

## RESEARCH ARTICLE

### Domains of stress and coping strategies used by 1<sup>st</sup> year medical students

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#### ABSTRACT

**Background:** Although many studies have reported elevated levels of stress and psychological morbidity among medical students, there is lack of research on domains of stress, their intensity and coping measures used by medical college students. Addressing stress in the 1<sup>st</sup> year is important as this a distinct period in a student's lifetime; any intervention done now proves highly beneficial. **Aims and Objectives:** The aim of this study is to find the domains and measure the intensity of stressors prevalent in medical students and study various coping strategies used to overcome them. **Materials and Methods:** A cross-sectional, self-administered questionnaire study was conducted using pre-designed, pre-tested standard questionnaires. **Results:** Academic and group activity-related stressors were the most common stress causing factors experienced by the 1<sup>st</sup> year students. Planning, positive reframing, and active coping are most commonly used coping strategies. **Conclusions:** Various interventional programs can be initiated during the 5-year course of study which reiterates the use of coping strategies, teach the students techniques to effectively balance academic, personal and social demands, and improve their emotional intelligence.

**KEY WORDS:** Stressor; Coping; Intervention


#### INTRODUCTION

Stress is the feeling of being under too much pressure. It is viewed as the body's reaction, both neurologically and physiologically, to adapt to a new condition.<sup>[1]</sup> When students come into the university and become members of the institution, for the 1<sup>st</sup> time, they usually face several adjustment problems, the result of stressful experiences they are subjected to by the conditions, events, or situations in their unfamiliar environment.<sup>[2]</sup> There is a change in food, people, and living conditions. For a student, stress may also be caused by failure in academics or sports, financial

problems, health problems, or loss of a family member or close friend. Such events that bring stress are called stressors.<sup>[3]</sup> Several studies have revealed a high prevalence of stress in medical students.

If left, uncontrolled stress can manifest as mental and physical health problems with lowered self-esteem, anxiety and depression, sleep disorders, and increased alcohol and drug consumption. Stress can be managed by understanding the causes that make us stressed. People high in learned resourcefulness are purported to be better than others at controlling their negative emotions and managing stressful tasks.<sup>[4]</sup> Different people deal with stressful situations using different coping strategies. Students with greater coping resources demonstrated lower levels of stress.<sup>[5]</sup>

Our study focuses on different domains of stressors and their intensity in the 1<sup>st</sup> year medical students and various coping measures used by them to overcome such demanding

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situations. Addressing stress in the 1<sup>st</sup> year is important as this is a psychologically and socially distinct period in a medical student's lifetime and their concerns if addressed now can help them to become better clinicians of future.

## MATERIALS AND METHODS

A cross-sectional, self-administered questionnaire study was conducted using pre-designed and pre-tested standard questionnaires. The study was approved by Institutional Ethical Committee. After informed consent was obtained, the participants were selected randomly from the 57<sup>th</sup> batch at MLN Medical College, Allahabad. They were given two-structured questionnaires, Medical Students Stressor Questionnaire (MSSQ), and brief COPE. 1 h was given to fill their responses and submit as anonymous scripts. Basic information of age, sex, and socioeconomic status (SES) was also collected. Modified Kuppaswamy's<sup>[6]</sup> SES scale (modified as on June 2012) was used to assess the SES of parents of medical students.

MSSQ<sup>[7]</sup> measures six domains of stressors, namely, academic, inter- and intrapersonal, teaching and learning, social, drive and desire, and group activity-related stressors. It is a valid and reliable instrument to identify the type of stressors and measure their intensity. A score of "0" means no stress, "1" is mild, "2" moderate, "3" severe, and "4" high stress. While mild and moderate stress can be managed well, high and severe stress disturbs the emotions badly and causes compromise of daily activities.

Brief COPE<sup>[8]</sup> comprises 14 scales which assess the degree to which a respondent utilizes a specific coping strategy. They include self-distraction, active coping, denial, substance use, use of emotional support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, self-blame, and using instrumental support. Respondents rate items using a 4-point Likert scale ranging from "1" I have not been doing this at all to "4" I have been doing this a lot. Maximum score on each scale can be 8 and minimum 2.

## RESULTS

Total 115 students participated in the study, out of which 46 were girls and 69 boys. On studying the basic characteristics of the study group [Table 1], we found that mean age of girls was  $20.15 \pm 1.94$  and of boys was  $20.25 \pm 1.76$ . No significant difference in age groups was seen ( $P = 0.76$ ). No significant difference in stress levels in different domains was observed between males and females. The mean value of SES was found to be 17.58 with standard deviation (SD)4.72.

The different domains of stressors and intensity to which they were responsible for stress was illustrated [Table 2]. Academic (mean = 2.92, SD = 0.75) and group activity-related stressors

(mean = 2.05, SD = 0.64) predominated the chart causing severe degree of stress among the 1<sup>st</sup> year students. Others in respective order caused moderate degree of stress social (mean = 1.93, SD = 0.62), teaching and learning (mean = 1.36, SD = 0.43), and interpersonal- and intrapersonal-related stressors (mean = 1.12, SD = 0.91). While drive- and desire-related stressor caused mild stress (mean = 0.68, SD = 0.33).

A study of coping strategies [Table 3] used by medical students of the 1<sup>st</sup> year shows that students have been using planning (median = 7, interquartile range [IQR] = 2) as the most widely used coping strategy, closely followed by positive reframing (median = 6.5, IQR = 2), active coping (median = 6, IQR = 1.25), self-distraction (median = 6, IQR = 2), acceptance (median = 6, IQR = 2.25), and emotional support (median = 6, IQR = 3). Other methods were used uncommonly least being substance abuse (median = 2, IQR = 0) and denial (median = 3, IQR = 2).

## DISCUSSION

The present study examined the psychological, social, academic, and other factors which act as stressors for medical college undergraduates. SES was assessed and only two students belonged to Class 4 and 5 and they were excluded and students belonging to Class 1, 2, and 3 were included in the study group as studies<sup>[9]</sup> have shown low SES to be an independent factor which might act as a stressor and even affects the coping strategies adopted by students and our sample size with low SES was too small to extract any meaningful information from it so it was ignored. It was found that many factors caused mild-to-moderate degree of stress and this supports the work of previous researchers

**Table 1: Basic information**

Factors	Mean±SD	P
Age		
Male (n=69)	20.25±1.76	P=0.76
Female (n=46)	20.15±1.94	
SES	17.58±4.72	

SD: Standard deviation, SES: Socioeconomic status

**Table 2: Mean scores of medical students stressors questionnaire**

Stressors	Mean±SD
Academic-related stressors	2.92±0.75
Interpersonal- and intrapersonal-related stressors	1.12±0.91
Teaching- and learning-related stressors	1.36±0.43
Social-related stressor	1.93±0.62
Drive- and desire-related stressor	0.68±0.33
Group activity-related stressor	2.05±0.64

0-1.00=Mild stress, 1.01-2.00=Moderate, 2.01 – 3.00=Severe, 3.01 – 4.00=High stress. SD: Standard deviation

**Table 3:** Brief COPE scores for medical students

Coping strategies	Median	IQR	Range
Denial	3	2	5
Substance use	2	0	6
Emotional support	6	3	6
Behavioral disengagement	4	3	6
Venting	4.5	1.25	4
Positive reframing	6.5	2	6
Planning	7	2	5
Humor	4	4	6
Acceptance	6	2.25	6
Religion	5	3	6
Self-blame	4	1.5	6
Use of instrument support	6	4	6
Active coping	6	1.25	6
Self-distraction	6	2	5

IQR: Interquartile range

who found high prevalence of stress in medical students ranging from 30% to 50% as measured by General Health Questionnaire-12.<sup>[10-14]</sup> Other studies have also compared the stress levels in medical and other degree programs and found maximum mean stress scores for medicine.<sup>[7]</sup> Our finding that male and female students show no significant difference in mean stress scores is well corroborated with findings of previous researchers<sup>[13,15,16]</sup> although many studies have reported higher levels of stress in female students.<sup>[10,11]</sup> A possible explanation could be that nowadays parents while upbringing, hardly discriminate between boys and girls which might lead to higher emotional stability of girls. Our study revealed academic and group activity-related stressors as the major cause of stressors. Although academic has been reported by several people earlier,<sup>[12,13,17]</sup> GARS are a new finding in our study the probable reason for which could be increased the use of gadgets by the younger generation which hardly provides them time to do group activities thus creating an apprehension in their minds for the same. Our efforts should be directed toward reduction of academic stress by the use of orientation programs at the time of entry to the college which would teach students how to keep balance between academic, personal, and social demands, introduction of small group teachings where students can personally interact with teachers, revision of the curriculum to make it more student-friendly, and others. This study reiterates the finding that most commonly used coping strategies include planning and active coping.<sup>[11,18]</sup> A possible explanation for this could be that all the 1<sup>st</sup> year students have entered this college after qualifying a very difficult competitive examination and might have been using positive coping strategies during preparation for that examination. Findings from this study, implicate that there should be interventional programs for the management of stress in the form of college counselors assisting students to cope with college level anxieties and improve their emotional intelligence. In transition to college,

various coping strategies can be reiterated to help students to adapt to the pristine environment.

## CONCLUSIONS

Various interventional programs can be initiated during the 5-year course of study which reiterates the use of coping strategies, teach the students techniques to effectively balance academic, personal and social demands, and improve their emotional intelligence.

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## REFERENCES

1. Franken R. Human Motivation. 3<sup>rd</sup> ed. Pacific Grove, CA: Brooks and Cole Publishing Co.;2004.
2. Bojuwaye O. Stressful experiences of first year students of selected universities in South Africa. *Couns Psychol Q* 2002;15:27-290.
3. Elias H, Ping WS, Abdullah MC. Stress and academic achievement among undergraduate students in university putra Malaysia. *Procedia Soc Behav Sci* 2011;29:646-55.
4. Akgun S, Ciarrochi J. Learned resourcefulness moderates the relationship between academic stress and academic performance. *Educ Psychol* 2003;23:287-94.
5. Allen S, Hiebert B. Stress and coping in adolescents. *Can J Couns* 1991;25:19-32.
6. Kumar N, Gupta N, Kishore J. Kuppaswamy's socioeconomic scale: Updating income ranges for the year 2012. *Indian J Public Health* 2012;56:103-4.
7. Yusoff MS, Abdul Rahim AF, Yaacob MJ. Prevalence and sources of stress among universiti Sains Malaysia medical students. *Malays J Med Sci* 2010;17:30-7.
8. Carver SC. You want to measure coping but your protocol's too long: Consider the brief cope. *Int J Behav Med* 1997;15:92-100.
9. Fan AP, Chen CH, Su TP, Shih WJ, Lee CH, Hou SM. The association between parental socioeconomic status (SES) and medical students personal and professional development. *Ann Acad Med Singapore* 2007;36:735-42.
10. Iqbal S, Gupta S, Venkatarao E. Stress, anxiety and depression among medical undergraduate students and their socio-demographic correlates. *Indian J Med Res* 2015;141:354-7.
11. Zvauya R, Oyebo F, Day EJ, Thomas CP, Jones LA. A comparison of stress levels, coping styles and psychological morbidity between graduate-entry and traditional undergraduate medical students during the first 2 years at a UK medical school. *BMC Res Notes* 2017;10:93.
12. Shah M, Hasan S, Malik S, Sreeramreddy CT. Perceived stress, sources and severity of stress among medical undergraduates in a Pakistani medical school. *BMC Med Educ* 2010;10:2.

13. Supe AN. A study of stress in medical students at Seth G.S. Medical College. *J Postgrad Med* 1998;44:1-6.
14. Dyrbye LN, Thomas MR, Shanafelt TD. Medical student distress: Causes, consequences, and proposed solutions. *Mayo Clin Proc* 2005;80:1613-22.
15. Firth J. Levels and sources of stress in medical students. *Br Med J (Clin Res Ed)* 1986;292:1177-80.
16. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav* 1983;24:385-96.
17. Saipanish R. Stress among medical students in a Thai medical school. *Med Teach* 2003;25:502-6.
18. 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.

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