



## Comparison of Stress and Anxiety Related to the Educational System among Public and Private Sector Medical Students in Karachi (2021)

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**Key words:** Medical students, anxiety, public sector, depression, family pressure

**Abstract:** Anxiety and Stress disorders are commonly faced by medical students all over the world. In Pakistan, the medical colleges are divided into two sector groups: Public and Private. Students enrolled in both sector groups face different challenges while continuing their medical education in relation with the societal and family pressures, the expenses of education in accordance with the sector, respectively, etc. This study highlights the evident gap in stress levels dealt by the students enrolled and the various ways in how they address those stressors in order, so that, they may be able to cope up. The 384 students from 6 medical colleges (3 private and 3 public) in Karachi, Pakistan were involved in this study. The study comprised of females in a higher proportion (85.7%) and of students from all 5 batches in the colleges. It was observed that, through the Hamilton Depression Scale that students enrolled in private colleges deal with higher levels of stress and depression than students enrolled in government colleges as the average score for public sector colleges was 19.84 and 20.61 for private colleges. It was also observed that females bear through greater difficulties and hence have higher anxiety than men. One factor was common between the individuals that were bearing through higher stress; most of them were studying MBBS because they had ran out of options for other fields or were in this field due to family pressure or were working students. Various methods were adopted by the students to overcome the stress such as extracurricular activities and using the social media.

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Page No.: 7-12

Volume: 1, Issue 2, 2020

ISSN: 2708-2563

Journal of Neurology Concern

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## INTRODUCTION

Stress affects one's ability of learning, memorization and problem-solving capabilities. Brain activities mainly learning and memory flexible thinking and problem-solving capability are affected adversely by stress<sup>[1]</sup>. Stress may help some people to enhance their activity up

to certain extend and is termed as eustress but after this limit is exceeded without coping, it becomes distress. Most commonly deduced stressors are competitive behavior, time consuming assignments, time management difficulties, a weak financial position, distraction due to part-time jobs, lack of consistency and motivation and low emotional quotient. On an

institutional level, major stressors are overcrowded lecture halls, attending lectures, socioeconomic variations, curriculum and insufficient means for educational purposes<sup>[2]</sup>. A meta-analysis of 77 studies reported that depression affects almost one-third of medical students globally<sup>[3]</sup>.

Anxiety is associated with an autonomic arousal and subjective experience of worry and tension, whereas depression is characterized by a general gloominess and loss of interest in previously enjoyable activities, persistent low mood, hopelessness and may be an idea of suicide<sup>[4]</sup>. However, medical education in particular has become highly demanding and stressful posing a threat to the life and increased prevalence of depression among medical students than others<sup>[5]</sup>.

Increasing burden of workload compromises opportunities for students to relax or perform extracurricular activities. Studies have proved that medical students as compared to the general population are most distressed. As the stress increased, students showed other psychological effects like depression and anxiety. Considerable levels of anxiety and depression were reported amongst students of public and private colleges<sup>[6]</sup>. Medical students all across the globe have shown increase level of stress and depression including countries like Canada and Malaysia<sup>[5, 6]</sup>.

**Rationale:** Medical students undergo numerous stress during their student years. The burden of countless hours of studies and assignments, not to mention the fear of failure in assessment examinations negatively impacts mental health. Many students opt for de-stressors in the form of addiction. Those with respect to moral and ethical boundaries fall victim to life-impacting mental health disorders like anxiety, stress and depression.

There is a need to assess the situation of mental health problems between private and public sector medical students to attest if the problem lies within the teaching system, difference in tuition fee, pass/fail ratio, or gender belonging to either type of institution.

**Objective:** To compare stress and anxiety in undergraduate medical students belonging to private and public sectors in Karachi.

#### **Operational definitions**

**Anxiety:** Anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry (APA).

**Stress:** Stress is a normal reaction to everyday pressures but can become unhealthy when it upsets your day-to-day functioning. Here's the best science available on what happens to your body when stress hits and how to keep your stress at healthy, manageable levels (APA).

**Benefits of this study:** This study is immensely beneficial as it helped to highlight the following points:

- The mental stress endured by medical students due to their studies, assignments and tuition fees
- How the mental health of public students is better or worse than medical students in private institutions and vice versa
- The alarming increase in mental health disorders in the young generation due to stress
- The fear of failure in examination resulting in immense mental pressure leading to underlying anxiety and depression

## **MATERIALS AND METHODS**

**Study design:** Cross-sectional study.

**Study duration:** July 2021-August 2021.

**Sample size:** The 384 calculated using Cochran's formula.

**Sample area:** Public and private sector universities.

**Sample technique:** Convenient random sampling.

#### **Sample selection**

**Inclusion Criteria:** MBBS and BDS students from both sectors who willfully participated to take the questionnaire and submit their data.

**Exclusion criteria:** Students with hostel as residence and non-MBBS and BDS students.

**Data collection method:** Data was collected by asking medical students at the mentioned institutions to fill a simple self-structured questionnaire.

Questionnaire took approximately 10 min to be filled. A pilot study was conducted to check the validity of the questionnaire. All ethical considerations were observed.

**Data analysis:** Data collected was entered and analyzed using SPSS software v26. Confidence interval of 95% was taken with margin of error 1.96 and  $p = 0.5$  as statistically significant.

**Data collection tool:** Descriptive statistics was carried out; independent t test was performed to find the mean differences between stress indicators. In order to standardize the questionnaire a pilot study was conducted for content validity to be examined.

**Ethical consideration:** Written informed consent was obtained from the participants before research. All the

ethical considerations were observed while seeking legal permission of concerned authorities of colleges to assess data. All the research misconducts were avoided and rights and well-being of research participants would be protected (APA).

## RESULTS

Out of 384 student, 64(16.6%) were males and 324(83.7) were females. The overall mean age was 21.5 years. The 64 responses were obtained from each private (ZU, JMDC, LNMC) and public sector medical universities (DOW, SMC, KMDC). All academic years were included. Overall stress scale with females having a greater mean stress scale value (7.04) than males(6.52).

Different stress level was observed in the different academic years. First year having a mean of 6.61, second year 7.26, third year 7.06, fourth year 7.00 and final year 6.60. Hamilton depression rating scale was used to get the following scores. Public sector 19.84 and Private sector 20.99, in accordance with individual academic years. Scores are; first year 19.51, second year 21.42, third year 20.40, fourth year 20.67 and final year 21.03. Among these, 71.2% did not regret taking medicine as their major while 6% did and 22.8% were skeptical about it. Furthermore, 78.1% (mean = 6.79) of students chose to pursue medicine by choice, 8.3% (mean = 7.54) were under familial pressure, 8.7% (mean = 7.67) took it as they were left with no alternative, 4.9% (mean = 7.45) had some other reasons. The stress levels among these students were related with the reason for choosing MBBS. The overall stress levels according to institutes were; DOW 7.06, SMC 6.65, KMDC 6.94, JMDC 7.05, LNMC 7.37 and Ziauddin 7.47.

Conclusively, overall stress was higher in private sector with a mean of 7.29 where as public sector had a mean of 6.88. The students were asked about different aspects of studies that makes them depressed and the majority stated that academic competition, examiner's fear and GPA are the main concerns (mean =  $8.00 \pm 0.82$ ) and second important concern is syllabus length (mean =  $6.89 \pm 1.05$ ). Coping strategies adopted by students were spending time with their families and friends (60.4%) by sleeping (48.1%), using social media (45.5%), watching movies (34.9%), playing sports (17.5%) or engaging themselves in other activities (11.2%). Considering their opinions on stress levels in both sectors, 53.3% students said that stress levels are equal for both, 24.5% said private and 22.1% public.

## DISCUSSION

According to this study, it showed that students enrolled in Medical Colleges belonging to the Private Sector are more depressed as compared with students from the Public Sector. Analyzing the reasons why this

could be prevalent, it showed that financial and academic stressors have a major role to play, as also found by Moffat *et al.*<sup>[7]</sup> in a similar study, where they have also mentioned that increasing student feedback and guidance throughout the entire year (s) may help the students in coping up with this stress. The depression and anxiety faced by these students are usually present because of uncertainty about scoring a high GPA or being unable to score in the previous exams and other factors such as low confidence about topics that they have studied, unsatisfactory preparation, forgetfulness, examiner fear and inability to cope up with following a scheduled timetable to aid studying<sup>[8]</sup>, along with not being able to take out any time for their leisure activities<sup>[7]</sup> further accentuates the stress levels in these students which can be associated with outcomes like suicidal or violent behavioral problems<sup>[9]</sup> or a possible burnout<sup>[10]</sup>. When these factors, specially monetary factors are combined with all the reasons mentioned above, it is highly understood that the families of these students from private medical colleges would have higher expectations from them and hence, in wanting to manage everything, it makes them severely anxious. Various articles<sup>[11,12]</sup>, along with this study, suggest that students mention having an in-depth discussion with their families really helps them in accomplishing their tasks and releasing their stress levels. Generally, a specific pattern in sleep disturbance is not significantly showed<sup>[13]</sup> as this aspect depends more on each student individually. Studies in other countries<sup>[11]</sup> have showed both the genders to be affected equally by these problems but in our study it showed that females report to a higher incidence of stress levels, than their male colleagues<sup>[14]</sup>. This difference could possibly be due to a general fear of confidentiality, or mental illness being a 'stigma'<sup>[15]</sup>. Another revelation was the relation between levels of stress and depression associated with academic years with the 2nd year students showing high levels of stress and depression<sup>[15]</sup> and the highest levels as compared with other years in our study.

This happens because the students are exposed to an increasingly difficult syllabus throughout the year as compared with the previous year and the incompetent teaching methods<sup>[8]</sup> in their colleges along with their personal problems. Throughout the later years, the students are able to adjust themselves in the nerve-breaking pressure in a better manner or maybe they are able to bring improvements in their study patterns which leads to them feeling better about their educational progress, causing a slight decline in their anxiety levels. The coping strategies of Pakistani students have been reported to be different than to students belonging from other countries<sup>[16,17]</sup>.

## ACKNOWLEDGMENT

The authors received no specific funding for this work.

Annexure I: Budget

Items	Cost
Stationary	200
Transport	1000
Photostat	1000
Total	2400

Annexure II: Gantt chart (Work Plan)

S. No.	Tasks	Working days	Time frame in weeks											
			1	2	3	4	5	6	7	8	9	10	11	12
1	Selection of topic Study design Sample selection Writing synopsis Designing questionnaire Approval of ethical committee	20												
2	Permission from the institution to collect data	07												
3	Data collection	14												
4	Data entry and analysis	14												
5	Dissemination of results	14												
6	Report writing	14												

Questionnaire:

\* Required

Institute\*

☐ DOW  
☐ SMC  
☐ LNMC  
☐ Ziauddin  
☐ JMDC  
☐ KMDC  
 Other:

Sector\*

☐ Public  
☒ Private

AcademicYear\*

☐ 1st  
☐ 2nd  
☐ 3rd  
☐ 4th  
☐ 5th

Name

Your answer

Gender\*

☒ Female  
☐ Male

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<p>On a scale of 1-10, how stressed are you about your studies? *</p> <p>Your answer</p>	<p>Which aspect of your studies makes you feel stressed? (You may choose more than one)</p> <p>GPA</p> <p>Competition</p> <p>Syllabus Length</p> <p>Unsatisfactory Preparation</p> <p>Examiner Fear</p> <p>Scheduling a timetable and following it</p> <p>Other</p>
<p>Do you regret opting for this field? *</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> NO</p> <p><input type="radio"/> Maybe</p>	
<p>What was the reason to opt for this field? *</p> <p><input type="radio"/> Family Pressure</p> <p><input type="radio"/> Choice</p> <p><input type="radio"/> Ran out of options</p> <p><input type="radio"/> Other</p>	
<p>Are you a diagnosed case of depression? *</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> NO</p>	<p>How does anxiety affect your daily life? (may choose more than one)</p> <p>Decreased Appetite</p> <p>Low Self esteem</p> <p>Fatigue</p> <p>Low Concentration Span</p> <p>Procastination</p> <p>Insomnia or Hypersomnia</p> <p>Isolation</p> <p>Mood Swings</p> <p>Forgetfulness</p>

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<p>What is your pattern of sleep during exams? *</p> <p><input type="radio"/> More sleepy than usual</p> <p><input type="radio"/> Less sleepy than usual</p> <p><input type="radio"/> Same as usual</p>	<p>On a scale of 1-10, how much does your anxiety affect your ability to deal with challenging situation? *</p> <p>Your answer</p>
<p>On a scale of 1-10, how much does your anxiety or stress affect your studies positively (it makes you want to study more)? *</p> <p>Your answer</p>	<p>In your opinion, students from which sector faces more anxiety/stress? *</p> <p><input type="radio"/> Public</p> <p><input type="radio"/> Private</p> <p><input type="radio"/> Equal for both</p>
<p>Have you ever faced suicidal thoughts? *</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>	<p>Kindly explain your answer to the previous question. *</p> <p>Your answer</p>
<p>Which activities help you divert our mind/feel better? *</p> <p>Social Media</p> <p>Movies</p> <p>Being with friends/family sleeping</p> <p>Sports</p> <p>Other</p>	<p>Page 1 of 1</p> <p>Submit</p> <p>Never submit passwords through Google Forms.</p> <p>This content is neither created nor endorsed by Google. <a href="#">Report Abuse</a> · <a href="#">Terms of Service</a> · <a href="#">Privacy Policy</a></p> <p>Google Forms</p>

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