difficulty in getting suitable patient (51%) and the patient who were arriving late or not coming on appointment,  $p = 0.16$ , whereas in female they were having severe stress due to fear of failure (59%),  $p = 0.02$ , examination and grading (57%) and completing examination requirement (52%). In male, amount of academic overload was also main cause of severe stress ( $p = 0.03$ ). Sixth-year students were having more stress due to amount of overload (59.1%), lack of time to do assigned work (53.4%), difficulty to get suitable patient (71.6%) and patient arriving late or not coming on appointment (64.8%). Fifth-year students were more stressed due to completing examination requirement (65.7%). Fourth-year students were having more stress due to fear of failure (58.4%) and examination and grading (58.4%).

**Conclusion:** The finding of this study show some considerable degree or severe stress among the students. Longitudinal studies that include preclinical dental students should be carried out to know how the pattern of stress varies during preclinical and clinical training period.

**Keywords:** Stress, Descriptive study, Responded, Clinical, Dental students, Grading.

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## INTRODUCTION

Stress is defined as the perception of discrepancy between environment demands and individual capacities to fulfill these demands. Stress develops due to excessive pressure or different types of demands placed on them.<sup>1</sup> A number of studies on academic stress among students were previously conducted. Some identified the development of stress because of too many assignments, competition with

other students, fear of failure, poor relationship with other students or teachers, family problems, frequent examinations, phobia from examinations, demanding curricula, anxious patients, complicated treatments and possible conflicts with patients and limited time to perform and finish the planned treatment.<sup>2</sup> Stressors vary by individual attitude, beliefs and cultural background.<sup>3</sup> Dental students from Spain were more stressed by clinical training and performance pressure; whereas Greek students were having more stress during patient treatment.<sup>4,5</sup> The most important source of stress among Indian dental students was the academic component of the course, especially in regard to examination and grading.<sup>5</sup>

Dental schools are known to be highly demanding with a stressful learning environment. Stress can result physical and psychological distress, which leads to affect the performance of the student. It can cause anxiety, depression, phobia, fear, tension dizziness, fatigue, sleeplessness, gastrointestinal disturbance, irritability and cynicism.<sup>6</sup> Dental curricula require students to attain diverse proficiencies including acquisition of theoretical knowledge, clinical competencies and interpersonal skills.<sup>7</sup> The people living in Saudi Arabia are composed from multiple sociocultural backgrounds, hence, they differ fundamentally from each other and, possibly, from other countries. The dental educational system in Saudi Arabia is a hierarchical system, in which there is an initial preparatory year followed by 5 years of dental schooling in which the first 2 years include the basic sciences in medicine and dentistry. During the third year students are exposed to the clinical environment and the fourth and fifth years are mainly clinically oriented. This is followed by a 1 year of internship that involves the students to rotate among different government dental clinics for exposure and practice.<sup>6</sup> Faculty of Dentistry, King Abdulaziz University, preparatory year is called first year. Previously, dental schools were only located in the major cities (Riyadh, Jeddah and Dammam). Currently, the number of universities that provide dental education has increased significantly. In past, studying dentistry meant that students may have to move away from home and face difficulties in maintaining social ties in with their home towns and building new ones in their new environment.<sup>6</sup> This has changed due to availability of dental schools closer to their hometowns. Therefore, the study of dentistry in Saudi Arabia may pose different kinds of problems and stress-inducing factors as compared to past

that may require further study. This study may provide academic staff and administrator's options to reduce stress among students.

The objective of this study was to investigate the stress among dental students who are clinically involved at the Faculty of Dentistry, King Abdulaziz University, Jeddah, Saudi Arabia. The specific aims are: (1) Study the prevalence of stress among fourth, fifth and sixth year students and (2) determine possible factors that could be responsible.

## MATERIALS AND METHODS

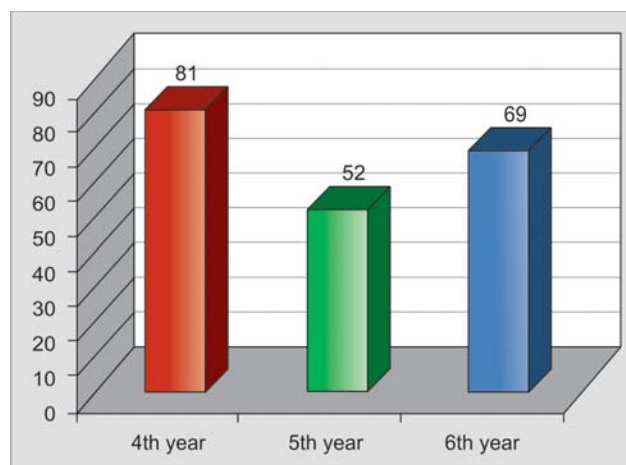
A cross-sectional descriptive study was carried out on fourth, fifth and sixth year dental students from Faculty of Dentistry, King Abdul Aziz University, Jeddah, using a modified form of dental environment stress (DES) questionnaire. The DES consists of 29 close-ended questions in the English language that was applicable to Saudi dental students. Each question had three options: (1) No stress, (2) mild to moderate stress and (3) severe stress.

The questionnaires were distributed during lectures for each year and students were asked to submit the completed questionnaire the following day. Since, stress among dental students has been shown to vary over the course of academic year, so the questionnaires were distributed at the beginning of the first semester. A total of 353 questionnaires were distributed among fourth, fifth and sixth year dental students. Incomplete questionnaires were excluded from the study. Ethical permission was obtained from the Research ethics Committee of the Faculty of Dentistry, King Abdulaziz University. Students were instructed not to write their name to ensure anonymity and confidentiality.

The statistical package for social sciences (SPSS) version 15 was used to analyze the data. Basic descriptive statistics and Chi-square test was used to analyze and correlate the variables. Significant level was set at  $p < 0.05$ .

## RESULTS

A total of 353 students were asked to complete the questionnaire and 232 (65.7%) responded; (Graph 1) of these 120 (51.7%) were males and remaining 112 (48.3%)



Graph 1: The percentage of clinical students who responded

were females. The maximum number of respondents (81%) was from fourth year, 52% respondents were from fifth year and 69% were from sixth year. Maximum response rate for females was (87%) from fourth year and the maximum response for males was 76% from sixth year (Table 1).

Table 2 shows the distribution of stress among the respondents and factors that were responsible for severe stress are displayed in descending order.

Table 3 shows the factors which were causing severe stress among more than 40% of students who were correlated with the gender. In male students severe stress was due to difficulty in getting suitable patients (51%) and the patient who were arriving late or not coming on appointment but no significant relation were found ( $p = 0.16$ ), whereas in female they were having severe stress due to fear of failure (59%) and there was significant relation with the male ( $p = 0.02$ ), examination and grading (57%) and completing examination requirement (52%) but there was no significant relation. In male, amount of academic overload was also main cause of severe stress and it was having significant relation with the female ( $p = 0.03$ ).

Factors causing maximum stress by different years of study are in the Table 4. Sixth-year students were having more stress due to amount of overload (59.1%), lack of time to do assigned work (53.4%), difficulty to get suitable patient (71.6%) and patient arriving late or not coming on appointment (64.8%). Fifth-year students were more

Table 1: Responded rate among gender

Year of study	Total number of questionnaire distributed among the students	Male students	Female students	Total responded	Responded(%)
4th year	95	10	67	77	81
5th year	130	43	24	67	52
6th year	128	67	21	88	69
Total	353	120	112	232	65.7

**Table 2:** Distribution of stress among clinical dental students

S. no. Questionnaires	No. stress		Mild to moderate stress		Severe stress	
	N	%	N	%	N	%
1. Examination and grading	0	0	103	44.4	129	55.6
2. Amount of academic over load	0	0	108	46.6	124	53.4
3. Fear of failure	7	3.0	106	45.7	119	51.3
4. Completing examination requirements	1	0.4	118	50.9	113	48.7
5. Difficulty to get suitable patients	3	1.3	116	50.0	113	48.7
6. Lack of time to do assigned work	6	2.6	120	51.7	106	45.7
7. Patient arriving late or not coming on appointment	2	0.9	126	54.3	104	44.8
8. Responsibilities for comprehensive patient care	8	3.4	147	63.4	77	33.2
9. Rules and regulations of the faculty	4	1.7	152	65.5	76	32.8
10. Conflict with the patients	6	2.6	154	66.4	72	31.0
11. Fear of getting infectious diseases like HIV, HBV, etc.	21	9.1	143	61.6	68	29.3
12. Lack of cooperation by patients in clinic and home care	2	0.9	163	70.3	67	28.9
13. Financial problem	31	13.4	167	72.0	34	14.7
14. Difficulty in learning clinical procedures	19	8.2	187	80.6	26	11.2
15. Difficulty with class work	15	6.5	191	82.3	26	11.2
16. Inconsistency of feedback regarding work	11	4.7	195	84.1	26	11.2
17. Amount of cheating among dental students	15	6.5	193	83.2	24	10.3
18. Attitude of faculty toward students	10	4.3	200	86.2	22	9.5
19. Environment of extracurricular activities	56	24.1	154	66.4	22	9.5
20. Difficulty in understanding lectures	3	1.3	210	90.5	19	8.2
21. Receiving criticism about work	8	3.4	205	88.4	19	8.2
22. Home atmosphere	81	34.9	134	57.8	17	7.3
23. Competition with class work	7	3.0	209	90.1	16	6.9
24. Distance and time needed to travel dental college	101	43.5	116	50.0	15	6.5
25. Social contact with students	48	20.7	170	73.3	14	6.0
26. Physical health problem	120	51.7	100	43.1	12	5.2
27. Having children at home	147	63.4	75	32.3	10	4.3
28. Lack of confidence about being a successful dental students	35	15.1	188	81.0	9	3.9
29. Marital problem	173	74.6	51	22.0	8	3.4

**Table 3:** Distribution of maximum stress among genders

No. Questionnaires	Males						Females						Chi-square significant level
	No. stress		Mild to moderate stress		Severe stress		No. stress		Mild to moderate stress		Severe stress		
1. Lack of time to do assigned work	6	5	59	49	55	46	0	0	61	54	51	46	5.915 at 2df p = 0.052
2. Fear of failure	6	5	61	51	53	44	1	1	45	40	66	59	7.139 at 2df p = 0.028
3. Examination and grading	0	0	55	46	65	54	0	0	48	43	64	57	0.208 at 1df p = 0.648
4. Completing examination requirements	1	1	64	53	55	46	0	0	54	48	58	52	1.653 at 2df p = 0.438
5. Amount of academic over load	0	0	48	40	72	60	0	0	60	54	52	46	4.288 at 1df p = 0.038
6. Difficulty to get suitable patients	3	2	56	47	61	51	0	0	60	54	52	46	3.583 at 2df p = 0.167
7. Patient arriving late or not coming on appointment	1	1	58	48	61	51	1	1	68	61	43	38	3.637 at 2df p = 0.162

stressed due to completing examination requirement (65.7%). Fourth-year students were having more stress due to fear of failure (58.4%) and examination and grading (58.4%).

**Table 4:** Relation of stress with year of study

Questionnaire	Grade of stress	4th year		5th year		6th year		Significant level
Amount of academic overload	No stress	0	0	0	0	0	0	2.515 at 3df p = 0.284
	Mild to moderate stress	41	53.2	31	46.3	36	40.9	
	Severe stress	36	46.8	36	53.7	52	59.1	
Fear of failure	No stress	0	0	1	1.5	6	6.8	11.527 at 4df p = 0.021
	Mild to moderate stress	32	41.6	38	56.7	36	40.9	
	Severe stress	45	58.4	28	41.8	46	52.3	
Examination and grading	No stress	0	0	0	0	0	0	0.944 at 2df p = 0.624
	Mild to moderate stress	32	41.6	33	49.3	38	43.2	
	Severe stress	45	58.4	34	50.7	50	46.8	
Completing examination requirement	No stress	0	0	0	0	1	1.1	12.471 at 4df p = 0.014
	Mild to moderate stress	46	59.7	23	34.3	49	55.7	
	Severe stress	31	40.3	44	65.7	38	43.2	
Lack of time to do assigned work	No stress	0	0	2	3.0	4	4.5	7.789 at 4df p = 0.100
	Mild to moderate stress	45	58.4	38	56.7	37	42.0	
	Severe stress	32	41.6	27	40.3	47	53.5	
Difficulty to get Suitable patients	No stress	0	0	2	3.0	1	1.1	36.857 at 4df p = 0.000
	Mild to moderate stress	56	72.7	36	53.7	24	27.3	
	Severe stress	21	27.3	29	43.3	63	71.6	
Patients arriving late or not coming on appointment	No stress	0	0	1	1.5	1	1.1	34.299 at 4df p = 0.000
	Mild to moderate stress	61	79.2	35	52.2	30	34.1	
	Severe stress	16	20.8	31	46.3	57	64.8	

## DISCUSSION

The prevalence of stress was present among all the students for all fourth, fifth and sixth year and they suffered high degree of emotional stress. Previous study from seven European dental schools was reported. Only 22% students suffer from severe stress while this study showed high degree of severe stress in more than 50%. The cause of stress did vary by years of study and gender. The first major cause of severe stress among dental students was tension of examination and grading (55.6%) followed by amount of academic overload (53.4%) and fear of failure (51.3%) as shown in Table 2. Total course of dentistry is of 6-year duration, first year preclinical, second and third year preclinical and fourth, fifth and sixth year clinical. Each year is further divided into the two semesters of each 6 months. They have to pass through a lot of test. The academic overload is due to short semester coupled with too many assignments, tests and preparation of final semester examination. Above with these they have to fulfill clinical quota. They cited too many works to be accomplished with short time that leave them with no time to enjoy their social life. Results of this study are consistent with the other studies.<sup>1-3,5,8</sup> Examination and grading as well as fear of failure are a reflection of academic overload which was not fulfilled in the short period.<sup>9</sup> This is consistent to other earlier studies that identified fear of failing and poor performance as stressful.<sup>1,5,10,11</sup>

Three factors which were associated with severe stress to females were related to the scarcity of time to complete

examination requirement and these were giving to much stress. The lack of time could be attributed to them getting married earlier and even having children while completing their studies. This increased their responsibilities and prevented them from spending much time on their studies. Some researchers had reported similar observation<sup>3,10,12-14</sup> while others did not find gender differences in perceived stress.<sup>15-17</sup>

In this study, males reported severe stress being caused by the amount of academic overload (60%) (p = 0.038), difficulty in getting patients and the patients arriving late or not coming for their appointments. This is a common problem worldwide, where females tend to attend and seek medical and dental services more frequently compared to their male counterparts.<sup>5,18,19</sup> The male patients could be fearful and hence reluctant to attend for treatment, possibly do not want to have treatment done by students and prefer to be treated by a specialist. When patients first arrive at the dental clinic, they are screened by a dentist and then referred to a student for the respective treatment. When patients become aware that students will render the treatment, they became fearful and stopped coming to future visits.<sup>6,8</sup>

The amount of severe stress varied among the different years of study. Fourth-year students were more tensed due to fear of failure and examination grading.<sup>5,6,14</sup> This could be the initial exposure of these students to the clinics and having to simultaneously deal with both academic and clinical requirements. This could have created an overload



which resulted in a lack of preparation for examinations and assignments. Fifth-year students were recording most stress reading the inability to complete assignments. This could be as a result of them treating many patients and having a lack of time. Sixth-year students were more worried due to difficulty in getting suitable patients and patients not keeping up with their appointments which prevented them from accomplishing their clinical quotas.<sup>20</sup>

## CONCLUSION

The finding of this study showed that dental students from the faculty of dentistry, King Abdulaziz University, suffered some considerable degree or severe stress. Longitudinal studies that include preclinical dental students should be carried out to know how the pattern of stress varies during preclinical and clinical training period. Time to time analytical study should be carried out to determine the cause and factors related to severe stress. Curricula of the dental school as well as examination pattern should be amended and improved to overcome much stress. Before appointment to the students, patients should be provided proper information regarding appointment, oral health education and students supervision by the consultant not to avoid appointment with the patient or absent on appointment.

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