pISSN 2394-6032 | eISSN 2394-6040

Original Research Article

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20191406

Study of perceived stress and stressors among undergraduate medical students

Renu Sethia, Gaurav Sharma*, Kirti Shekhawat, Aarti Aacharya, Rekha Acharya, Ratti Ram Meena

Department of Preventive and Social Medicine, S. P. Medical College, Bikaner, Rajasthan, India

Received: 31 January 2019 Revised: 11 March 2019 Accepted: 12 March 2019

*Correspondence: Dr. Gaurav Sharma,

E-mail: g.sha37@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Recently there is growing concern about stress during undergraduate's medical training. Undue stress may cause adverse health consequences and lowered academic performance. Objective of the study was to know perceived level of stress and its causes among undergraduate medical students.

Methods: A cross sectional survey, using self-structured questionnaire, was conducted among 65 third year medical students. Questionnaires were related to socio-demographic profile, perceived stress scale [PSS] and 32 item list of stressors (grouped as health related, academic and psycho-social). Student's responses were recorded on five point Likert scale.

Results: Mean PSS score was 25.53±5.55 and was significantly higher for females. Psycho-social stressors occurred most frequently, followed by the academic causes.

Conclusions: Medical undergraduates face high level of stress and the causes may be varied. They need more interaction, counselling and support from faculty to relieve their stress.

Keywords: Medical students, Stress, Stressors

INTRODUCTION

In a medical or biological context stress is a physical, mental, or emotional factor that causes bodily or mental tension. Stress is defined by Gray-Toft and Anderson as 'an internal cue in the physical, social, or psychological environment that threatens the equilibrium of an individual'. Stress has been identified as a 20th century disease and has been viewed as a complex and dynamic transaction between individuals and their environments. Stress occurs when one is confronted with a situation which is perceived to be overwhelming and one cannot cope with such a situation. Stress can initiate the "fight or flight" response, a complex reaction of neurologic and endocrinological systems. 4

Stressors can be broadly defined as situations or events that have the potential to affect health outcomes.² Stressors can be external (from the environment, psychological or social situations) or internal (illness or from a medical procedure). Medical college is recognized as a stressful environment that may have a negative effect on students' academic performance, physical health and psychosocial well-being.⁵

According to previous studies medical students around the world are considered to be experiencing more stress. Stress is an inevitable and important part of being a student: it motivates and stimulates learning. However, chronic, intense stress can arouse feelings of fear, uselessness, anger, incompetence and guilt. If it is not managed correctly, stress can lead to high levels of depression, substance abuse, relationship problems, anxiety and suicide.⁶ World-wide 10-20% of children and adolescents experience mental disorder. Depression is the leading cause of DALY in young people.⁷

Knowing in detail about the stress levels in medical students will help to prevent future mental ill-health like depression. There is a gap in identifying the reasons for stress in medical students. This study will help us to identify level of stress and the stressors responsible for the stress amongst students and hence appropriate measures can be taken in tackling them at the earliest stage.

METHODS

The cross-sectional study was conducted in 2015 amongst 65 students of third year MBBS, studying in S. P. Medical College, Bikaner. Students from 3rd year MBBS who had completed at least 2nd year in medical college and individuals who gave consent were included in the study. Students who were absent on the day of data collection or unwilling to participate in the study were excluded.

Pre tested questionnaire was used as study tool. It comprised of 3 parts: part 1 relating to sociodemographic information.

Part 2 the PSS (14 item) and part 3 consisting of a 32 item list of stressor [grouped as academic, psychosocial and health related].

PSS: 5 point Likert scale [0=never to 4=very often], no cut off value, higher the value, higher the stress level.

Stressor-5 point Likert scale [1=never to 5=always].8

Data entry and analysis was done with help of Microsoft Excel and Epi-info software.

RESULTS

Table 1 shows that out of 65 students 44.62% were males and 55.38% were females. Nearly three quarter of students were day scholars (72.31%) and from urban background (73.85%). 80% belonged to nuclear family and 20% from joint family. 37 had attended English medium school (56.92%) and 28 Hindi medium school (43.08%). Mean age of students was 21.26 years.

Table 2 shows that psychosocial stressors occurred most frequently [mean 37.78±6.76] followed by academic stressors [mean 29.23±4.50].

Amongst health related stressors quality of food in mess (64.61%) was the most common stressors identified by students followed by nutrition (40%) and lack of exercise (29.29%) (Figure 1).

Dissatisfaction with class lectures were the most common academic stressor identified (47.69%). Class attendance as stressor was identified by 46.16%. Lack of special guidance from faculty and performance in examination was given equal weightage as stressor (43.08%) (Figure 2).

Table 1: Socio-demographic profile of study population (n=65).

Variable		Frequency	%
Gender	Male	29	44.62
Gender	Female	36	55.38
Living	Day scholar	47	72.31
accommodation	Hostel	18	27.69
Back ground	Urban	48	73.85
	Rural	17	26.15
Type of family	Nuclear	52	80.00
	Joint	13	20.00
Medium of	English	37	56.92
teaching in school	Hindi	28	43.08

Table 2: Student's responses values for stressors (n=65).

Stressor	Mean	Median	SD
Academic	29.23	29	4.50
Psychosocial	37.78	37	6.76
Health related	17.53	18	4.01

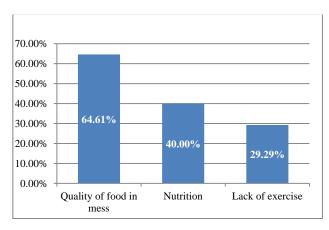


Figure 1: Various health related stressors.

Lack of entertainment in institution, living condition in hostel followed by accommodation away from home were the most common psychosocial stressors (63.08, 60.00 and 35.39% respectively) (Figure 3).

Most of the students said they have perceived one or another stress sometimes during their college life (Table 3).

Table 4 shows that mean PSS score was highly significant [p<0.05] higher for female gender. In other variable difference was not significant.

Table 3: Students responses to perceived stress scale (n=65).

Statement	Never (%)	Almost never (%)	Some times (%)	Often (%)	Very often (%)
In the last month, how often have you been upset because of something that happened unexpectedly	6.15	18.46	52.31	20.00	3.08
Felt that you were unable to control the important things in your life?	12.31	20.00	47.69	15.38	4.62
Felt nervous and "stressed"?	9.23	10.77	58.46	18.46	3.06
Dealt successfully with day to day problems and annoyances?	10.77	7.69	23.08	43.08	15.38
Felt that you were effectively coping with important changes that were occurring in your life?	9.23	04.62	44.62	27.69	13.85
Felt confident about your ability to handle your personal problems?	1.54	6.15	13.85	50.77	27.69
Felt that things were going your way	6.15	10.77	44.62	33.85	4.62
Found that you could not cope with all the things that you had to do?	9.23	20.00	53.85	9.23	7.69
Been able to control irritations in your life?	6.15	13.85	35.39	33.85	10.77
Felt that you were on top of things?	6.15	27.69	50.77	13.85	1.54
Been angered because of things that happened that were outside of your control	10.77	15.38	53.85	7.69	12.31
Found yourself thinking about things that you have to accomplish?	1.54	1.54	33.85	47.69	15.38
Been able to control the way you spend your time?	7.69	9.23	33.85	44.62	4.62
Felt difficulties were piling up so high that you could not overcome then?	13.85	30.77	44.62	6.15	4.62

Table 4: Variables affecting stress level (n=65).

Variables		Mean PSS score	P value*
Gender	Male	23.75±5.34	0.019
	Female	26.97±5.37	0.019
Type of family	Nuclear	25.11±5.85	0.221
	Joint	27.23±3.85	0.221
Background	Urban	25.18±6.05	0.396
	Rural	26.52±3.77	0.390
Accommodation	Day Scholar	25.10±6.09	0.314
	Hostler	26.66±3.71	0.314
Medium of teaching	English	24.43±5.72	0.073
	Hindi	27.00±5.52	0.073

^{*}with unpaired t-test.

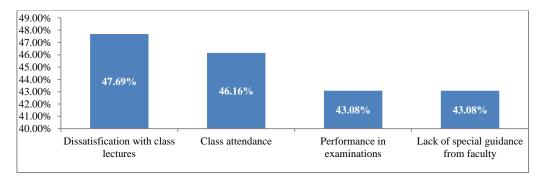


Figure 2: Various academic stressors.

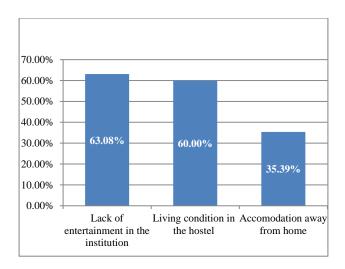


Figure 3: Various psychosocial stressors.

DISCUSSION

In our study mean PSS score was 25.53±5.55, [range=14-42], which was higher to a study done in Tamil Nadu by Sakthivel et al with mean score as 17±6.5.9 However it was less than that found in a study done in Kolkatta by Chowdhury et al where the mean and SD were 29.58 and 6.6 respectively.¹⁰

Another study done in by Brahmbhatt et al also showed a higher mean score of 27.53.¹¹ The easy pace of life in Bikaner, may be the reason for the lesser stress experienced by the students of this college. In our study mean PSS score was significantly higher for female gender. A study by Gade et al in Nagpur showed a same result with significant association between stress and gender, females being more stressed and students from rural background being significantly more stressed as opposed to our results. Showing contrast result studies done by Shakthivel et al, Yusoff et al, Supe et al and Nandi et al with they showing no significant association between gender and stress.^{9,12-15}

In our study majority of the students stated academic and psychosocial related stressors to be the source of high stress. This was comparable to a study done by Gupta et al in Kolkata where 94% had academic related stressor and 78% had Inter personal stressors. ¹⁶ The other studies done by Chowdhury et al, Panchu et al, Melaku et al all showed a similar result with academic related stressor being the major contributor of stress. ^{10,17,18} The vastness of the medical syllabus and lack of proper time management lessons for the students are the main reason for academic causes being the major stressor.

CONCLUSION

Medical undergraduates face high level of stress. Medical institution should have screening and stress management programmes to tackle the problem.

Limitations

Results are based on students' perception.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

REFERENCES

- Suresh P, Matthews A, Coyne I. Stress and stressors in the clinical environment: a comparative study of fourth-year student nurses and newly qualified general nurses in Ireland. J Clin Nurs. 2013;22:770-0
- 2. El-Gilany AH, El-Moafee H, Salama L, Jimenez C. Stress among Mansoura (Egypt) baccalaureate nursing students. Pan Afr Med. 2011;8:26.
- 3. El-gilany AH, Amr M, Awadalla N, El-Khawaga G. Perceived Stress among Medical and Law Students in Mansoura, Egypt. Egypt J Occup Med. 2009;33:1-13.
- 4. American Institute of Stress. What is Stress? Available at: https://www.stress.org/what-is-stress/. Accessed on 29 January 2019.
- Amr A, El-Gilany AH, El-Moafee H, Salama L, Jimenez C. Stress among Mansoura (Egypt) baccalaureate nursing students. Pan Afr Med J. 2011;8:26.
- Saravanan C, Wilks R. Medical Students' Experience of and Reaction to Stress: The Role of Depression and Anxiety. Sci World J. 2014:1-8.
- 7. Finkelstein C, Brownstein A, Scott C, Lan Y. Anxiety and stress reduction in medical education: an intervention, 2007.
- Child and Adolescent Mental Health. WHO, 2014. Available at: http://www.who.int/mental_health/maternal-child/child_adolescent/en/. Accessed on 29 January 2019.
- 9. Yusoff MSB, Rahim AFA, Yaacob MJ. The Development and Validity of the Medical Student Stressor Questionnaire (MSSQ). Asean J Psychiatry. 2010;11(1).
- Shakthivel N, Amarnath AM, Ahamed F, Rath RS, Sethuraman AR. Rizwan AS. Level of perceived stress and coping strategies prevailing among 1st year medical undergraduate students: A crosssectional study from south India. Int J Med Public Health. 2017;7(2):111-5.
- 11. Chowdhury R, Mukherjee A, Mitra K, Naskar S, Karmakar PR, Lahiri SK. Perceived psychological stress among undergraduate medical students: Role of academic factors. Indian J Public Health. 2017;61:55-7.
- 12. Brahmbhatt K, Nadeera V P, Prasanna K S, Jayram S. Perceived stress and sources of stress among medical undergraduates in a private medical college in Mangalore, India. Int J Biomed Adv Res. 2013;4(2):133-5.

- 13. Bassols AMS, Carneiro BB, Siqueira AM, Guimarães GC, Okabayashi LMS, Carvalho FG, et al. Stress and coping in a sample of medical students in Brazil. Arch Clin Psychiatry. 2015;42(1):1-5.
- 14. Yusoff MSB, Abdul Rahim AF, Yaacob MJ. Prevalence and sources of stress among Universiti Sains Malaysia medical students. Malaysian J Med Sci. 2010;17(1):30–7.
- Supe AN. A study of stress in medical students at Seth GS Medical College. J Postgrad Med. 1998;44:1-6.
- 16. Nandi M, Hazra A, Sarkar S. Stress and its risk factors in medical students: an observational study from a medical college in India. Indian J Med Sci. 2012;66(1-2):1–12.
- 17. Gupta S, Choudhury S, Das M, Mondol A, Pradhan R. Factors causing stress among students of a

- Medical College in Kolkata, India. Educ Health. 2015;28:92-5.
- 18. Panchu P, Bahuleyan B, Vijayan V. An analysis of the factors leading to stress in Indian medical students. Int J Clin Exp Physiol. 2017;4:48-50.
- Melaku L, Mossie A, Negash A. Stress among Medical Students and Its Association with Substance Use and Academic Performance. J Biomed Education. 2015;1-9.

Cite this article as: Sethia R, Sharma G, Shekhawat K, Aacharya K, Acharya R, Meena RR. Study of perceived stress and stressors among undergraduate medical students. Int J Community Med Public Health 2019;6:1690-4.