

Evaluation of Stressors in Undergraduate Students in a Medical College in North India

Chenicherry Manju¹, Kusum Singla², Jyotismita Pathak³

ABSTRACT

Objectives: To identify the sources of stress among undergraduate students in a medical college.

Design: Cross-sectional study.

Settings: The study was conducted at Army College of Medical Sciences, Delhi Cantt, New Delhi, India.

Materials and methods: Subjects: subjects included second-year medical students (both male and female) enrolled in the college during the year of study. Interventions: a predesigned structured questionnaire was used to collect information regarding the academic and nonacademic sources of stress.

Result: A total of 103 students of the second year were approached; of which 84 consented to take part in this study. The questionnaire included general information of the students including their locality, medium of schooling, and interaction with parents and mentor. The major academic stressors identified were amount of syllabus to learn (42.86%), competition for marks (26.19%), long working hours (22.89%), and frequent examinations (17.07%). Teaching language was not found to be a difficulty for the students. The nonacademic stressors identified were time management (28.57%), decreased recreation period (15.85%), parental expectations (14.29%), stay away from home (13.10%), and health conditions (11.90%). Majority of the students identified food in the mess as a main nonacademic difficulty (33.73%).

Conclusion: This study found that amount of syllabus was a major academic stress, and food in the mess was a major nonacademic stressor. The possible sources of stress found in this study can be a preliminary step toward developing solutions for stress management and stress prevention in medical students which could help in developing a new generation of stress-free doctors capable of effectively providing high-quality medical care to the community at large.

Keywords: Academic stress, Curriculum, Medical students, Nonacademic stress, Stressors, Teaching institution.

Journal of Medical Academics (2019): 10.5005/jp-journals-10070-0035

INTRODUCTION

As every student, medical students also experience significant distress early on in undergraduate training. Stress can be defined as an uncomfortable emotional experience that is accompanied by predictable biochemical, physiological, and behavioral changes. Some authors have pointed to medical schools as the most stressful educational institutions, correlating the high incidence of depression- and stress-associated morbidity among early practitioners.¹ Contrary to the traditional belief that stressful experiences are necessary for future medical practice, research suggests that stress and anxiety are major causes of cognitive dysfunction. The identification of those experiences that are most anxiety provoking should help therapists and educators to develop intervention strategies to reduce anxiety and increase the quality of medical education. Students are subjected to the pressure of academics with an obligation to succeed, an uncertain future, and difficulties of integrating into the system. They also face social, emotional, physical, and family problems which may affect their learning ability and academic performance.^{2,3} Stress among medical students tend to peak during the examination periods. The vast syllabus and limited study time available are major factors which contribute to stress. In addition, high scholastic expectations and tough competition among students add to this. Psychological stress and burnout among medical practitioners has become pandemic, affecting almost all countries.⁴ This study was conducted with the aim of identifying potential stress factors including both academic and nonacademic factors among undergraduates in a medical college

¹Department of Physiology, Army College of Medical Sciences, New Delhi, India

²Department of Biochemistry, Army College of Medical Sciences, New Delhi, India

³Department of Community Medicine, Army College of Medical Sciences, New Delhi, India

Corresponding Author: Kusum Singla, Department of Biochemistry, Army College of Medical Sciences, New Delhi, India, Phone: +91 7889236954, e-mail: dockusumairan@gmail.com

How to cite this article: Manju C, Singla K, Pathak J. Evaluation of Stressors in Undergraduate Students in a Medical College in North India. *J Med Acad* 2019;2(2):44–47.

Source of support: Nil

Conflict of interest: None

in India. The demand of the time is to understand the psychology of students and provide them with early guidance and support to realize their dreams and achieve full potential in a stress-free conducive environment.

MATERIALS AND METHODS

Place of Study and Type of Study

This study was conducted at the Army College of Medical Sciences, Delhi Cantt, New Delhi, India.

A cross-sectional survey was done using an anonymous self-administered questionnaire.

Sample Methods

A total of 103 students who were (both male and female) enrolled in the second year were requested to participate in this study. Prior approval was obtained from the Ethics Committee of the Institution to undertake this study.

Sample Collection

Students were briefed on the objective and purpose of the study, and consenting participants were included in this study. The anonymity and confidentiality of the participants were assured during the study. General information of the participants such as age, sex, residence, and locality (rural/urban) was collected. The questionnaire included the influence of various factors liable to cause stress such as medium of communication in school (local language/English), current residence (day scholar/hosteler), and interaction with parents and mentor.

Evaluation of Stress Factors

The participants were provided with a list of 13 possible potential stress factors including both academic and nonacademic issues. The Likert scale was used for the various responses as strongly agree, agree, not sure, disagree, and strongly disagree. The possible general information of the students was assessed based on a pretested structured closed-ended questionnaire.

Statistical Analysis

Data were entered into MS Excel and were presented as frequency and percentage using descriptive tools.

RESULTS

Although 103 medical students approached for the study, only 84 took part in the study. Among the 84 students, 46 (54.76%) were females and 38 (45.24%) were males. Majority ($n = 65$, 77.38%) of the students belonged to the urban locality, and almost 76 (90.48%) of the students had English as their medium of schooling. Figure 1 depicts the number of students who were hostelers ($n = 78$, 92.86%) compared with day scholars ($n = 5$, 5.95%). The frequency of interaction with parents and mentor is shown in Figures 2 and 3, respectively.

A close examination of various academic sources of stress revealed that multiple factors such as amount of syllabus to

learn (42.86%), competition for marks (26.19%), long working hours (22.89%), frequent examinations (17.07%), followed by staff approach (13.25%) added to their difficulties. The weighted percentage of the academic difficulties depicted as in Figure 4A also shows that students have difficulty in time management (28.57%) and in finding time for recreation (15.85%). Teaching language was not found to be a contributing factor in stress among the sample group. The evaluation of various nonacademic stress factors indicated that 28 (33.73%) of the students strongly agreed that food in the mess is a great difficulty, whereas peer group and health conditions were of least difficulty as made clear in Figure 4B.

DISCUSSION

The need to study and excel academically can become problematic when it reaches a point where it begins to interfere with social functioning, recreation, personal health, family relationships, and happiness. Although stress in medical students has been studied in various medical institutions, this study has helped understand the stress factors affecting the students, majority of whom hail from a defense background.

Among the 84 students, 46 were female students and 38 were male students. Our study also showed that 42.86% of students were under stress due to the amount of syllabus to learn. This is comparable with one of the studies conducted in South India,⁵ in which it was 55.6%. Among the other academic stressors, competition for marks was a major stressor which was similar to various other studies, and long working hours and frequent examinations were the other major academic stressors. Since 90.48% of the students did schooling in English medium, hence teaching language on the exposure to medical terms for the first time was of least stress to the students. Among the nonacademic stressors, food in mess and time management were found to be most stressful in this study, whereas in many other studies,^{5,6} time management and parental pressure was a major factor for stress among students. Time for recreation, being away from home and adjustment problem to new surroundings, and health problems also contributed to stress among medical students. Many studies done in this field have also identified stressors similar to this study. Studies by Waqas et al.⁷ showed academic stressors contributed significantly to stress and sleep disorders in medical students. This study was comparable with a similar study done in Pakistan, in which 57.7% student subjects had moderate to extremely severe

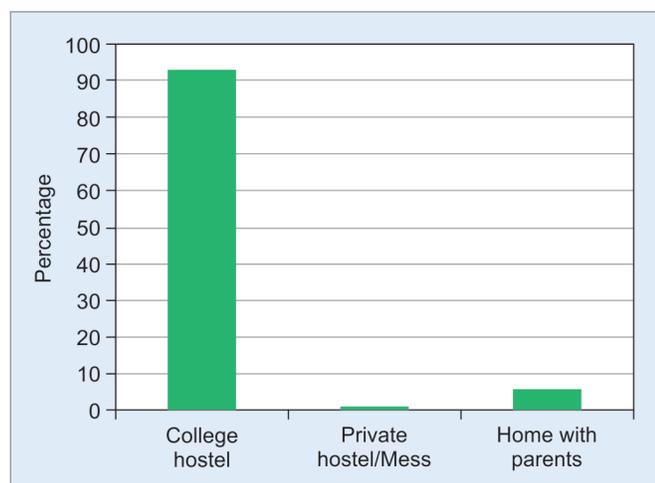


Fig. 1: Distribution of students with respect to where they stay

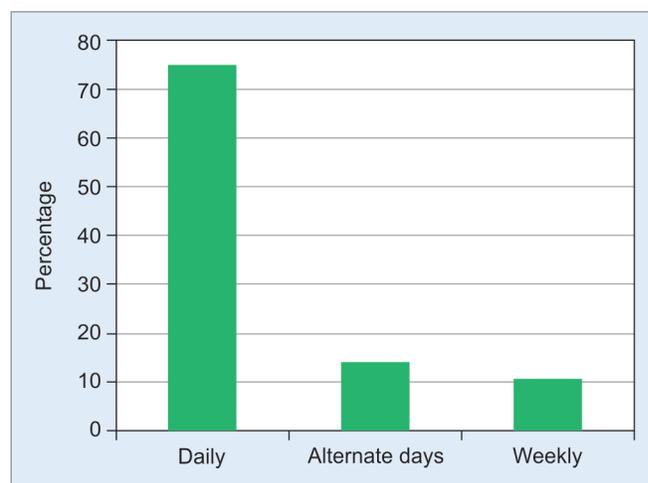


Fig. 2: Graph of frequency of parental interaction

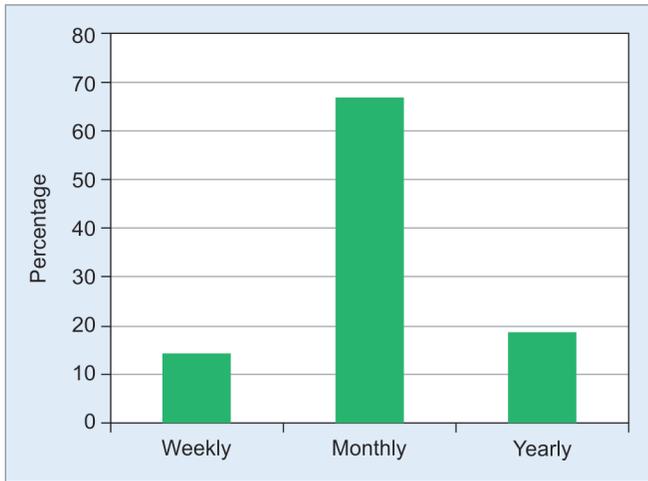


Fig. 3: Graph of frequency of mentor interaction

stress where in addition to common factors seen in our study, the pressure of living up to family's expectations, fear of stepping into the real world of medicine, taboo concerning mental health, and dissatisfaction with the administration were also highlighted.⁸

This study showed that frequency of interaction with mentor was 66.67% monthly. There is evidence in the literature to suggest that mentoring of medical students is a vitally important component of the medical curriculum. Results from a study done in the same college on mentorship revealed that student mentees perceived mentorship sessions positively. Most mentees agreed that their mentors demonstrated reasonable concern toward them and that they were able to discuss both academic and nonacademic issues with their respective mentors.⁹ Mentoring system might have close association with counseling cell, psychiatrists, medical specialist, parents, and anti-ragging committee. In addition, they should advise mindfulness workshops, yoga sessions, music club, etc., which might improve the quality of students' life in the campus.

It is important to emphasize that in addition to educating in a professional medical course, it is important to take into account the quality of life of the students during the years of medical training. A number of stress-busting techniques have been suggested to reduce stress in students pursuing higher education. Mindfulness, a secular face-to-face, group-based skills training program that involves self-discovery, self-compassion, and empowerment, aimed at generating a natural transfer of skills developed in meditation to study, decision making, and relationships, is one such means of training which has become acceptable to students and popular in universities. Mindfulness has been recommended by the general medical council, UK, as it has been shown to enhance resilience to stress and improve mental health.^{10,11}

Some authors have suggested a yoga-inspired biopsychosocial-spiritual model of self-care and execute life coaching to reduce stress in graduate healthcare students.^{12,13} Nonacademic stressors may be relieved by adequate recreational, refreshment facilities, and improving mess facilities. Although digital addiction has now been recognized by World Health Organization as a disease and needs to be tackled as well, time management workshops are very important as most of the students spend a lot of time on their mobile phone. Others have suggested that music therapy with a relaxation technique was consistent at follow-up in improving student stress management.¹⁴

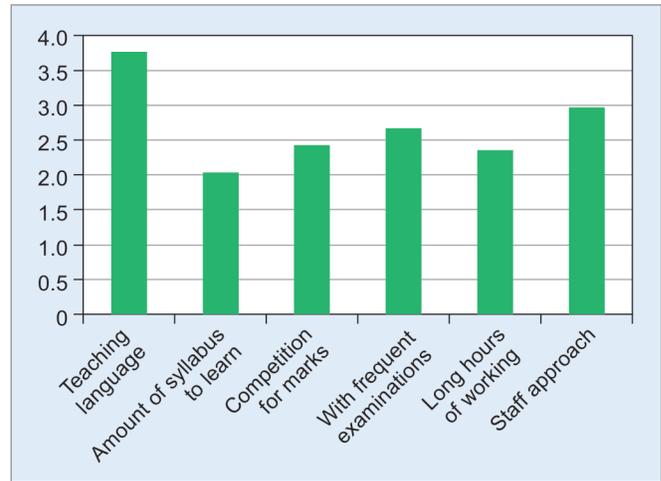


Fig. 4: Graphical depiction of the weighted average of various academic and nonacademic stress factors among the student population

The study has few limitations as it did not compare stressors between different groups and included only students from the second year. This study has not factored mental illnesses such as depression and anxiety. This study being done only in one institution, a larger sample set involving a number of medical colleges would provide a more accurate assessment of the stressors to arrive at solutions that would help in betterment of medical education in India.

CONCLUSION

Stress is an unavoidable part of everyday existence. Some stress can be healthy as it keeps you on your toes and hone your skills, but excess stress may be damaging to one's health both physically or mentally. Stress is highly individualized as people have different stressors and even different responses to same stressors. The relationship between psychosocial stressors and disease is affected by the nature, number, and persistence of the stressors as well as by the individual's biological vulnerability (i.e., genetics and constitutional factors), psychosocial resources, and learned patterns of coping. With the introduction of new pedagogical methods, the medical council has strived to synergize medical education with new techniques, thereby making it more interactive and encouraging the students to adopt a research-based approach rather than rote learning thereby helping in alleviating the stress experienced by medical students.

REFERENCES

1. Sherina MS, Rampal L, Kaneson N. Psychological stress among undergraduate medical students. *Med J Malaysia* 2004;59(2): 207–211.
2. Fish C, Nies MA. Health promotion needs of students in a college environment. *Public Health Nurs* 1996;13(2):104–111. DOI: 10.1111/j.1525-1446.1996.tb00227.x.
3. Chew-Graham CA, Rogers A, Yassin N. "I wouldn't want it on my CV or their records": medical students' experiences of help-seeking for mental health problems. *Med Educ* 2003;37(10):873–880. DOI: 10.1046/j.1365-2923.2003.01627.x.
4. Saipanish R. Stress among medical students in a Thai Medical School. *Med Teach* 2003;25(5):502–506. DOI: 10.1080/0142159031000136716.
5. Manju C, Alexander R, Divakaran B. Evaluation of stress parameters in new medical entrants based on their admission criteria to a south Indian medical college. *Int J Med Res Rev* 2019;7(4):273–279.

6. Anuradha R, Dutta R, Dinesh Raja J, et al. Stress and stressors among medical undergraduate students: a cross-sectional study in a private medical college in Tamil Nadu. *Indian J Community Med* 2017;42(4):222–225. DOI: 10.4103/ijcm.IJCM_287_16.
7. Waqas A, Khan S, Sharif W, et al. Association of academic stress with sleeping difficulties in medical students of a Pakistani medical school: a cross sectional survey. *PeerJ* 2015;3:e840. DOI: 10.7717/peerj.840.
8. Kumar B, Shah MAA, Kumari R, et al. Depression, anxiety, and stress among final-year medical students. *Cureus* 2019;11(3):e4257. DOI: 10.7759/cureus.4257.
9. Verma N, Mohan C, Chaturvedi R, et al. Mentees' perception of a newly introduced formal mentoring programme for finalfinal year undergraduate medical students – a pilot study. *J Educ Technol Health Sci* 2019;6(1):14–20. DOI: 10.18231/j.jeths.2019.004.
10. Galante J, Dufour G, Vainre M, et al. A mindfulness-based intervention to increase resilience to stress in university students (the Mindful Student Study): a pragmatic randomised controlled trial. *Lancet Public Health* 2018;3(2):e72–e81. DOI: 10.1016/S2468-2667(17)30231-1.
11. Malpass A, Binnie K, Robson L. Medical students' experience of mindfulness training in the UK: well-being, coping reserve, and professional development. *Educ Res Int* 2019;2019:1–10. DOI: 10.1155/2019/4021729.
12. Klawonn A, Kernan D, Lynskey J. A 5-week seminar on the biopsychosocial-spiritual model of self-care improves anxiety, self-compassion, mindfulness, depression, and stress in graduate healthcare students. *Int J Yoga Therap* 2019;29(1):81–89. DOI: 10.17761/D-18-2019-00026.
13. Cameron D, Dromerick LJ, Ahn J, et al. Executive/life coaching for first year medical students: a prospective study structured, theory-based executive/life coaching program tailored to first year medical students. *BMC Med Educ* 2019;19(1):163. DOI: 10.1186/s12909-019-1564-4.
14. Ogba FN, Ede MO, Onyishi CN, et al. Effectiveness of music therapy with relaxation technique on stress management as measured by perceived stress scale. *Medicine (Baltimore)* 2019;98(15):e15107. DOI: 10.1097/MD.00000000000015107.