

Stress and burnout among dental students: Factors and effects at Riyadh Elm University

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ABSTRACT

Aim

To identify stress and burnout and their factors experienced by dental students in Riyadh Elm University during their educational programs.

Methods

Self-administered cross-sectional survey was conducted among dental students via emails and cross platform messenger "Whatsapp". Two questionnaires were designed for the students depending on their educational level and were distributed among undergraduate dental students of Riyadh Elm University. Both questionnaires included the factors that could cause stress and burnout corresponding to the students' educational level and comprised of family problems, health issues, program curriculum, and others. Data was analyzed using SPSS.

Results

A total of 292 undergraduate dental students of Riyadh Elm University completed the questionnaire. The pre-clinical survey showed the following five main sources of stress: "Frequency of tests", followed by "Tightness of time", "Heavy material to study", "and Family problems", and "Health issues". The five main sources of stress in clinical survey are: "Looking for patients", "Clinical requirements", "Tightness of time", "Heavy material to study", and "Frequency of tests".

Conclusion

The findings of this study concludes the main sources of stress and burnout. For the pre-clinical students: "Frequency of tests", "Tightness of time", and "Heavy material to study". For clinical students: "Looking for patients", "Clinical requirements", and "Tightness of time".

INTRODUCTION

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" as defined by the World Health Organization in 1946.¹ Stress has different effects on health and physical performance. These effects include migraines, tachycardia, lack of appetite, difficulty concentrating, intense fatigue, back pain, and depression.² Stress is a

universal undermined issue, however students in the medical field are exposed to greater level of stress and higher frequency of physiological and psychological burnout if measured to the ordinary population.^{1, 3-6}

Stress can be construed as accumulated damage to the build of the human being due to coping of exhausting situation.⁷ As the dental students continue their medical education programs nearly lasting 7 years they face

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multiple challenges that lead to burnout and stress, such as heavy curriculum, tightness of time, social expectations, academic demands, and many more.^{1, 3, 7-8} The condition of which a person is in mental and physical lassitude is the definition of the burnout syndrome. Burnout can occur when a person is aware of extreme demands, low excitement, and discouraging emotions due to unsatisfactory performance.⁵ Different studies has been conducted regarding this issue, for instance: An Association for University and College counseling center Directors (AUCCCD) survey showed that concerns of students mental health and corresponding actions include anxiety, depression, and suicidal thoughts noticeable increased, as reported by 73% of the center directors.⁹ Regionally in a study conducted in Umm Al-Qura University, Makkah, Saudi Arabia identified high levels of stress being (70.9%) and anxiety (66.4%).¹⁰ Students dealing with burnout may face pessimism, unfulfillment, coldness, substance abuse, smoking, and difficulty decision making skills.^{6, 11} On one hand, some cases deliberated that burnout intensifies by each continuous year reaching its highest in their final years, and on the other hand other cases showed burnout hitting its highest point in the third year, although it was concluded in some studies that the amount of stress isn't dependent on the year.⁹⁻¹¹ The inescapable state of being stressed is enforced on students in the dental program education.¹² However, certain approaches can be used to help elevate the stress. For instance, positive framing, engaging in conversations and activities with friends and family members, exercising and preparatory workshops.^{1, 4-6, 9, 11} The aim of this study was to identify stress and burnout and their factors experienced by dental students in Riyadh Elm University during their educational programs.

Material and Methods

Self-administered cross-sectional survey was conducted among dental students via emails and cross platform messenger "Whatsapp". The questions were in both English and Arabic languages. Two questionnaires were designed for the students depending on their educational level and were distributed among undergraduate dental students of Riyadh Elm University. The first questionnaire was for the pre-clinical students which included 23 questions, correspondingly the second questioner was for the clinical students consisting of 24 questions. Both questionnaires included the factors that could cause stress and burnout corresponding to the students' educational level and comprised of family problems, health issues, program curriculum, and others. A pilot study has been conducted prior to the final surveys with a total of 94 respondents. Descriptive statistics was performed to present the overview of findings. Data were analyzed using SPSS Version 21. A p value of ≤ 0.05 was considered as statistically significant.

Results

A total of 292 undergraduate dental students of Riyadh Elm University completed the questionnaire. An absolute of 66.43% of the response rate were from the clinical levels and 33.56% response rate from the pre-clinical levels. As students progress in their educational program especially the transitional phase from the pre-clinical to the clinical studies face different sources of stress. Each factor that were agreed to be stressful were compared between the two surveys. Table 1 and 2 shows main sources of stress for dental student from level 1 to level 12. "Family obligations" scored 66.4% for both questionnaires, "Family problems" showed higher score in pre-clinical survey (72.45%), while (69.07%) in the clinical survey. "High parental expectations" also scored higher in the pre-clinical survey (63.27%) than the

clinical survey (58.76%). “Health issues” counted much greater in the clinical survey (84.02%) comparing to the pre-clinical survey (68.37%). “Frequency of test” both counted (93.59%), “Marriage and children” also counted higher in the clinical survey (29.38%) than (23%) in pre-

clinical survey (23%). In both survey “Heavy study material” recorded (91.03%), “Tightness of time” showed (96.92%), “Heavy schedule” scored (94.1%) , as well as “Lack of sleep” revealed (86.15%) .

Table 1: Main sources of stress for dental student from level 1 to level 7

ANSWER CHOICES	RESPONSES	
Family obligations - الالتزامات العائلية	3.06%	3
Family problems - المشاكل الأسرية	6.12%	6
High parental expectations- تطلعات الآباء المرتفعة	1.02%	1
Mirage and children - الزواج و الأطفال	1.02%	1
Health problems - المشاكل الصحية	4.08%	4
Frequency of tests - كثرة الاختبارات	23.47%	23
Frequency of labs - كثرة المختبرات	0.00%	0
Heavy material to study - صعوبة و كثرة المواد الدراسية	17.35%	17
Tightness of time - ضيق الوقت	21.43%	21
Heavy schedule - وجود جدول زمني كثيف	10.20%	10
Lack of sleep - قلة النوم	0.00%	0
studying all night - الدراسة طوال الليل	0.00%	0
Long lectures - المحاضرات طويلة	1.02%	1
Fear of failing a subject - الخوف من الفشل في المادة	3.06%	3
Lack of supervisions from instructors - غياب الإشراف من المعلمين	2.04%	2
Competition from fellow students - المنافسة من زملائك الطلاب	0.00%	0
Uncooperative mentors affect - الموجهين غير المتعاونين	3.06%	3
Fearing of being unskilled - الخوف من كونك غير ماهر	2.04%	2
Time consuming assignment - الوقت المستغرق في الواجبات	0.00%	0
consecutive classes without breaks - المحاضرات المتتالية دون استراحة	1.02%	1
TOTAL		98

Table 2: Main sources of stress for dental student from level 8 to level 12

ANSWER CHOICES	RESPONSES	
Family obligations - الالتزامات العائلية	2.56%	5
Family problems - المشاكل الأسرية	4.10%	8
High parental expectations- تطلعات الآباء المرتفعة	1.03%	2
Mirage and children - الزواج و الأطفال	0.00%	0
Health problems - المشاكل الصحية	1.54%	3
Frequency of tests - كثرة الاختبارات	5.13%	10
Heavy material to study - صعوبة و كثرة المواد الدراسية	5.64%	11
Tightness of time - ضيق الوقت	7.69%	15
Heavy schedule - وجود جدول زمني كثيف	2.05%	4
Lack of sleep - قلة النوم	1.54%	3
studying all night - الدراسة طوال الليل	0.00%	0
Long lectures - المحاضرات طويلة	2.56%	5
Fear of failing a subject - الخوف من الفشل في المادة	2.05%	4
Lack of supervisions from instructors - غياب الإشراف من المعلمين	0.00%	0
Competition from fellow students - المنافسة من زملائك الطلاب	0.51%	1
Uncooperative mentors affect - الموجهين غير المتعاونين	3.08%	6
Fearing of being unskilled - الخوف من كونك غير ماهر	3.08%	6
Time consuming assignment - الوقت المستغرق في الواجبات	0.00%	0
Consecutive classes without breaks - المحاضرات المتتالية دون استراحة	0.51%	1
Clinical requirements - تؤثر المتطلبات السريرية	24.10%	47
Looking for patients - البحث عن المرضى	32.82%	64
TOTAL		195

“Studying all night” counted higher in the clinical survey (70.1%), while 67.35% in the pre-clinical survey. “Long lectures” the two together revealed (91.02%), “Fear of failing a subject” had higher count in the pre-clinical survey (98.86%), meanwhile reached 81.44% in the clinical survey. “Lack of supervision from instructors” recorded lower in the pre-clinical survey (53.06%), while 61.86% in the clinical survey. “Competition from fellow students” also counted lower in the pre-clinical survey

(38.14%) and reached 50% in the clinical survey. “Uncooperative mentors” marked higher count in the clinical survey (86.06%), whereas 72.45% in the pre-clinical survey. “Fear of being unskilled” showed lesser score in pre-clinical survey (64.29%), yet calculated 70.1% in the clinical survey, “Time consuming assignment” reached 81.63% in the pre-clinical survey prior to the clinical survey (60.82%). “Consecutive classes” both showed high results, the pre-clinical survey

reached 84.69% and 78.87% in the clinical survey. "Frequency of labs" was only mentioned as a factor in the pre-clinical survey calculating 58.16%. For the clinical survey had a couple of additional factors that were not considered in the pre-clinical survey, "Clinical requirements" counted 88.66% and "Looking for patients" scored 95.88%.

Discussion

Studies suggest there are some kind of positive stress "Favorable stress" that enhances the intellectual performance. However exceeding that far beyond what students can manage will affect the psychological and physiological behavior, that eventually lead to burnout.⁷ During the 7 years of the dental education program, students are taught and trained academic ideational and surgical prospective of dental education. In addition, they are required to perform them on patients and mastering them.¹¹ The pre-clinical survey showed the five main sources of stress are the following: "Frequency of tests", followed by "Tightness of time", "Heavy material to study", "and Family problems", last but not the least "Health issues". Dental students face overwhelming academic schedule and demanding obligation for each course, finding no time for leisure activities, along with difficulty balancing their personal life with their studies that induce continuous stress.

On the other hand, a study conducted at King Saud University among dental students showed the perceiving cause of stress for the pre-clinical students was "Overloaded feelings due to huge syllabus".¹³ As for the clinical questioner the five main sources of stress are in sequence: "Looking for patients", then "Clinical requirements", "Tightness of time", "Heavy material to study", ultimately "Frequency of tests". Due to lack of flow of the patients, students may delay in their clinical requirements that are an essential aspect of their training,

which can prevent them from continuing to the next level. However a study revealed "Clinical requirements" was the major cause for stress.¹³ Moreover a study was conducted in Canada regarding the causes of stress of dental student reported higher stress levels with students correlated with financial factors and clinical requirements.¹³ Another study was done in India concluded the highest mean score of stress was "Fear of facing parents after failure".¹² While only (1.02%) of the students in this study found "High parental expectations" was the main source of stress for them.

Conclusion

The findings of this study concludes the main sources of stress and burnout. For the pre-clinical students: first was "Frequency of tests", followed by "Tightness of time", then "Heavy material to study". As to the clinical students: "Looking for patients" was first on the list followed by, "Clinical requirements", and "Tightness of time".

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