

## Stress Management Knowledge, Attitude, and Behaviour Among Medical Students

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### Abstract

**Aim:** Evaluation of knowledge, attitude and practice regarding stress management among undergraduate medical students at Bihar region. **Methods:** A cross-sectional, questionnaire-based study was conducted in the Department of Pharmacology, JLNMCH Bhagalpur, Bihar, India for 12 months. A total of 260 undergraduate students of first year, second year and third first year of MBBS were briefed on the aims and objectives of the study and written informed consents were obtained from those who were willing to participate in the study. The questionnaire consisted of age, study year and gender of the participating students which was followed by 12 questions regarding knowledge, attitude and practice on stress management. The students were asked to fill the questionnaire by themselves within 30 minutes of time. **Results:** The most common condition related to stress is depression (57.6%), followed by anxiety (36.3%). Only 35.7% of students could answer the correct clinical features confronted by a person under stress. 11.9% of students strongly agreed and 45.7% of students fairly agreed that they have faced difficulties in adapting to the new environment and away from home, these observations were particularly founded in first-year students. Socio-behavioural problem was the most common non-academic cause of stress faced by 41.1% of students. 64.6% students of all years of MBBS had confronted stress because of study performance anxiety among colleagues. Most commonly used stress coping strategy by the students was listening to music especially in female students, followed by watching internet videos particularly in male students. A total of 12.3% students thought that a balanced and healthy diet can make mind healthier, 68.1% of students indulged themselves in various hobbies when felt stressed out and listening to music and singing (32.7%) and playing outdoor games (23.1%) were the most common hobbies. Only 19.7% of students worked harder and faster when under stress, 13.8% of students behaved irritably and took out their stress on surrounding people and 24 (9.2%) third-year male students became addicted to smoking and alcohol. **Conclusion:** The significant level of perceived stress among majority of medical undergraduates owing to various stressors such as academic, environmental, psychological and socio-economical factors.

**Keywords:** stress, medical, undergraduates

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## Introduction

The term “stress” was coined by Hans Selye in 1936, who defined it as “the non-specific response of the body to any demand for change”. [1] There are numerous reasons which can lead to stress like work overload, bad health, poor nutrition, inadequate sleep, financial limitations, bad interpersonal relationship, constant negativity seen in news etc. [2,3] Medical education has been reported throughout the world as one of the most stressful academic curricula, which negatively affects the physical and mental health of medical students. The medical college environment is very different and more challenging than general schooling since responsibilities in medical colleges are different and more demanding than that of high school level. Parent involvement is reduced, and students may live away from families in dormitories and may have added responsibilities. [4,5]

Fear of examinations, high parental expectation, peer pressure, lack of leisure time, financial problems, relationship disharmony, and aspirations of higher studies are some of the many factors known to contribute to the development of stress in undergraduate medical students. [6,7] There is increased attention to the health and well-being of students at institutions of higher learning as they represent the future of families, communities, and countries. Of the students in institutes of higher education, medical students appear to have more emotional challenges, physical and psychosocial hazards, and mood disorders as they progress and think of their future and professional goals. [8-10] A systematic review of 40 studies concluded that the overall psychological distress and prevalence rates of depression and anxiety in medical students are higher than nonmedical students or age-matched peers from the general population. [11]

In India, studies on medical students have reported similar high levels of perceived psychological stress and depression related

to internal and external variables, which accord with results reported in the international literature. [12,13] The excessive amount of stress in medical training may lead to negative consequences such as diminished attention and concentration, increased incidence of errors, negligence, absenteeism, self-medication, and cheating during examinations. [14]

Many studies have been conducted globally to study the level of stress among undergraduate medical students during their academic period. [15,16] Academic curriculum for MBBS students is set by the medical council of India. The curriculum is indeed very challenging and demanding at the same time as it includes over 23 subjects to be learned thoroughly for a time period of four and half years. The level and amount of stress varies through different semesters of MBBS. In the first year of MBBS, stress is said to be induced by conditions like vast syllabus tutorials, overlapping exams by different departments, language barrier, fear of ragging, tough topics, staying away from home, alien environment, etc. Also among these, difference in social and economical background of the students also add to the stress. In the second and third year of MBBS the triggers for stress include clinical postings, term ending examinations and viva, theory examinations, competitive exams preparations etc. As per the data collected from the studies conducted among the undergraduate medical students, it is shown that academic stress is directly related to presence of psychological symptoms such as anxiety, depression, insomnia, social conflicts and poor performance in the study. [17,18] In most of the medical colleges, main priority is always academic output of the students and this pressure for good performance often creates competitiveness rather than cooperation and compassion among the students. [19]

## Materials and Methods

A cross-sectional, questionnaire-based study was conducted in the Department of Pharmacology, JLNMC BHagalpur, Bihar, India for 12 months, after taking the approval of the protocol review committee and institutional ethics committee.

A total of 260 undergraduate students of first year, second year and third first year of MBBS were briefed on the aims and objectives of the study and written informed consents were obtained from those who were willing to participate in the study.

The questionnaire consisted of age, study year and gender of the participating students which was followed by 12 questions regarding knowledge, attitude and practice on stress management. The students were asked to fill the questionnaire by themselves within 30 minutes of time. Out of 12 questions, 4 questions were of knowledge, 3 of attitude and 5 of practice regarding stress management among medical undergraduates. For evaluation of the knowledge of stress among medical undergraduates, definition of stress, comorbidities, clinical symptoms associated with stress and type of stressors were included in questionnaire. For assessment of attitude, students were asked about difficulties they faced in adapting to new environment or home sickness, non-academic reasons making them anxious and confrontation of stress due to competition. To evaluate their practice regarding stress coping methods, students were asked different ways to alleviate stress, as the most preferred way to maintain sound mental health, indulging in their hobbies when stressed, how did they approach stress and presently, whether or not, they were victim of addiction. The questionnaires were collected and evaluated for their completeness.

## Statistical Analysis

The data were recorded in Microsoft Excel Worksheet and analysed using SPSS version 20.

## Results

The general particulars of the students who participated in the survey are shown in [Table 1]. Knowledge of the students regarding stress are shown in [Table 2]. Attitude of students towards stress (according to Questionnaire) are shown in [Table 3]. Details of practice of students towards stress in present study are mentioned in [Table 4]. Out of 260 total undergraduates, 26.9%, 46.1% and 26.9% of students were of first, second and third year MBBS, respectively. There were 49.2% male and 50.7% female students. 30.7% could give a relevant definition of stress. The most common condition related to stress is depression (57.6%), followed by anxiety (36.3%). Only 35.7% of students could answer the correct clinical features confronted by a person under stress. Most common stressors were vast syllabus and tough topics of MBBS curriculum (first-year), followed by procrastination (second-year) and less study time (third-year). 11.9% of students strongly agreed and 45.7% of students fairly agreed that they have faced difficulties in adapting to the new environment and away from home, these observations were particularly founded in first-year students. Socio-behavioural problem was the most common non-academic cause of stress faced by 41.1% of students. 64.6% students of all years (except fourth year) of MBBS had confronted stress because of study performance anxiety among colleagues. Most commonly used stress coping strategy by the students was listening to music especially in female students, followed by watching internet videos particularly in male students. Male students preferred to sleep for 6-8 hours for maintaining good mental health; however, meditation and prayer were commonly practiced method among female students. A total of 12.3% students thought that a balanced and

healthy diet can make mind healthier, 68.1% of students indulged themselves in various hobbies when felt stressed out and listening to music and singing (32.7%) and playing outdoor games (23.1%) were the most common hobbies. Only 19.7% of

students worked harder and faster when under stress, 13.8% of students behaved irritably and took out their stress on surrounding people and 24 (9.2%) third-year male students became addicted to smoking and alcohol.

**Table 1: General particulars of the student**

Variables	n (%)
Study year	
First year	70 (26.9%)
Second year	120 (46.1%)
Third year	70 (26.9%)
Total	260 (100%)
Gender	
Male	128 (49.2%)
Female	132 (50.7%)
Age	
18-19 years	80 (30.7%)
20-21 years	120 (46.1%)
22 and above	60 (23 %)

**Table 2: Knowledge of the students regarding stress**

Questions	n (%)
1) How do you define stress?	
Relevant definition	80 (30.7%)
Irrelevant definition	180 (69.2%)
2) Which of the following is related to stress?	
a) Depression	173 (57.6%)
b) Schizophrenia	9 (3%)
c) Anxiety	109 (36.3%)
d) Hallucinations	9 (3%)
3) What clinical features are confronted by a person under stress?	
Relevant	93 (35.7%)
Irrelevant	167 (64.2%)

**Table 3: Attitude of students towards stress**

Questions	n (%)
1) What makes you feel stressed out?	
a) Vast syllabus and tough topics	91 (26.3%)
b) Less self-study time	69 (20%)
c) Overlapping of short exams and seminars by different departments	41 (11.8%)
d) Fear of facing questions	40 (11.5%)
e) Procrastination	84 (24.3%)
f) Others	20 (5.7%)
2) Have you faced difficulties in adapting to new environment/ home sickness?	
a) Strongly agree	31 (11.9%)

b) Agree	119 (45.7%)
c) Disagree	79 (30.3%)
d) Strongly Disagree	31 (11.9%)
3) What reasons other than academics makes you anxious/ restless?	
a) Fear of ragging	15 (5.5%)
b) Financial instability in family	64 (23.5%)
c) Major health issue	26 (9.5%)
d) Socio-behavioural problems	112 (41.1%)
e) Others	55 (20.2%)
4) Have you ever confronted stress because of competition?	
a) Yes	168 (64.6%)
b) No	92 (35.3%)

**Table 4: Practice of students under stress**

Questions	n (%)
1) Ways to alleviate stress?	
a) Listening music	170 (54.8%)
b) Watching TV	35 (11.2%)
c) Internet videos	70 (22.5%)
d) Seeking help from peers	35 (11.2%)
2) Most preferred way for sound mental health?	
a) Prayers and meditation	66 (19.4%)
b) Indulging in physical activity	66 (19.4%)
c) Health and balanced diet	42 (12.3%)
d) 6-8 hour sleep	145 (42.7%)
e) Others	20 (5.8%)
3) Do you indulge yourself in any of the hobbies when tensed?	
a) Yes	177 (68%)
b) No	83 (31.9%)
4) How do you approach stress?	
a) Try to focus on things which can be controlled and accepting things which can't be controlled	105 (36.4%)
b) Facing problems by putting it in better perspective	86 (29.8%)
c) Ignoring one's own needs and working harder and faster	57 (19.7%)
d) Getting irritable and taking out on surrounding people	40 (13.8%)
5) Have you been/presently are victim of addiction? (alcohol, tobacco)	
a) Yes	24 (9.2%)
b) No	236 (90.7%)
If yes, was it due to stress?	
a) Yes	18 (75%)
b) No	6 (25%)

**Discussion**

In modern era, there is increased competition among students for medical

admission and higher cost of medical education. Students with different socio-economical background come together

from various parts of India and globally.[20] Undergraduate medical curriculum is five and half year long with total of 21 subjects to learn with their practical implication.[21] Hence, medical students are under tremendous pressure for academic performance and it leads to distress among them. Stress has negative effects on mental and physical health of students and causes complication like anxiety, depression, low self-esteem and substance abuse.[22]

In the present study, evaluation of the different stressors, prevalence of stress among medical undergraduates, their belief of stress, and tribulation caused by distress were carried out. Living condition of medical undergraduates are knowingly demanding and requires high level of constant work-related commitment when compared to other students or the general population. Such pressurised career initiates vicious cycle of stress and its adversity on physical and psychological health of student such as anxiety, depression, substance abuse, etc. [23] Differences in social and terrestrial setting, academic milieu, year of study of the medical student, and evaluation methods in tertiary teaching medical institute may explain difference in the prevalence rates.[24,25] In this study, the present authors observed that most common stressor agents related to education were vast syllabus and tough topics in first year, procrastination in second year and less self-study time in third year students, whereas the study in Mangalore and Nepal found lack of time for recreation in the institution as an important source of stress.[26,27] Previous studies have also reported the frequency of examinations, performance in examinations, competition with peer were common sources of stress.<sup>28</sup> Furthermore, most common non-educational determinants of stress found out in the present study were socio-behavioural problems and financial instability in the family. In addition, in current study, 57.6% of students experienced homesickness

which was contributing to stress particularly in first year. On the other hand, a study conducted by Shah M et al., in a Pakistani Medical college, medium of education, being a hosteller had no significant association with stress level.[29] The study conducted in Mangalore by Brahmhatt KR et al., found high parental expectations and loneliness as the determinant of stress cases.[26] However, the quality of food in mess emerged as an important stressor among students in a Medical school in Kathmandu. According to previous studies, competition with peers was also a source of stress among MBBS students.[26-28] In the present study, we observed similar result with 64.6% of students have developed stress due to competition with peers.

In current study, 54.8% of undergraduates listened to music to alleviate stress and making it the most common method of coping with stress. This trend was more observed in female undergrads. Watching internet videos was the second most favoured (22.5%) way to cope up with stress by students of the present institution especially in male students. Whereas according to a study in Karnataka, talking to a friend was the most common coping method.[26] In current study, to maintain sound mental health, male students preferred to sleep for 6-8 hours, while, among female students favoured to meditate and pray. Similarly, from Karnataka study, sleeping and eating healthy food were used techniques for maintaining good health.[26] In the present study, the most frequent stress alleviating technique used by students, was trying to focus on things which could be controlled and accepting things which could not be controlled (36.4%).

According to the observations made in present study, 24(9.2%) male third year students were a part of substance abuse or addiction, out of which stress was the foremost motive for 18 such students. Studies conducted at various cities within

the India such as Mangalore, Ranchi, and Tamil Nadu and outside of the India at Nepal and Pakistan have observed similar prevalence and pattern of illicit drug use among medical students.[26-29] A study from Kolkata, India, noted nearly 50% of MBBS students reporting experiencing the stress of variable severity, predisposing to illicit drug use.[30] In modern era, at global level, with evolution of digital media and easy availability of cost effective internet plans on smart phones, youth have become addicted to social media.[31,32] As compared to previous generations, the tolerance level of today's youth have been reduced drastically.[31,32] During transition phase from school to college, when the young students get admission into different undergraduate courses particularly in MBBS, owing to low tolerance and less adaptive ability in alien environment, they feel stressful. This is particularly observed among students who are home sick, having language barrier, with different socio-economical backgrounds, from different geographical regions. Because of evolution of technologies and westernisation of developing country like India, prevalence of psychological problems has been increased gradually over last couple of years. Hence, it is very essential to take measure to improve mental health of future of the nation (students). Improving mental health of MBBS students is very essential measure for building up their prosperous career ahead for which different programs related to mental health such as subject of aerobic exercises, yoga and relaxation techniques, substance abuse awareness campaigns, medical education training of teaching faculties to make them more student friendly and providing spirit of cooperation to make students emotionally expressive should be a part of the academic curriculum in different universities of the India.[26-30] These will increase work efficiency and scholastic performance of undergraduate students. Moreover, medical college campus should be more students

affable and academic curriculum should include group activities such as case based learning and problem base learning in small groups of 15 to 20 students, which can induce reasoning power of students and enhance their overall performance and build up cooperation among them. Positive peers support is paramount importance in student life to cope up any type of stress and adversity.

### Conclusion

In present study, there was significant level of perceived stress among majority of medical undergraduates owing to various stressors such as academic, environmental, psychological and socio-economical factors. Despite the practice of several strategies to cope up the stress, none were effective. Hence, for MBBS students, in addition to academic teaching, extracurricular doings such as yoga classes, sports, etc., should be part of their course curriculum in their universities. This will booster up will power of undergrads to deal with diverse stressors with more confidence, and to upsurge their work efficiency. It will be appropriate if the central authorities will take this matter into their considerations as to provide an opportunistic medical teaching environment

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