

# **Burnout Syndrome among Undergraduate Dental Students in Majmaah University, Al Zulfi, Saudi Arabia**

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## **Abstract**

**Aims:** to assess the burnout syndrome among dental students and to compare and correlate the burnout parameters according to the age and year of study.

**Materials and Methods:** all male undergraduate students (n=125) from the college of dentistry participated in the cross sectional study. Maslach Burnout Inventory-Student Version (MBI-SS) questionnaire was used as an instrument in this study. SPSS 23, software was used to analyze descriptive data; Pearson's correlation coefficient was used to correlate three sub scales of MBI-SS with age and year of study.

**Results:** the response rate was 100%, statistically significant correlation was found for emotional exhaustion with age and year of study, and in year wise comparison only second year showed high depersonalization and diminished personal accomplishment. Positive correlation among all three sub scales was also seen.

**Conclusion:** emotional exhaustion increased with the increase in age and year of study, among all the study year 2<sup>nd</sup> year students showed high values of depersonalization and diminished personal accomplishment, over all the burnout among students was low.

**Keywords:** *Burnout syndrome, Saudi Arabia, dental students, MBI-SS.*

## **Introduction**

Burnout is defined by Maslach and Jackson as a working environment syndrome, characterized by a process of chronic response to occupational stress, when coping methods fail or are insufficient, thus having negative consequences both at the individual and the professional level, and further affecting the family and social interactions. It is referred to as a multidimensional syndrome consisting of emotional exhaustion, dehumanization and reduced accomplishment at work.<sup>1</sup>

Burnout is characterized by three components: Emotional tiredness/exhaustion, depersonalization/dehumanization, and low personal realization/accomplishment. It is an abnormal response of an individual to a chronic emotional stress, and initially, this syndrome was described in professionals with an intense and emotional interpersonal contact; however, more recently the concept of burnout has been extended to all occupational groups, including students.<sup>2</sup>

Dental students may not reveal or display any signs to the world outside, but it is appropriate to identify the condition before it intensifies. It can be intellectually debilitating and can have detrimental effects on an individual's academic performance. Contemporary curricula require professional students to attain manifold proficiencies, including the acquisition of theoretical

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knowledge, clinical efficiency, and interpersonal skills. Arduous academic pressure, limited social and personal time can append to the normal stress of life and thus can lead to a negative impact.<sup>3</sup>

Dental students seem to be prone to professional burnout, anxiety disorders and clinical depression because of the variety of sources of stress encountered throughout the professional career, and there is the possibility of beginning as early as university.<sup>4</sup>

The development of burnout syndrome, however, is directly related to the way individuals behave regarding stressors, which may result in a risk or in protection behaviors.<sup>5</sup>

Besides the prevalence of burnout syndrome among college students, considerable researches have revealed that students' burnout is related to perceived workload, perceived stress, examination anxiety, and academic performance.<sup>6</sup>

Sources of stress affecting dental students could be examinations and grades, full working day, receiving criticism from supervisors, lack of time to do assigned work, financial resources, and fear of employment after graduation or facing parents after failure.<sup>7</sup>

The dental education system in Saudi Arabia is a hierarchical system, in which there is an initial preparatory General Science year, followed by 5 years of dental school education in which the 1st and 2nd years include both basic sciences, medical and dental courses. The 3rd year introduces the students to the clinical disciplines, while the 4th and 5th year are mainly clinical oriented courses. The internship year is spent training on rotation in different hospitals around the kingdom. Dental schools are segregated into male and female campuses.<sup>8</sup>

The male section of our dental college has students studying in all the year of study where as the female section has been recently started in this academic year (2016-17) with only the first year students, so only the male section of dental college was targeted in this study. The objective of this study was to assess the burnout syndrome among dental students and also to compare the burnout parameters according to the age and year of study.

## Materials and Methods

A cross sectional study was conducted; all the undergraduate students at the college of dentistry, were invited to participate in the study, as this study was about their academic experience in the university all the students in all the level of study year agreed to participate in the study.

The present study was approved by the research ethical committee of the college of dentistry, and there is no conflict of interest, written informed consent was taken from the students.

The questionnaire were administered to all the students in their respective classrooms (from level 1<sup>st</sup> to 5<sup>th</sup> year) and 15 minutes were given to the students to read, fill and return it back to the investigator, the students who were absent on that particular day were again targeted in their next lectures. The data was collected between October and November 2016.

The questionnaire consisted of the Maslach Burnout Inventory - Student Survey (MBI-SS), used to assess the Burnout syndrome. The MBI-SS is a self-assessment, seven-point Likert-type scale, with categories ranging from "never" to "every day". The instrument consists of 15 questions, which are divided into three dimensions, emotional exhaustion with 5 items, Cynicism/Depersonalization with 4 items and Professional Efficacy with 6 items.

As the cutoff point for Exhaustion and Cynicism, we used the percentile 66 (P66), and for Professional Efficacy we used the percentile 33 (P33), as proposed by Maslach and Jackson. Individuals that presented Exhaustion and Cynicism mean values above P66 and Professional Efficacy results below P33 were considered to have Burnout Syndrome<sup>1</sup>.

Data was analyzed using IBM SPSS Statistics 23, Pearson Correlation test was used to correlated different subscales in the questionnaire and with the age and year of study,

## Results

A total of 125 male dental undergraduate students participated in the study. All the students from 1<sup>st</sup> year to the 5<sup>th</sup> year of study were targeted in the study; the

response rate was 100%. Table 1 shows the age of the students the minimum age of students were 19 years and maximum was 25 years.

**Table 1 Age distribution of study subjects**

	N	Minimum	Maximum	Mean	Std. Deviation
Age	125	19.00	25.00	21.5280	1.79415

The distribution of students according to the year of study, first year 29 students, second year 26 students, third year 24 students, fourth year 24 students and fifth year 22 students. The overall percentages of the responses by the students for the questionnaire are shown in table 2.

**Table 2: Total responses of All Levels (%)**

All Levels n= 125							
Questions	Never	Less than 12 times a year	Once a month	More than once a month less than once a week	Once a week	2 or 4 times a week	5 times a week or everyday
I feel emotionally drained (tired by my studies)	12	9.6	13.6	14.4	31.2	14.4	4.8
I feel used up at the end of a day at University.	7.2	6.4	8	11.2	30.4	24.8	12
I feel tired when I get up in the morning and I have to face another day at the University	20.8	4.8	16.8	12	22.4	16	7.2
Studying or attending a class is really a strain for me	19.2	4	16	14.4	24	17.6	4.8
I feel burned out from my studies	14.4	8.8	22.4	15.2	25.6	10.4	3.2
I have become less interested in my studies since my enrollment at the university	29.6	14.4	22.4	12.8	14.4	4.8	1.6
I have become less enthusiastic (excited) about my studies	24	9.6	24.8	8.8	24.8	5.6	2.4
I have become more cynical (belief that it cannot be successful ) about potential usefulness of my studies	45.6	10.4	16.8	9.6	6.4	8	3.2
I doubt this significance (Importance) of my studies.	39.2	10.4	10.4	14.4	13.6	7.2	4.8
I can effectively solve the problems that arise in my studies.	14.4	8.8	9.6	13.6	20.8	16	16.8
I believe that I make an effective contribution to the classes that I attend.	8.8	9.6	12.8	12	24.8	24.8	7.2
In my opinion, I am good Student.	2.4	3.2	7.2	8.8	16	28.8	33.6
I feel stimulated (encouragement, enthusiasm) when I achieve my study goals.	2.4	5.6	6.4	8	16.8	26.4	34.4
I have learned many interesting things during the course of my studies.	2.4	0.8	8	6.4	16.8	33.6	32
During class I feel confident that I am effective in getting things done.	3.2	3.2	6.4	6.4	21.6	32.8	26.4

In this study as for emotional exhaustion scale 12% of study population never felt emotionally drained by their studies but 31% felt emotionally drained once a week, the same percentage around 30% felt used up at the end of the day in university once a week. Around 21% students never felt tired when they got up in the morning with the feeling of facing university another day but 24% of students felt tired once a week and 7 % felt tired almost every day. Studying or attending the class was never a strain for 19% of students but for 24% it was for once a week and for 5 % of students of students every day. Around 14% of students were never felt burnout from their studies but 25.6% of students felt once in a week and 3% of students felt every day.

The depersonalization aspect shows that 29.6% of students never became less interested in their studies after enrollment at university, but 1.6% student’s everyday thinks they have become became less interested in their studies after enrollment at university, the majority 45.6% of students never doubted the usefulness of their studies but 3.2% still doubts every day.

Talking about diminished personal accomplishment

scale majority of students can effectively solve their problems arising from their studies but around 14 % said they can never solve their problems arising from studies. The majority of students (33.6%) think in their opinion they are good students where as 2.4% never thought they are good students. majority of students (34.4%) every day felt stimulated when they achieve their study goals, (32%) said they learnt many interesting things during studies, and (26.4%) felt confident in effectively getting things done.

The correlation of age and year of study with three different subscales in the questionnaire were shown in Table 3 and Table 4 respectively. There was a positive correlation with age and emotional exhaustion scale, the results showed as the age was increasing their emotional exhaustion was also increasing. The same is true for year of study also as the level of year of study was increasing the emotional exhaustion was also increasing. Whereas for the depersonalization and diminished personal accomplishment there was no correlation with age or year of study. The results also showed that there was a positive correlation between all the three subscales in the questionnaire.

**Table 3: Correlation of burnout subscales with age**

		Age	Emotional exhaustion	Depersonalization	Diminished Personal Accomplishment
Age	Pearson Correlation	1	.324**	.130	.160
	Sig. (2-tailed)		.000	.147	.074
	N	125	125	125	125
Emotional exhaustion	Pearson Correlation	.324**	1	.575**	.389**
	Sig. (2-tailed)	.000		.000	.000
	N	125	125	125	125
Depersonalization	Pearson Correlation	.130	.575**	1	.342**
	Sig. (2-tailed)	.147	.000		.000
	N	125	125	125	125
Diminished Personal Accomplishment	Pearson Correlation	.160	.389**	.342**	1
	Sig. (2-tailed)	.074	.000	.000	
	N	125	125	125	125
** . Correlation is significant at the 0.01 level (2-tailed).					

**Table 4: Correlation of burnout subscales with year of study**

		<b>Emotional exhaustion</b>	<b>Depersonalization</b>	<b>Diminished Personal Accomplishment</b>	<b>year</b>
Emotional exhaustion	Pearson Correlation	1	.575**	.389**	.237**
	Sig. (2-tailed)		.000	.000	.008
	N	125	125	125	125
Depersonalization	Pearson Correlation	.575**	1	.342**	.030
	Sig. (2-tailed)	.000		.000	.740
	N	125	125	125	125
Diminished Personal Accomplishment	Pearson Correlation	.389**	.342**	1	.132
	Sig. (2-tailed)	.000	.000		.142
	N	125	125	125	125
Year	Pearson Correlation	.237**	.030	.132	1
	Sig. (2-tailed)	.008	.740	.142	
	N	125	125	125	125
**. Correlation is significant at the 0.01 level (2-tailed).					

**Discussion**

The recognition of Burnout as a public health problem led to its inclusion in the list of occupational diseases related to work. The literature has shown that the chronic nature of this stress, combined with factors such as lack of energy and enthusiasm, feelings of

exhaustion, job dissatisfaction and emotional instability, may lead to the onset of Burnout syndrome. It is possible for the syndrome to have an early onset, during the graduate course, and this may enhance the future onset of the syndrome in these professionals. To address this situation, there is a need for an early identification of

symptoms related to Burnout, which should preferably take place when workers are still in training that is during their graduate course.<sup>1</sup>

The present study was conducted on 125 dental undergraduate students from 1<sup>st</sup> to 5<sup>th</sup> year of their study, to assess the burnout syndrome. The response rate was 100% indicating the interest of the students in participating in this study.

As the burnout questionnaire by MBI-SS has three subscales, we correlated the age of the students and their year of study with these sub scales, we found that as the level of year of study increase the emotional exhaustion among the students was also increasing, the final and the pre final year reported with highest emotional exhaustion similarly where students had high emotional exhaustion were reported in the studies.<sup>1-7</sup> The explanation for this result would be the 1<sup>st</sup> and 2<sup>nd</sup> year are initial years 3<sup>rd</sup> year is the preclinical year and 4<sup>th</sup> and 5<sup>th</sup> year are the clinical year where students along with their academic responsibilities also manage the clinical responsibilities, and it's mentioned that examinations and completing clinical requirements are the highest sources of stress among dental students.<sup>8</sup>

We also found emotional exhaustion component of burnout to be increasing as the age increases, the similar finding have been reported by the studies.<sup>9-12</sup> Well along with the academic and clinical responsibilities, the social responsibilities also increases along with the age, their recognition in the community increases as they are treating the patients, and at the same time the expectations from them also increases, in order to fulfill those expectations, students many a times overload themselves which may result in exhaustion.

The depersonalization and diminished personal accomplishment scores were significantly high among the second year dental students, for these sub scales we have seen different results from different studies, the study<sup>12, 14</sup> said first year students, study<sup>15</sup> said fourth year students, study<sup>16</sup> said third year students were more affected but in contrast to our study, the study<sup>9</sup> said the second year students were least affected. The explanation of our results would be, in the second year our students has a combination of medical and dental subjects along with some preclinical introductory courses and labs and certainly all together they are required to do lot of

activities in this particular year, failing to which may result in depersonalization and diminished personal accomplishment.

We also saw positive correlation among the three sub scales which has also been reported by the study.<sup>13</sup> The first year students showed the highest correlation in emotional exhaustion and depersonalization scales, the second year students also showed in emotional exhaustion and depersonalization scales, the third and fifth year students showed maximum correlation in emotional exhaustion and diminished personal accomplishment, where as fourth year students showed highest correlation in depersonalization and diminished personal accomplishment. Similar results of correlation between the sub scales were reported in the systematic review.<sup>17</sup>

Burnout can be considered a serious risk to the dental profession, causing both a threat to the work force and a tragedy to the individual dental student and thus is considered as a public health issue. Physiological, psychological and behavioral dimensions are affected by burnout, and several symptoms can subsequently occur. The continuous exposure to stress inducers may cause depressive symptoms. Burnout is considered as an occupational health issue, one of the most important work related problems in today's society.<sup>18</sup>

Though the burnout syndrome collectively among our dental students was low, there is evidence of separate studies and review of literature stating high level of stress among dental students during their professional courses.

## Conclusion

This study showed the correlation between year of study and age with emotional exhaustion, as the students progressed through their study years their emotional exhaustion was also increased, the depersonalization and diminished personal accomplishment were not significantly related with the year of study except the second year students who showed depersonalization and diminished personal accomplishment. There were also the correlations between different sub scales and year of study respectively. Though the occurrence of burnout was less in this study, the stressful events can be eliminated with appropriate measures to alter student's maladaptive perceptions and reactions to those events.



Conducive environment needs to be created in the institution, workshops involving students and teachers to be conducted on a regular basis.

**Ethical approval and consent:** obtained

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**Conflict of Interest** – Nil

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