

## STRESS AMONG DENTAL UNDERGRADUATES: A CROSS-SECTIONAL STUDY

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### ABSTRACT

*Stress is an inevitable event in a student's life. Students experience stress due to academic and cultural environment. Stress has a good or bad impact on students.*

*This study was conducted to determine the level of stress among dental undergraduate's students of private and government dental college.*

*It was a cross sectional study and was conducted at Baqai Dental College, Karachi and Nishtar Institute of Dentistry, Multan from January 2018 to June 2018. Students of First to Final Professional Year of BDS from (Private Dental College) and First to Final Professional Year BDS from (Government Dental College) were included in this study. An informed written consent was taken from the participants. Dental Environmental Stress questionnaire was modified and was used in this study. Data were entered and analysed using SPSS 22 version.*

*Overloaded feeling due to vast and huge syllabus was found to be highly stressful factor among dental students (51.4%). Fear of failing showed 44% frequency level and was found to be the second highest stressor among dental students. Stress frequency was reported higher among private dental college students than the government dental college students.*

*There is a need for greater attention to improve the psychological wellbeing of students for the betterment of their life and academic career. Counselling and awareness programmes must be developed to decrease stress and to improve the quality of life of the future doctors in curricular and extra-curricular activities.*

**Key Words:** *Stress, academics, dental undergraduate.*

### INTRODUCTION

Stress is an inevitable event in every aspects of human life and it is usually an emotional discrepancy which may be due to various reasons such as financial issues, job selections, social status, level of education, competition with colleagues, family problems and unable to overcome hurdles in life.<sup>1</sup>

It was found that students who studied in college and universities seem to be more passionate and goal oriented than school students. They need more guidance in every aspect of their lives for betterment of their

future and when these university students cannot cope up with the challenging and demanding pressures it will lead to stress among them.<sup>2,3</sup>

Stress has a dual effect on a person. Sometimes stress will be effective for students in order to improve themselves with motivation and by improving the performance. But high level of stress has marked influence on mental and physical health of students.<sup>4</sup>

According to definition given by World Health Organization, "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".<sup>5</sup> Students who are part of educational system are facing both academic and non-academic stress.<sup>6</sup>

The journey of dental and medical undergraduates seems to be very daunting, challenging and requires a lot of patience and hard work.<sup>7</sup> Among all the health care professions, dentistry is considered as a highly demanding and stress oriented profession.<sup>8</sup>

Several causes of stress is observed in dental students such as academic stress, environmental stress,

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less time for relaxation and activities, facing criticism, family and social pressures.<sup>9</sup> In a study conducted by Manstead, it was revealed that not only the academic stress, society and culture also causes the stress among the dental students.<sup>10</sup> The increase burden of educational workload on dental students compromises the ability to stay relax mentally and physically during exams and in extra-curricular activities. According to the study by Rehmani *et al* it was revealed that medical students are the most worried as compared to the general population.<sup>11</sup>

It has been seen, that the percentage of mental health problems, stress and depression are increasing among students most commonly in medical profession<sup>12</sup> and the major cause of stress and mental illness among medical students is due to academic stress.<sup>13</sup>

Stress related to academics in students comprises due to long duration of studies, less time for preparation of the exams, high merit levels and struggling for grades, unable to manage time for studies and extra-curricular activities.<sup>14,15</sup>

Study conducted by Sekhon *et al* in India found that most commonly observed factors of academic stress includes marks in exams (95%), not enough time between the exams (94%) and fear of failure (90.5%).<sup>16</sup>

Study conducted by Ishaque *et al* in Rawalpindi city of Pakistan described that the most common stress among dental students was the fear of failing in annual exams along with huge syllabus.<sup>17</sup>

Numerous studies were conducted on medical and dental undergraduates to evaluate the causes of stress. But few studies were conducted in Pakistan to check the level of stress in dental students of private and government medical colleges. Therefore, the aim of our study was to identify the level of stress among dental undergraduate's students of private and government dental college.

## METHODOLOGY

A cross sectional study was conducted at Baqai Dental College, Karachi and Nishtar Institute of Dentistry, Multan from January 2018 till June 2018. All students of first to final year from BDS (Private Dental College) and first to final year from BDS (Government Dental College) were included in this study. Those students who diagnosed with depression and taking treatment for any condition were excluded in this study. An informed written consent was taken from participants before data collection and maintaining the confidentiality of collected information from individuals. The questionnaire we used for measuring stress was based on Dental Environmental Stress.<sup>18</sup> The questionnaire was divided into two parts. First

part comprised of demographic information like age, professional years, and gender. The second part of the questionnaire was based on stress aggravating factors: self-efficacy beliefs, stress due to clinical training and academic performance, stress due to teachers and staff, and social stressors. Each stressor was measured by using 5 point Likert Scale where 1=not pertinent, 2=not stressful, 3=slightly stressful, 4=moderately stressful and 5=very stressful. The questionnaires were distributed and filled by the students during the study time. The data were entered and analysed using statistical package for the social sciences statistical software 22 version. Descriptive statistics and Chi square test was used to determine the significant differences.

## RESULTS

A total of 327 dental undergraduates participated in this study, among 176 (53.8%) dental students were from Private College and 151 (46.2%) dental students from Government College. The response rate of female dental students (56.0%) was more than the male dental students (44%). The detailed demographic status of the study participants are shown in (Table 1). Mean and standard deviation of the studied variables are shown in (Table 2). The frequency and percentage of the most stressful stressors are displayed on (Table 3). For comparing studied variables among private and government dental college and professional year, chi-square statistics was used and are shown in (Table 4).

## DISCUSSION

TABLE 1: DEMOGRAPHIC STATUS OF THE STUDY PARTICIPANTS

Variables	Frequency	%age
Gender		
Male	144	44%
Female	183	56.0%
Age		
12-15 years	180	55.04%
16-20 years	143	43.73%
21-25 years	4	1.22%
Professional Year		
First Professional Year	111	33.9%
Second Professional Year	91	27.8%
Third Professional Year	66	20.2%
Fourth Professional Year	59	18.0%
College		
Private	176	53.8%
Government	151	46.2%

TABLE 2: DESCRIPTIVE STATISTICS OF THE VARIABLES

Variable	Mean $\pm$ Std.
Fear of failing a course or year	2.72 $\pm$ 1.38
Fear of being unable to catch up if left behind	2.36 $\pm$ 1.27
Lack of confidence to be a successful dental student	2.03 $\pm$ 1.30
Fear of not being able to join a post graduate dental education program	1.99 $\pm$ 1.34
Insecurity concerning professional future	2.10 $\pm$ 1.31
Insecurity concerning lack of job designations	2.12 $\pm$ 1.26
Lack of confidence in own decision making	1.95 $\pm$ 1.33
Language barrier	1.35 $\pm$ 1.32
Lack of confidence to be a successful dentist	1.78 $\pm$ 1.28
Inconsistency of feedback on work between different teaching instructors	1.88 $\pm$ 1.31
Receiving criticism about work from faculty	1.99 $\pm$ 1.32
Being treated as immature & irresponsible by faculty	1.90 $\pm$ 1.35
Competition between batch mates	1.80 $\pm$ 1.36
Getting study material	1.93 $\pm$ 1.34
Shortage of allocated laboratory time	1.98 $\pm$ 1.34
Inadequate number of instructors in relation to student	1.84 $\pm$ 1.30
Shortage of allocated clinical time	1.96 $\pm$ 1.35
Amount of cheating in dental school	1.93 $\pm$ 1.38
Amount of assigned class work	2.33 $\pm$ 1.25
Difficulty of class work	2.49 $\pm$ 1.26
Late ending day	2.62 $\pm$ 1.32
Lack of time for relaxation	2.80 $\pm$ 1.33
Overloaded feeling due to huge syllabus	3.04 $\pm$ 1.17
Lack of time to do assigned class work	2.65 $\pm$ 1.25
Patients not being punctual	2.02 $\pm$ 1.43
Lack of corporation from patients	1.97 $\pm$ 1.38
Fear of dealing with patients who do not disclose the existence of a contagious disease	2.10 $\pm$ 1.40
Working on patients with poor personal hygiene	2.14 $\pm$ 1.41
Responsibility of getting suitable patients	2.15 $\pm$ 1.36
Difficulty in learning precision manual skills required in preclinical work	2.06 $\pm$ 1.36
Transition from pre-clinic to clinic work	1.98 $\pm$ 1.31
Difficulty in learning clinical procedures	2.08 $\pm$ 1.34
Fear of cross infection	2.30 $\pm$ 1.36
Fear of patient quota	2.30 $\pm$ 1.47
Competition for grades	2.61 $\pm$ 1.35
Fear of grading in modular examinations & in annual exams	2.72 $\pm$ 1.38
Attendance pressure	2.74 $\pm$ 1.35
Lack of home atmosphere in hostels	2.06 $\pm$ 1.45
Financial problems	2.04 $\pm$ 1.48
Issues of university transport	2.19 $\pm$ 1.57
Health related problems	2.13 $\pm$ 1.41

TABLE 3: FREQUENCY AND PERCENTAGE OF THE HIGHLY STRESSFUL VARIABLES

Variable	Frequency	Percentage
Fear of failing a course	144	44.0%
Lack of time for relaxation	148	45.3%
Overloaded due to huge syllabus	168	51.4%
Fear of grades in exams	142	43.4%
Attendance pressure	140	42.8%
Late ending day	121	37.0%
Lack of time to do assigned work	109	33.3%
Fear of patient quota	100	30.6%

Variables	Chi-Square
Private & Government Dental College	
Fear related to dealing with patients having contagious disease	P=0.002
Transition from preclinical to clinical	P=0.002
Competition of grades	P=0.000
Professional Year	
Fear of failing a year	P=0.005
Fear of unable to catch if left behind	P=0.004
Competition between batch mates	P=0.001
Getting study material	P=0.001
Shortage of allocated clinical time	P=0.003
Patients not being punctual	P=0.000
Lack of corporation from patients	P=0.000
Fear related to dealing with patients having contagious diseases	P=0.000
Working on patients with poor personal hygiene	P=0.000
Difficulty in learning manual skills	P=0.000
Transition from preclinical to clinical	P=0.000
Difficulty in learning clinical skills	P=0.000
Fear of cross infection	P=0.004
Fear of patient quota	P=0.000

The most common stress among the dental students was the academic related stress.<sup>4</sup> The findings are in agreement with the other studies that examine stress in medical student<sup>19</sup> and pharmacy students.<sup>20</sup>

In Pakistan, the maximum range of prevalence of stress and anxiety were recorded from 44%, 45.5% to 60%, and raised up to 74.2%.<sup>21,22,23,24</sup>

The present study revealed common stressors among dental students was competition for grades, fear related to dealing with patients having contagious diseases, transition of students from pre-clinical to clinical work.

The comparison among gender in the current study is showing that 56% of females has the highest per-

centage of stress than males.<sup>25</sup> As reported in a study by Mehfoz *et al*, women who were involved in medical professions, have more anxiety and psychological issues.<sup>26</sup> In a study conducted in Pakistan by Shah *et al*, has revealed that female students are the more stressed compared to male students.<sup>27</sup>

Various geographical areas, institutional environments and social cultural norms are one of the reasons for the high prevalence of stress among medical students throughout the world.<sup>28,29</sup>

In our study first professional BDS found highest stress than any other professional year (33.9%) which was comparable to other study showing high percentage of stress among first year students (53.3%).<sup>29</sup>

This is because first year students may have issues with adjusting in a new place, change of level of education from intermediate to a medical college for e.g. increase in academic workload, difficulty in managing time to study and feel uncomfortable to socialize with new people. Similar issues among first year students was also observed in a study by Solanky *et al.*<sup>30</sup> In contrast to another study conducted by Shahida *et al* in India was reported that level of stress among medical students increased as students were promoted to the next professional year.<sup>31</sup>

In this study, the stress in dental students of private sector was 53.8% where as 46.2% was reported in government sector. In this study many factors are there to induce stress among private and government students but the most common academic factor was competition of grades among class mates which shows significant *p* value. But insignificant *p* value was observed in research study of Shaik *et al* in India. Clinical factors related to transition from preclinical to clinical and fear of transition of contagious diseases from patients shows significant *p* values.<sup>32,33</sup>

Present study reported that fear of failure in exams or the professional year shows 44% level of stress. But in Tangade *et al* study showed fear of failure in a course was top ranked stressor items among all professional years.<sup>34</sup> Students were found to be in stressed due to grading fear in exams was 43.4% and therefore this was compared to study conducted by Sriram, revealed 40% of high stress level in professional students.<sup>35</sup>

In this study overloaded feeling due to huge syllabus was the highly stressful stressor in dental students was 51.4%, but in previous study was done in Pakistan showed that the most common stressor for both genders is fear of failing the professional exams followed by overloaded feeling due to huge syllabus.<sup>17</sup>

As we know that students experience academic stress in all educational degrees. Academic stress among students causes poor mental health and physical well-being and therefore leads to many serious problems. To overcome stress among dental students various strategies are required. Student counselling should be available in all academic institutions which help them in managing stress. Students should meet their tutors for course management. Institutions must provide facilities to create positive learning environment. Teachers should encouraged students to live a positive life by meeting their family and friends. Extra-curricular activities like festivals, exhibitions and sports activities must be initiated every year which help students physically as well as mentally. Small group discussions and monthly exams should be taken so that student will be able to cope with huge syllabus and able to perform well in exams.

## CONCLUSION

It was concluded that stress and anxiety were the prevailing conditions among dental undergraduate.

Stress can be good or bad for students in their professional life. Moreover it was found that first year students were in more stress than in any other professional year. Academic related stress such as huge syllabus, fear of failure and lack of relaxation were the high stressors noted in this study. Psychological well-being of students is important for the success of good life and for the professional education. Development of strategies, awareness seminars and motivational programs must be organised in order to improve the quality of life of students.

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#### CONTRIBUTIONS BY AUTHORS

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|--------------------------|--|
| <b>1 Anum Mahmood:</b>   | Conception, design and interpretation of data. |
| <b>2 Samreen Mazhar:</b> | Data analysis.                                 |
| <b>3 Mahwish Bano:</b>   | Drafting of the manuscript.                    |
| <b>4 Iqra Ghaffar:</b>   | Collected the data.                            |