

Original Article:

GENDER DIFFERENCE IN STRESS LEVELS AMONG MEDICAL AND NON- MEDICAL STUDENTS OF LAHORE

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ABSTRACT:

Objective: To compare the gender difference in stress levels among students of medical and non-medical institutions of Lahore

Methodology: This was a cross-sectional study conducted in medical students of Akhter Saeed Medical and Dental College, Lahore and non-medical students of Beacon House National University, Lahore from January 2018 to August 2018. A sample of two hundred and ninety- one student was collected by non- probability consecutive sampling technique which includes one hundred and fifty medical students and one hundred and forty-one non- medical students. Data was collected and analyzed using SPSS 24. To compare stress levels and gender differences in these levels, chi-square test was applied and p-value of less than and equal to 0.05 was fixed as significant.

Results: In this study 119 (40.9%) males and 172 (59.1%) female students participated. Among them, 150 (51.5%) were medical students and 141 (48.5%) were non-medical students. Out of 291 students, 46(15.8%) had severe stress. Results showed that 61(21%) students were smokers and 96(33%) were taking drugs. Sixty-seven students (23%) stated the reason of stress as the death of their family members in the last one year. A large proportion of students 195 (67%) reported that they work harder and accomplish less, 188 (64%) had difficulty in sleeping and 206 (70.8%) had mood swings. One hundred and eighty-seven students (64.3%) felt frustration due to a lack of resources. One hundred and eighty-seven students (64.3%) give up their social life to succeed in university. The exam was the major cause of stress constituting 218 (74.9%) students. There was no significant difference between the stress level of medical and non-medical students ($p=0.658$) and no difference was observed in two genders ($p=0.962$).

Conclusion: Stress is prevalent in both medical and non-medical students irrespective of their career pathway. Both genders are affected by high-stress levels during academic years.

Key Words: Stress, Medical Students, Medical Education

INTRODUCTION:

The mental health of students in all fields of life is a global issue and it plays a significant role in any community worldwide.¹ According to WHO, a person could be termed as stressed when he/she shows variable combinations including low mood, lack of interest, disturbed sleep, loss of appetite and feeling of guilt.² The important indicators of mental health are depression, anxiety and stress level that increases the psychological morbidity among the students irrespective of their career choice.³

Worldwide studies report that prevalence of depression among students varies globally showing the wide range of 1.4% to 73%.⁴ A study conducted in Turkish medical students showed a high prevalence of depression as 27.1%, anxiety as 41.1%, and stress as 27%.⁵ Moreover, high suicidal ideation from 4.9% to 35.6% was reported in a study conducted by the American Medical Association.⁶

A global survey revealed that the percentage of students in the U.K, seeking counseling for depression is 49%, for stress is 45% and for academic performance is 28%.⁷

In developing countries, stress is also prevailing as it is 20.9% in Nepali Medical students.⁸ A study conducted in India showed 63.5% of stressed students.⁹ While

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in Bangladesh and Malaysia stress and anxiety disorder among students were found to be 54% and 41%, respectively.^{10,11}

One of the most stressful fields of education is medicine because it is a highly demanding profession and requires enormous academic efforts. The constant sources of anxiety for medical students are extensive medical curricula, fear of failure and frequent examinations.¹² Medical students suffer deleterious effects of psychological stress which leads to poor academic performance, sleep disorders,¹³ substance abuse and alcoholism¹⁴ which, in turn, result in deterioration of relationships, marital problems and affect their future employment.¹⁵

The time period of an undergraduate student is very sensitive in his life and it plays a key role in developing systems and interventions to reduce mental problems.¹⁶ Students having low socioeconomic status, family conflicts and rural background have a higher incidence of depression, anxiety and stress. Previous studies revealed morbidities due to anxiety and depression all over the world despite different educational courses.¹⁷

Stress is the major issue of medical students and this study is designed to develop a fair comparison between medical and non-medical students on stress issues that eventually be very helpful to prevent or overcome major stressors of student's life. The main objective of this study is to compare the level of stress among two genders and between medical and non-medical students.

MATERIAL AND METHODS:

A cross-sectional study was conducted in medical students of Akhtar Saeed Medical & Dental College Lahore & non-medical students of Beacon House National University, Lahore. Two hundred and ninety-one students were included in the sample through non-probability, consecutive sampling techniques. One hundred and fifty medical students and one hundred and forty-one non-medical students were recruited as participants from January 2018 to August

2018. Data was collected after IRB approval of Akhtar Saeed Medical and Dental College. A structured questionnaire was filled after informed consent through the interviewing technique. The questionnaire was developed and pretested on 10 students as a pilot run. Those students who were pilot tested were excluded while data collection for this study. Data were analyzed using SPSS 24. Chi-square test was applied to compare stress level among medical & non-medical students and p value were fixed at ≤ 0.05 to decide about the significance of results.

RESULTS:

There were 291 participants in total, out of which 119(41%) were males and 172(59%) were female, 141(48%) were of non-medical and 150(52%) were medical students. There were 61(21%) smokers, 96(33%) were drug abusers. and 195(67%), 75(25.8%) had undergone surgery in past, 67(23%) had the death of their family members, 86(29.6%) had the death of a close friend in last one year.

Table 1: Socio-demographic profile of Participants

Variables	Frequency (n)	Percentage (%)
Gender distribution of participants		
Male	119	40.9
Female	172	59.1
Degree sought		
Medical	150	51.5
Non-medical	141	48.5
Smokers		
Yes	61	21
No	230	79
Drug users		
Yes	96	33
No	195	67
Past Surgical History		
Yes	75	25.8
No	216	74.2
History of death of a family member		
Yes	67	23
No	224	77
History of death of a close friend		
Yes	86	29.6
No	205	70.4

On history regarding burnout, 195(67%) had this feeling that they work harder and accomplish less in terms of academic scores, 187(64.3%) complained about forgetting things, 176 (60.5%) suffering from physical complaints, 188(64.6%) invaded by sadness which cannot be explained, 103(35%) had difficulty in sleeping and 206(70.8%) had mood swings.

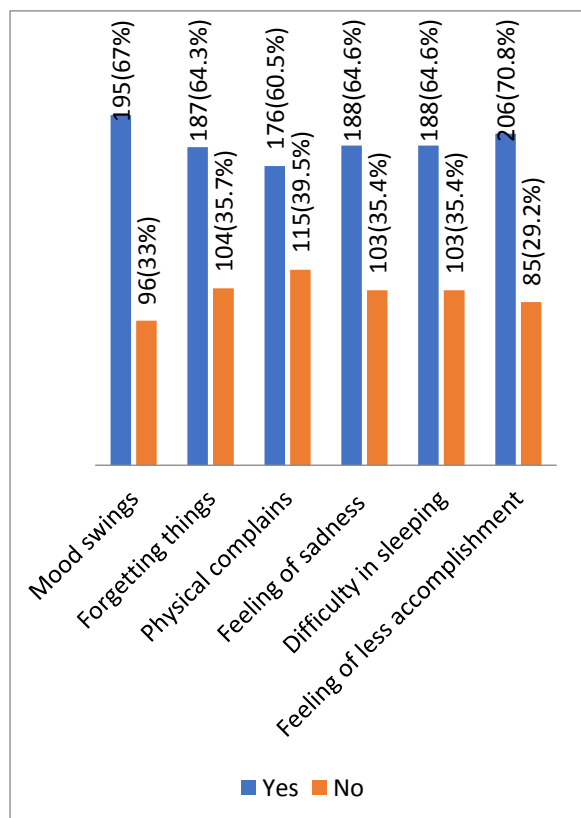


Figure 1: Information regarding burn out

The results of information regarding burn out of students indicated 162(55.7%) participants were stressed out because they thought that they were wrong if teachers do not agree with them, 187(64.3%) felt frustrated due to lack of resources, 178(61.2%) felt deprived of normal daily pleasure due to cost of undergraduate schooling, 187(64.3%) had given up much of their social life to succeed in university, 151(51.9%) felt guilty if they take time off from their study to do something else for their selves.

Table 2: Reasons related to academics of getting stressed

Variables	Frequency (n)	Percentage %
Receiving negative comments		
Yes	167	57.4
No	124	42.6
Teachers or professors do not agree with you		
Yes	162	55.7
No	129	44.3
Lack of resources (internet, libraries)		
Yes	187	64.3
No	104	35.7
The cost of graduate/undergraduate school		
Yes	178	61.2
No	113	38.8
Giving up social life for academics		
Yes	187	64.3
No	104	35.7
Difficult to take time off for your self		
Yes	151	51.9
No	140	48.1

Upon further inquiry, 178(61.2%) were found to be stressed with fear of developing required skills, 140(48.1%) had unclear course objectives, 183(62.9%) were continuously stressed to participate in class, 218(74.9%) were stressed for studying for upcoming exams.

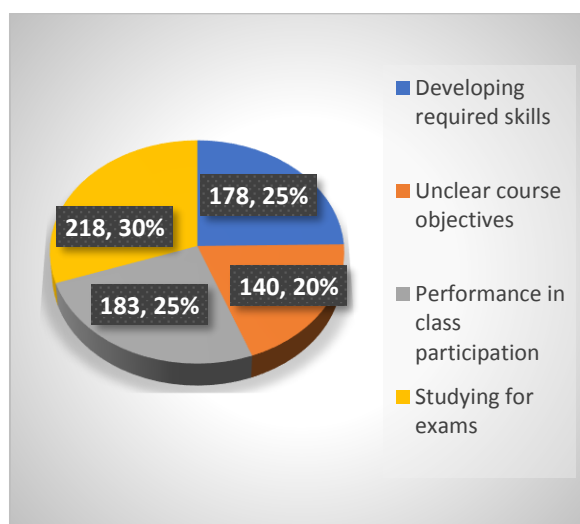


Figure 2: Information about academic stressors

Each stressor was allocated a number given on Likert scale and rating was done with mild, moderate and severe stress. Results showed that out of 291 participants, 89(30.6%) had no stress, 156(53.6%) had mild stress, 46(15.8%) had severe stress.

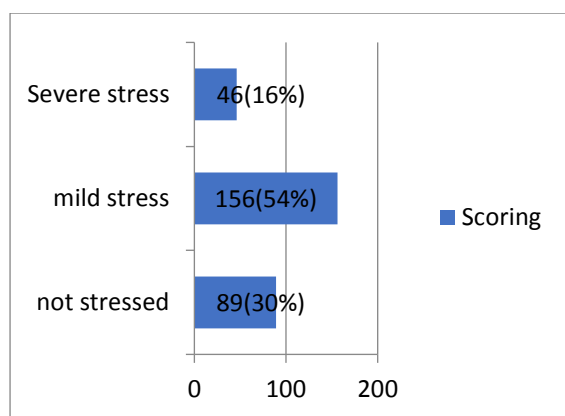


Figure 3: Scoring of stress levels

After the application of chi-square test, no significant difference was found between the two genders and their stress levels ($p=0.962$) and no difference was found in the stress level of medical and non-medical students ($p=0.658$). So, it was concluded that irrespective of gender and type of studies, students in undergraduate studies are generally stressed and the major reason is to cope with exams and peer pressure.

Table 3: Difference in stress levels between genders and professional degrees.

Variables	Scoring			P-value
	Mild	Moderate	Severe	
Gender				
Male	37 (31.1%)	64 (53.8%)	18 (15.1%)	0.962
Female	52 (30.2%)	92 (53.5%)	28 (16.3%)	
Degree sought medical				
Medical	43 (28.7%)	81 (54.0%)	26 (17.3%)	0.658
Non-Medical	46 (32.6%)	75 (53.2%)	20 (14.2%)	

DISCUSSION:

Globally medical students show a high prevalence of stress.¹⁸ The academic performance and quality of life of the students are immensely affected by this psychological factor. Stress leads to a vital association between the individual and his environment. This interaction results in cognitive, emotional and behavioral alterations in case of any derangements.¹⁹ This study shows that there is no significant

association of gender and degree with stress. A study conducted at CMH Lahore also showed no association between stress level and gender in a sample of college students.²⁰ Another study conducted in India suggested that medical students were less stressed in comparison with non-medical students.²¹ Similar findings were observed in this study which showed non-association between gender and type of undergraduate studies with stress level. This study showed that 21% of students were smokers and 33% were drug users. In a study conducted in France, a positive association was found between stress and regular use of alcohol²², while in a study conducted in America, the prevalence of daily smoking among students in 4 years course was 87% and almost 50% in occasional smokers.²³ In this study, about 23% of students experienced recent trauma in the form of death of their family members which was a major cause of stress. In a study conducted in Thai medical school, 26.8% of students had stress due to family health problems.²⁴

Lifestyle is badly affected by the stress. It has been noted that the young student population is always more susceptible to stressful life conditions to pursue higher professional education in a highly challenging environment.²⁵ About 70.8% of students in this study had mood swings and 64.6% reported the feeling of sadness. In another study, the prevalence of depressive symptoms among medical students was 12.9% and 2.7% of students had made suicidal attempts due to sadness.²⁶ In this study, 67% of students complained that they were working harder and were accomplishing less with 33% students having fear of future. In a study conducted among a group of Turkish medical students showed that students who were stratified with their education had lower stress levels.²⁷ In another study conducted at Surat, it was found that increased load towards exams and not getting expected marks were major stress factors.²⁸ In this study, 64.3% felt frustration due to lack of resources and 62% of students were stressed due to the

cost of undergraduate school. In a study conducted in Saudi Arabia, 25% of their students were facing financial problems.²⁹ In this research, we have observed 35.4% of students cannot fall asleep due to stress. While a study conducted at the University of North Texas showed a significant portion of 9.5% of students met proposed DSM-5 criteria for chronic insomnia and sleeping difficulties.³⁰ About 64.3% of students give up their social life due to the academic stressors. In a study conducted in Malaysia, 1.23% of students were stressed due to lack of time for their family and friends.³¹ There were 51.9% of students who felt guilty if they took their time off from their study for themselves. In a study conducted at a Pakistan Medical School, 27.3% of students were unable to enjoy normal activities.³² Stress relates to academic performance, pressure to succeed and post-graduate plans in students. The results of this study showed that no significant difference was observed in the stress level of medical and nonmedical students while a study conducted in Saudi Arabia among female students of medical and nonmedical institutions showed that students in med schools were much more stressed due to academic burden with p-value of less than 0.01.³³ In contrast to the results of this study, another published article in Korea showed that Nonmedical students had shown significantly higher stress levels when compared to their age fellow medical students(p=0.001).³⁴ A study conducted in Kanpur India showed that stress level is much higher in students studying in professional colleges as compared to nonprofessional colleges.³⁵ To assess the gender difference in stress levels, both medical and nonmedical students were compared and it was observed that there was no significant difference in stress levels of both genders. A study published by the American Psychological association compared gender differences among medical and Law students and results showed that females were affected more with stress which included 30% medical students and

34% law students.³⁶ Similar results were shown by a study conducted in Egypt which showed that females had higher perceived stress levels but no significant difference was observed in two genders.³⁷ Similar results were obtained from Serbia.³⁸ Mental health issues interfere with the success of college students so, it is important that the colleges evaluate the mental health of their students regularly and launch prompt treatment programs to target their needs.³⁹

CONCLUSION:

Medical and non-medical students face different types of stressors but the magnitude of stress remains approximately the same in both types of students. There is no gender difference among stress levels of medical and nonmedical students

Recommendations:

The solution lies in having a true perception of the emerging problem besides taking proper measures to alter the course of events earlier by providing support with adequate services. Counseling and preventive mental services should be an integral part of the routine clinical facilities.

Conflict of interest:

None

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