

# Comparison of Stress Level among Different Years of Undergraduate Dental Students

M. SAQIB RABBANI<sup>1</sup>, FARIHA ASGHAR<sup>2</sup>, ANEEL SHAFI<sup>3</sup>, UNAIZA JAWAD<sup>4</sup>, WAQAS LATIF<sup>5</sup>

<sup>1,2</sup>Sr Demonstrator Avicenna Medical and Dental College, Lahore

<sup>3</sup>Assistant Professor Medical and Dental College, Lahore

<sup>4</sup>Assistant Professor, Rashid Latif Medical College Lahore

<sup>5</sup>Data Analyst, University of Health Sciences, Lahore

Correspondence Dr.M. Saqib Rabbani, Email: saqibrabbani@hotmail.com

## ABSTRACT

**Aim:** To find out the effect of year of study on undergraduate dental student's stress level and to identify various stressors among undergraduate dental students.

**Design:** Cross Sectional Comparative Study.

**Place & duration of study:** The study was conducted in the Department of Behavioral sciences at University of Health Sciences, Lahore and data was collected from different dental colleges of Punjab based on convenience sampling technique.

**Methods:** 90 students from each professional year were chosen, with total sample size of 360. Convenience sampling technique was used. Proportion allocation was done for male and female student proportion calculation. DES questionnaire was distributed as per this allocation. This questionnaire contained 41 items, with seven sub categories.

**Results:** Overall stress score was highest among students of third-year followed by final year and second year students. Stress score was least among students of first year. Among different stressors stress of workload was highest among students, followed by performance pressure and patient treatment stressor. Social stressor was least present among undergraduate students.

**Conclusion:** Stress level was significantly high among undergraduate dental students, with third year being the most stressful year followed by final year. Workload stressor was highest among all stressors.

**Keywords:** Dental students, Stress level, Different Stressors

## INTRODUCTION

Dentistry has been frequently rated as an exceptionally stressful profession. Stress in dentistry started during graduation years and progressed into clinical practice after graduation. Stress can be defined when psychological and physical harmony of a person disrupts under specific external elements that can be of either psychological or physical nature<sup>1</sup>. Experience to long term stress is considered the most dangerous because most likely it will result in long-term or permanent changes in the emotional, physiological, and behavioural responses that effect vulnerability to and progress of disease<sup>2</sup>.

Literature reports that the evidence of emotional exhaustion and Burnout syndrome is more among dental students. Also, the development of Stress-related morbidity and musculoskeletal disorders is more among dental practitioners. These factors are among the leading cause of premature retirement of dental practitioners<sup>3,4</sup>. Stress related factors (stressors) do not cause anxiety or tension by themselves, rather when these factors combine along with person's perception about person's response toward these factors then stress results<sup>5</sup>.

Elevated levels of stress found among dental students. These elevated levels of stress may have a negative impact on the students' learning ability<sup>6</sup>. Previous studies shows that dentists suffer from psychological signs and symptoms which they see as work-related, such as backache, muscle ache and exhaustion because they

assess their health and physical state negatively<sup>7</sup>. Such complaints can reduce the work efficiency dramatically<sup>8</sup>. The stress in a dental student's life begin during training years, the stress in dentist's life started during training years and student's have to bear similar stressors as that of dental professionals<sup>9</sup>. Year of study has also impact on stress level of students with clinical years being more stressful as compared to preclinical years<sup>10</sup>.

Many studies in past rule out various stressors in a dental student's life, such as a study by Sabita et al. (2013) reported some stressors, such as technical and tough nature of clinical work, restricted time for preparation during study period and dealing with non-cooperative patients<sup>11</sup>. Likewise, in another study by Appukuttan DP(2016) illustrated that difficulties with time management and residing on timetable are a big task for a dentist, excessive workload, uncooperative patients, interference from administration side in daily routine matters, and constant struggle to gain excellence in clinical procedures<sup>12</sup>.

The objectives of current study were to compare stress level of students and to highlight various stressors among undergraduate dental students.

## METHODS

A cross sectional comparative, questionnaire based study after taking approval from ethical committee of UHS conducted. Convenient sampling technique was used. The data of 360 voluntary students were included those fulfilling inclusion criteria in this study with 90 students from each professional year was collected during the middle of academic year 2014-2015 from different dental colleges of

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Punjab Students who were not willing to participate or those students who left college or are not part of current academic year because of illness (Medical as well as Psychiatric) or because they fail to pass previous year were excluded.

## RESULTS

Among 360 students 89 (24.7%) were male students and remaining 271 (75.3%) were female students, as shown in the pie-diagram (Graph-1). Among self-efficacy beliefs stressor was most prevalent among third year students with mean score of 2.65 followed by final and second year students with mean scores of 2.55 and 2.41. Stress regarding self-efficacy beliefs was least prevalent among first year students with mean score of 2.14. Analysis of variance (ANOVA) test was performed to compare the score of stressor among different years of study. One-way ANOVA test revealed that there was a statistically significant difference in Self-Efficacy beliefs stressor among different years of study. (Table-1 & Graph-2). The results of over all mean score of different stressor's stress among students showed that self efficacy was 2.44, faculty 2.38, work load 2.73, patient treatment 2.5, clinical training 2.32, performance 2.51 and social stressor 1.8 with p-value (p-

value < 0.001, p value 0.029\*, and p-value 0.01\* respectively)..

Graph-1 : Graphical Presentation with Respt to Gender

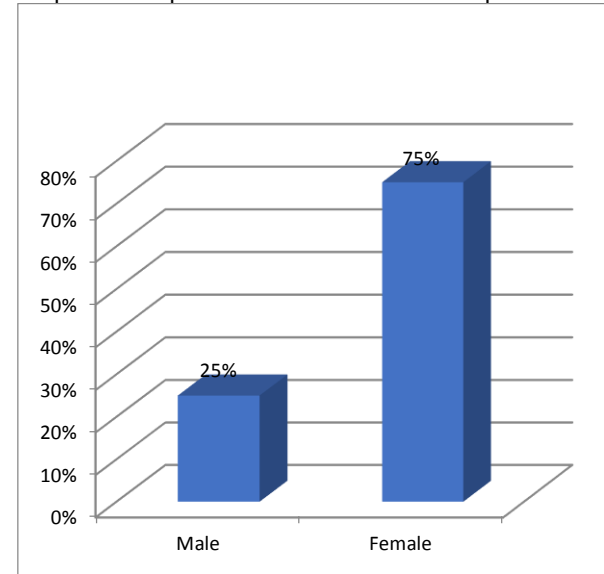


Table 1: Score of stressors among all professional years and combine stress score of individual years

Professional Year	Stressors and their Mean $\pm$ SD							Combine Mean Scores
	Self-Efficacy	Faculty	Workload	Patient Treatment	Clinical Training	Performance	Social Stressors	
First year	2.14 $\pm$ 0.6	2.17 $\pm$ 0.6	2.70 $\pm$ 0.8	2.13 $\pm$ 1.0	1.83 $\pm$ 0.8	2.19 $\pm$ 0.7	1.46 $\pm$ 1.0	2.09 $\pm$ 0.8
Second year	2.41 $\pm$ 0.5	2.34 $\pm$ 0.6	2.56 $\pm$ 0.9	2.15 $\pm$ 1.1	2.21 $\pm$ 0.9	2.26 $\pm$ 0.9	1.75 $\pm$ 1.1	2.24 $\pm$ 0.9
Third year	2.65 $\pm$ 0.6	2.52 $\pm$ 0.6	2.92 $\pm$ 0.7	2.83 $\pm$ 0.8	2.71 $\pm$ 0.8	2.79 $\pm$ 0.7	1.91 $\pm$ 1.1	2.62 $\pm$ 0.7
Final year	2.55 $\pm$ 0.6	2.48 $\pm$ 0.7	2.71 $\pm$ 0.9	2.84 $\pm$ 0.8	2.53 $\pm$ 0.8	2.81 $\pm$ 0.8	1.95 $\pm$ 1.1	2.55 $\pm$ 0.8

Graph-2 : Bar chart Presentation with Respt to Score of Stressors

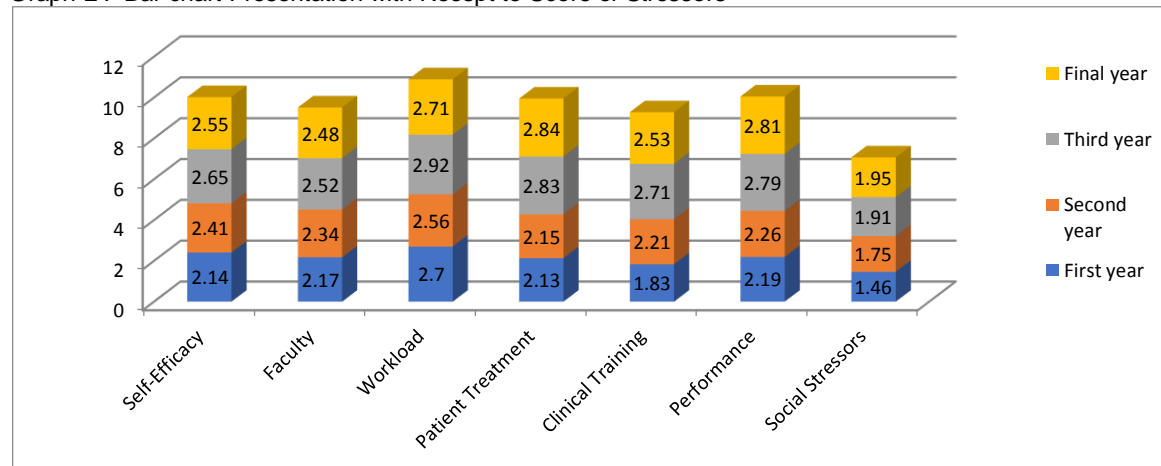
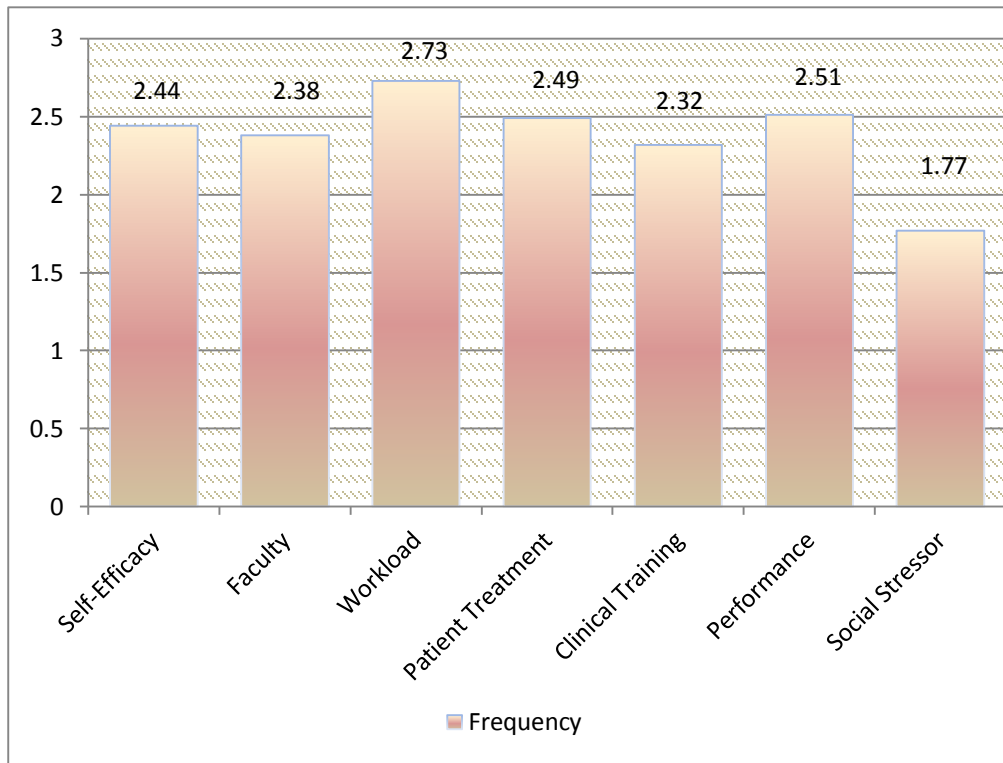


Table 2: Overall mean score of different stressors among all students

Stressor	N	Mean $\pm$ SD	Minimum	Maximum	P-Value
Self-Efficacy	360	2.44 $\pm$ 0.6	2.38	2.50	< 0.001*
Faculty	360	2.38 $\pm$ 0.6	2.31	2.44	< 0.001*
Workload	360	2.73 $\pm$ 0.8	2.63	2.811	0.029*
Patient Treatment	360	2.50 $\pm$ 0.9	2.38	2.59	< 0.001*
Clinical Training	360	2.32 $\pm$ 0.8	2.23	2.41	< 0.001*
Performance	360	2.51 $\pm$ .8417	2.42	2.60	< 0.001*
Social Stressor	360	1.8 $\pm$ 1.0918	1.65	1.88	0.01*

Graph 3: Overall Mean score of different stressors among all students



## DISCUSSION

The current study showed descriptive finds as among 360 students 89 (24.7%) were male students and remaining 271 (75.3%) were female students of different years of medical colleges of Punjab.

The study conducted by Telang et.al, (2013) showed that stress is a process by which recognize and deal with environmental dangers and challenges and is merely not limited to a response to different situations<sup>13</sup>. Dentistry has long been considered a stressful occupation. Stress-related morbidity and musculoskeletal disorders have been found to be the most frequent causes of premature retirement of dental practitioners. According to Maslach C and Leiter MP(2016)reveald that intensive interactions with patients may result in “burnout”, a condition that involves emotional depletion, depersonalization and reduced personal accomplishment. The source of stress usually arises during the process of dental training<sup>14</sup>.

The stress of Faculty and administration was most prevalent among third year students followed by final year and second year, and was least present among students of first year. This result is similar to study by Alzahem et al. (2011) and Sugiura et al. (2005). However, this result of my study is in contrast with results of study by Sanders et al. (2002). Results of this study shows that stress regarding Faculty and administration is equally present from first till final year. The possible cause is the criticism that students have to face regarding clinical as well as preclinical assignments. The possible reasons for this difference in my results is that as students start their clinical assignments from third year, so the third-year students are more

dependent on faculty, where as first and second year students are only dependent on faculty for academic assignments, as a result they have less stress score<sup>15-17</sup>.

Stressor of workload, which was highest among students of third year followed by students of final year and first year, this result is contradicted with results of study by Ishaque MY, FaridH, Yasmeen S (2015) in which he stated that 2nd year students have the highest stress level of Workload. The reason for this contradiction is that, as second year students have to face huge syllabus along with preclinical work, but in later years students learned to manage academic as well as clinical requirements whereas in our education system students have to learn few laboratory procedures and third year students first time interacts with patients so, stress score is more among third year students as compare to second year students<sup>18</sup>.

Regarding stress of Performance students of clinical years (Third year and Final year) are more stressed as compared to students of preclinical years (First and Second year). These results are like results of Sabita et al. (2013). Whereas, studies done by Kumar et al. (2009) and Jain and Bansal, (2012) shows that stressor of Performance is not limited to clinical years of study and students of all years of dental education are extremely stressed by performance pressures. This can be due to this fact that, as preclinical years have huge syllabus and have to master laboratory procedures, whereas clinical years along with academic syllabus have to master clinical skills. The difference that lies in my study is due to this fact that in our education system preclinical students have to put more focus on theoretical knowledge only<sup>19-21</sup>.

Social stressors were most prevalent in clinical years, followed by second year and first year scores. Same results were presented by Alzahem et al. (2013). Whereas a study done by Lester et al., (2010) shows that social stressors are least stress provoking factors among students of clinical years. According to this study, for preclinical students "personal physical health" and "living in hostel" is most stress provoking factor. The possible reason of contradiction lies in this fact that according to our cultural norms students of preclinical years are not expected to support their family<sup>22,23</sup>.

Clinical training stress is most prevalent among students of third year followed by final and second year respectively. This result is similar to results of study by Zeyad et al. (2013). But, results of study by Maria et al. (2012) contradicts with this result. According to this study as final year students become more critical of their own work as well as of the correctness of clinical decisions leading to accumulation of stress during clinical exercises. The possible reason of contradiction of result from my study lies in this fact that students learned to cope better with different clinical scenarios by the time they reach their final year. So that's why stress of clinical training is less among final year students.

## CONCLUSIONS

The results of this study conclude that stress level was significantly high among undergraduate dental students. Clinical years of training were more stressful as compared to pre-clinical years of training. Workload stressor was highest stressor among undergraduate dental students followed by Performance pressure stressor.

**Limitation:** Current study has cross-sectional design and vestigating at one-point time. This design did not investigate the fluctuations of stress over time (longitudinal fluctuations).

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