

Stress and depression among medical students

Nargis Iqbal, Lubna Latif, Mehreen Nisar, Nosheen Salman

Abstract

Objectives: To determine prevalence of stress among undergraduate medical students and to provide appropriate suggestions based on analysis to relieve stress.

Material and Methods: A cross sectional study was carried out at Obstetric and Gynae department of AL-Aleem Medical College affiliated with Gulab Devi Educational Complex, Lahore over a period of 3-months from May 2019 to July 2019 after ethical approval. Non probability convenience sampling technique was used, total 100 willing students were included, 50 from first and 50 from second yyear M.B.,B.S classes.

Results: Out of the 100 respondents, 58 were females and 42 males. The mean age of first year students was 19.44, and second year was 21.04 years. 51% students were hostel-lite and 49% were day scholar. Prevalence of stress in medical students was found to be 100%. Slight difference was found class-wise, but no difference was found gender-wise.

Conclusion: The results revealed a clear picture of the prevalence of stress in medical students, which is a little bit more in the 2nd year medical students and no difference in gender-wise. However stress was more common in hostel lite students than day scholars

Keywords: Stress, 1st and 2nd year medical students, depression, hostel-lite, day scholar.

Received

Date:23rd July, 2019

Accepted

Date:15th August, 2019

AL-Aleem Medical College/ Gulab Devi Educational Complex, Lahore.

N Iqbal
L Latif
N Salman
M Nisar

Correspondence:

Dr Nargis Iqbal,
Associate Professor,
Al-Aleem Medical
Collegue, Gulab Devi
Hospital, Lahore
Cell No: +92- -
email: dr.nargisqbal@
hotmail.com

Introduction:

Stress is an inevitable part of medical education, and lack of proper stress-coping skills may affect the students markedly. Stress is defined as “a highly subjective phenomenon and it is a non-specific response of body to any demand for change.” A stressor is defined as the personal or environmental event that causes stress.¹ Medical students are said to be the victims of enormous mental stress, and they come across multiple psychological changes in the transformation from young vulnerable students to a competent doctor. The students have to make personal and social sacrifices in order to maintain a good academic result in a highly competitive and stressful environment.² The prevalence of depression in 1st year and 2nd year was 36.74 and 22.22% respectively.³ There is a growing concern about stress in medical training, and various studies have observed that medical students experience

a high incidence of personal distress during their under-graduate course. High levels of stress may have a negative effect on mastery of the academic learning; this can lead to mental distress and has a negative impact on cognitive functioning and learning.⁴ In most medical schools, the environment itself is an all prevailing pressure providing an authoritarian and rigid system; one that encourages competition rather than cooperation between learners.⁵ Studies suggest that mental health worsens after student begins medical school and remains poor throughout training. The majority of the studies on stress in medical education focus on the documentation of stress and information on the correlation of stress.⁶⁻⁸ It is important for medical educators to know the magnitude of depression in students and factors causing them, which not only affect their health and academic achievement but also has serious consequences as suicide.^{9,10}

Table 1: Types of surgery done for the patients with gunshot

Total Students (15)	No. of Students	Percentage %
First year	8	16.0
Second year	7	14.0

Table 2: Prevalence of moderate stress: First year versus Second year

Total Students (83)	No. of Students	Percentage %
First year	41	82.0
Second year	42	84.0

Table 3: Prevalence of severe stress/ Depression: First year versus Second year

Total Students (2)	No. of students	Percentage %
First year	1	2.0
Second year	1	2.0

Table 4: Prevalence of stress: First year versus Second year Gender Wise

Total (100)	No. of Male	Percentage	No. of Female	Percentage
First year	27	64.28	23	39.65
Second year	15	35.71	35	63.40

The purpose of the study was to find out stress in our students so that remedies to eliminate in future could be streamlined.

Material and Methods:

A cross sectional study was carried out at Obstetric and Gynae department of AL-Aleem Medical College affiliated with Gulab Devi Educational Complex Lahore over a period of 3-months from May 2019 to July 2019 after ethical approval. Non-probability convenience sampling technique was used. Total 100 willing students were included in this study, 50 from 1st year and 50 from 2nd Year M.B.,B.S classes. Unwilling students from 1st and 2nd year and students on foreign seats of both classes were excluded as they have different background and causes regarding stress.

The Data of the study was collected by handing over GHQ-12 items (General Health Questionnaire) in the class room after informed consent from the students and taking permission from the institutional ethical committee of Al-Aleem Medical College. The purpose of the study, importance of stress and how to fill the Performa was explained to all the students in first ten minutes. The students were instructed especially

to use honesty while filling, A two point scale, “yes”, “no” will be used to record the students response. Then the filled performa were collected after 10- 15 minutes from all participants of the study. The GHQ-12 is a measure of current mental status. It focuses on 2-main areas the inability to perform normal functions and the appearance of new and distressing experiences. The GHQ-12 has been used and validated in Pakistani settings.¹¹ 12-items with Likert score 0-2 for each item give a total score range 0-24, Yes response was considered as score 1 and No response as score 2. Score 1-15 shows evidence of stress, score 16-19 suggest moderate stress and score 20 and more suggest severe emotional and psychological stress. We defined General Health Questionnaire (GHQ-12) questionnaire as students scoring 20 or >20 suggests severe emotional and psychological problems.

Data analysis: The data was entered, rechecked by an expert one for confirmation of correct entry and then analyzed using SPSS (Statistical Package for Social Sciences) version 12. Descriptive Statistics was used to check the prevalence and percentage of all quantitative variables. Out of the 100 questionnaires distributed to the medical students, 100 were returned completely, giving a response rate of 100 %.

Results:

Out of the 100-respondents, 58 were females and 42 males. 50-students were enrolled from 1st year and 50-students were from 2nd year of Al-Aleem Medical College. The mean age of 1st year students was 19.44, and 2nd year was 21.04 years. 51% students were hostel-lite and 49% were day scholar. It was astonishing that prevalence of stress in medical students was found to be 100%. The prevalence of mild, moderate and severe stress in 1st verses 2nd year of medical students was shown in tables 1, 2, 3 and gender-wise in Table 4.

Discussion:

Medical students have to face higher levels of physical, mental, emotional, and social stress during their clerkship. They are expected to know immense amount of knowledge and skill

therefore they underwent constant pressures to meet the target. Along with the academic burden, they face an extremely competitive environment that requires social and personal sacrifice. There is hardly any time to relax.^{12,13} Globally medical education researchers are showing more concern to find out etiological factors responsible for students' stress and its impact on their professional development.

In our study the prevalence of stress was found to be 100% in medical students, this is similar with the previous report of perceived stress from private Pakistani medical institution found more than 90% of students.¹⁴ The majority of students 82% of 1st year and 84% of 2nd year were suffering from moderate degree of stress this is consistent with other studies that showed higher prevalence of stress and anxiety in medical students.¹⁵⁻¹⁷ The results of our study are also comparable with two other studies which used the GHQ-12 and reported a significant stress and Psychiatric morbidity in medical students, one conducted in Nepalese medical students, and other conducted at King Edward Medical University students in Lahore.^{18,19} This increased levels of stress and consequently depression indicates a decrease of Psychological health in our students which may impair students' behavior, diminish learning and ultimately affect patient care.²⁰ This is an alarming sign to all the stakeholders of the institution for brain storming, development of strategies and its implementation to cope the worse situation. Studies from developed countries have reported different rates of stress and Psychological morbidity using the GHQ-12.^{10,21} Significant differences in medical institutions could be explained because of different learning environments, curriculum, teaching methodologies, assessment methods, and differences in socio-cultural contexts, in addition to different instruments and the cutoffs used can explain these variations. There is no difference in stress regarding gender-wise. This is similar with the study conducted by Basnet B,³ however different studies from Pakistan and abroad showed that females students reported more stress and depressive symptoms than their male counterparts.^{22,23} This gender variation in stressed

status in medical students could be the reflection of usual trend of high prevalence of stress in females as in the general population.²⁴ In our study the degree of stress was more observed in hostel-lite students than day scholars these results are consistent with other studies,^{19,24} this could be explained due to tough routine, living away from home, high family expectations, lack of entertainment activities in the institution and hostel.

Inability to cope with stress may lead to depression and other mental health issues. It is important to address early signs stress symptoms in students, and those students feeling stressed should be encouraged to seek help. There is an urgent need to bring about evidence based changes to teaching methodology and evaluation systems. There should be a mandatory session for new medical students during induction week on inculcation of positive coping strategies to deal with stress. Stress management skills and strategies to promote medical students' well-being should be essential competence for medical graduates because exposure to stress does not end at graduation only. Helping students to sustain their well-being throughout their medical careers will ultimately lead to professionalism and patient care enhancement. Regular counselling session, changing teaching strategies, providing conducive environment and healthy extra-curricular activities are needs of the day.

Conclusion:

The results revealed a clear picture of the prevalence of stress in medical students, which is a little bit more in the 2nd year medical students and no difference in gender-wise. However stress was more common in hostel-lite students than day scholars. The students should be supported by counseling sessions and different techniques that make them able to cope up with stress in the later years. By identifying the symptoms of depression and the stress inducing factors at an early stage hopefully the psychological morbidity among medical students can be prevented and the ones in morbid state can be helped to seek the profession.

Conflict of interest: None

Funding source: None

Role and contribution of authors:

Dr Nargis Iqbal, proposal of study, writing of manuscript, literature searching

Dr Lubna Latif, data collection, writing manuscript, methodology

Dr Mehreen Nisar, data collection, data entry

Dr Nosheen Salman, statistical analysis

References:

1. Sidik SM, Rampal L, Kaneson N. Prevalence of emotional disorders among medical students in a Malaysian university. *Asia Pac Family Med* 2003;2(4):213-7.
2. Mannapur B, Dorle AS, Hiremath LD, Ghattargi CH, Ramadurg U, Kulkarni KR. A study of psychological stress in undergraduate medical students at S.N Medical College, Bagalkot, Karnataka. *Journal of Clinical and Diagnostic Research* 2010;4(4):2869-74.
3. Basnet B, Jaiswal M, Adhikari B, Shyangwa PM. Depression among undergraduate medical students. *Kathmandu Univ Med J* 2012 ;10(39):56-59.
4. Dahlin M, Joneborg N, Runeson B. Stress and depression among medical students: a cross-sectional study. *Med Educ* 2005;39:594-604.
5. Ross S, Cleland J, Macleod MJ. Stress, debt and undergraduate medical performance. *Med Edu* 2006;40:584-9.
6. Singh G, Hankins M, Weinman JA. Does medical school cause health anxiety and worry in medical students? *Med Educ* 2004;38:479-81.
7. Wilkinsos TJ, Gill DJ, Fitzjohn J, Palmer CL, Mulder RT. The impact on students of adverse experiences during medical school. *Med Teach* 2006;28(2):129-35.
8. Shaikh B, Kahloon A, Kazmi M, Khalid H, Nawaz K, Khan N, et al. Students, stress and coping strategies: a case of Pakistani medical school. *Educ Health* 2004;17(3):346-53.
9. Tyssen R, Hem E, Vaglum P, Gronvold NT, Ekeberg O. The process of suicidal planning among medical doctors: predictors in a longitudinal Norwegian sample. *J Affect Disord* 2004;80(2-3):191-8.
10. Dyrbye LN, Thomas MR, Massie FS, Power DV, Eacker A, Harper W, et al. Burnout and suicidal ideation among U.S. medical students. *Ann Intern Med* 2008;149(5):334-41.
11. Minhas FA, Mubbashar MH. Validation of General Health Questionnaire in a primary care setting of Pakistan. *J Col-IPhysSurg Pak*. 1996;6:133-136.
12. Hoe D, Wah C, Rian C, Eliza Au E, Goud B, Kamath U. Stress manifestations of medical students and its relation with gender and life style changes. *Int Med J Stud Res*. 2012;2:37-45.
13. Muzafar Y, Khan HH, Ashraf H, Hussain W, Sajid H, Tahir M, et al. Burnout and its Associated Factors in Medical Students of Lahore, Pakistan. *Cureus*. 2015;7(11):390-93.
14. Shah M, Hasan S, Malik S, Sreeramareddy CT. Perceived stress, sources and severity of stress among medical undergraduates in a Pakistani medical school. *BMC Med Educ*.2010;10:20.
15. Rehmani N, Khan QI, Fatima SS. Stress, Anxiety and depression in students of a private medical school in Karachi, Pakistan. *Pak J Med Sci*.2018;34(3):696-701.
16. Hashmi AM, Aftab MA, Naqvi SH, Sajjad W, Mohsin M, Khawaja IS. Anxiety and depression in Pakistani medical students: a multicenter study. *Health Med*. 2014;8(7):813-20.
17. Jadoon NA, Yaqoob R, Raza A, Shehzad MA, Zeshan SC. Anxiety and depression among medical students: a cross-sectional study. *J Pak Med Assoc*. 2010;60(8):699-702.
18. Guthrie E, Black D, Bagalkote H, Shaw C, Campbell M, Creed F. Psychological stress and burnout in medical students: a 5-year prospective longitudinal study. *J R Soc Med*. 1998;91(5):237-43.
19. Imran N, Tariq KF, Pervez ML, Jawaid M, Haider I I. Medical students stress, psychological morbidity and coping strategies: a Cross Sectional Study from Pakistan. *Acad Psych*. 2015;10:1007-10.
20. Abdulghani HM. Stress and depression among medical students: a cross sectional study at a medical college in Saudi Arabia. *Pak J Med Sci* 2008;24(1):12-7.
21. Moffat KJ, McConnachie A, Ross S, Morrison JM. First year medical student stress and coping in a problem-based learning medical curriculum. *Med Educ*. 2004;38:482-91.
22. Shaikh B, Kahloon A, Kazmi M, Khalid H, Nawaz K, Khan N, et al. Students, stress and coping strategies: a case of Pakistani medical school. *Educ Health* 2004;17(3):346-53.
23. Lloyd C, Gartrell NK. Sex differences in student mental health. *Am J Psy* 1981;138(10):1346-51.
24. Sherina MS, Rampal L, Keneson N. Psychological stress among undergraduate medical students. *Med J of Malaysia* 2004;59(2):207-11.