

## A Study on Stress Management Among the Medical Students in India

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### ABSTRACT

Indian education systems are very robust and complex. India's education system follows international norms to compete globally; around 43.3 million students pursue education in different courses. Pursuing medical courses is a dream for many aspirants. Medical courses are more stressful as compared to other non-medical courses. Admission to medical courses is a challenging task for the aspirants. 23 lakh candidates appeared for the NEET entrance test for the available 1 lakh seats in private and government medical colleges. The stress levels observed in the students from the start of the admission till they complete the course successfully.

The research study analyses the causes of stress, and the coping strategies followed by the medical students. The research design consists of mixed approaches of qualitative and quantitative research design. The sample size is 200 respondents from medical colleges across the Mumbai and Thane regions.

The findings revealed that the stress is very high among the female students than male students. The academic factors such as academic workload, examinations, poor college and hostel facilities, students feeling low self-esteem causing stress among medical students

The research study suggested that college management and teachers should provide support to students during stress. College management must provide counselling centres for the students to cope with stress, and teachers should also create a healthy relationship with the students.

**Keywords:** Depression, Anxiety, Stress Management, Medical College, Education, Medical Students.

### INTRODUCTION

The central government has made efforts in restructuring medical courses for the welfare and benefits of the students. The National Medical Council of India has reframed the medical courses syllabus to meet the international standards and present requirements of the stakeholders. The medical courses are very tough and challenging for the students, as the course is very rigorous and has strict assessment methods.

Many rural areas are having an acute shortage of medical colleges, which forces the students to migrate to urban cities to pursue medical education. This has led to an increase in competition in medical college admissions in urban cities. Another challenge is the reservation for the medical colleges' admission.

Medical courses available for students to pursue are MBBS, Ayurveda, Dentistry, Homeopathic, Unani, and Physiotherapy in the country. At global study it is found that one-third of medical students undergo in depression – 26.7%, anxiety – 33.3%, and stress – 66.8%

The details of the medical colleges' growth in the country from 2010–2011 to 2022–2023 are as follows:

Year	Medical Colleges	MBBS Seats
2010–11	335	40,775
2011–12	345	42,000
2012–13	355	43,500

2013–14	365	45,000
2014–15	375	46,000
2015–16	386	48,000
2016–17	396	50,000
2017–18	413	53,000
2018–19	440	59,000
2019–20	470	69,000
2020–21	515	80,000
2021–22	575	85,000
2022–23	612	92,127

Source: Official website: <https://www.nmc.org.in>

**Definition of Stress:** The person encounters a situation beyond his control, and displayed through body language and behaviour is called stress. When the person positively feels stress is called eustress. But when the person negatively feels stress that impacts his physical and mental health, it is called distress.

**Stress Management:** The coping strategies adopted by the medical students to mitigate stress level are called stress management strategies.

• **The major factors of stress are as follows:**

1. **Academic Pressure:** Academic pressure is found to be strong causes of stress among weak medical students. Academic workload is extremely high in all medical colleges, and it requires strong dedication and devotion of time from the students. Many students find it difficult to cope with the academic workload.
2. **Submission of Assignments and Completion of Journals:** Students find it difficult to submit their assignments on time. Further, they are required to regularly attend the laboratory practically and complete their journal books. Multiple internal assessment methods that cause them severe stress.
3. **Financial Crisis:** The medical course fees are increasing every year. They were unable to bear the unprecedentedly high fees and expenses. This has resulted in the disturbance of the financial position of the family and put them under stress.
4. **Changing Lifestyle of the Students:** Most students find it difficult to manage their lifestyle in urban cities, especially students who belong to rural areas which caused them stress.
5. **Poor college infrastructure and facilities:** Poor college infrastructure and facilities, such as inadequate classrooms, lack of amenities, no proper reading rooms, and lack of equipment in the medical labs etc. causing stress among the students.
6. **Duty in Hospital Wards:** Students are required to do hectic duty in the wards due to the shortage of doctors in the hospital and also dealing with serious patients which caused them severe stress.

• **Common symptoms of stress seen among the medical students are as follows:**

1. **Headache:** Most students frequently get headaches during stress.
2. **Fatigue:** Students get overburdened with the study workload, such as assignments, presentations, viva voice, and personal issues. This impacts on the health of the students, and they feel fatigued in terms of low blood pressure, weakness, omitting, gastrointestinal issues, greediness, etc.
3. **Poor Sleep:** Sleeping disorder due to hectic academic pressure.
4. **Burnout:** Excessive academic workload and other engagement causing students to burn out and delve into frustration.
5. **Suicidal Ideation:** Students are facing humiliation and bullying in colleges or hostels. Some may have encountered sexual harassment from their senior students or teachers, abuse and beating by a group of students, etc. All these factors cause students to think about suicidal ideation.
6. **Frequently falling sick and facing healthcare issues:** Students are frequently falling sick and facing healthcare issues due to frequently changing lifestyles and unhealthy food diets. Students' hostel living conditions are also found to be poor conditions, which causes students to fall sick.

**Stress Management Strategies:** There are various stress management strategies medical students adopt to manage their stress levels. These are.

1. Yoga and Meditation – Improve Concentration and Heart Functions

2. Visit family home to burst their stress – Sharing the issues will be able to find solutions from friends and family members.
3. Regular exercise or jogging in the park – Increase Breathing and Lungs functions
4. Proper time management and work prioritization – Able to complete the tasks without stress
5. Follow adequate sleep – Will not have headache

### OBJECTIVES OF THE STUDY

1. To assess the academic factors causing stress among medical students
2. To study the common symptoms of stress observed among medical students
3. To identify stress management practices adopted by the medical students.

### REVIEW OF LITERATURE

1. **Deswal B. S., & Singhal V. K. (2016)** The author has examined the Indian medical education system. The number of medical colleges has increased in the last 25 years, from 125 to 422. India produces 92,750 MBBS doctors every year. The major problems and challenges faced by medical colleges are the shortage of qualified and experienced medical teachers. There were a large number of openings for the post of teacher that remained vacant in many medical colleges for a long time.

2. **Goswami, S., & Sahai, M. (2015)** Private medical colleges admitted students from NRI and non-NRI quotas across the country with low merit marks. These students had good financial backgrounds and were able to pay the high capitalization course fees. Students were not able to manage the study pressure. This raises serious concern about the future doctors' service quality delivery.

3. **Sudhir, Raman, Parajuli. (2023)**, The author researched for cases of depression, anxiety and stress in medical students and discusses mental health problems among medical students. These mental health issues of medical students should be dealt with on a priority basis by establishing a special department in medical colleges. It was discovered that the number of medical students going through mental health issues is growing quickly in medical colleges. The study further pointed out the causes of mental health problems of medical students.

4. **R., Karthik., Balaji, Arumugam, Ajay et al. (2022)**, The author investigates the cases of depression, anxiety, and stress among medical students and found that the majority of the senior students from third and fourth year are having high depression, anxiety and stress. The rigor of the course is very high in the third and fourth years and puts pressure on the medical students to clear the course. This causes medical students to have depression, anxiety, and stress at high levels.

### RESEARCH METHODOLOGY

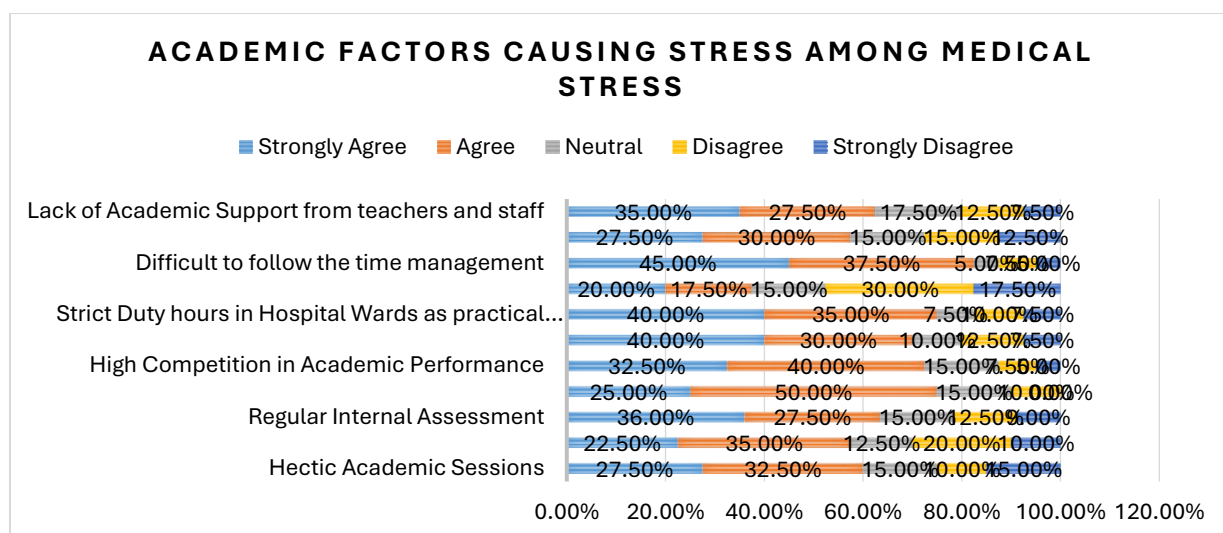
- i. **Research Design:** Research design is a mixed approach consisting of qualitative and quantitative research design.
- ii. **Sources of Data:** The primary data gathered from the survey conducted in medical colleges through group interviews and requesting students to fill out the questionnaire. Secondary data is collected from reputable published journal articles or reports.
- iii. **Population:** All medical college students located in Mumbai and the Thane Regions
- iv. **Sampling Technique and Sample Size:** Random Sampling Techniques applied. The total sample size is 200 respondents who participated from across medical courses in Mumbai and Thane Colleges.
- v. **Data Analysis:** The data analysis is conducted using SPSS software. Applied the Chi-Square Test and Pair t-Test to draw the conclusion of the research study.
- vi. **Limitation:** The following limitations of the research study are as follows:
  - a. The sample size is limited to 200; therefore, the outcomes cannot be generalized.
  - b. The research study was conducted in Mumbai and Thane region medical colleges, so the outcome cannot be applied to other states of the country.
  - c. The respondents may be biased in their responses due to social factors.
  - d. There is a possibility of errors from the interviewer's side.
  - e. Time constraints in conducting the survey.
- **Data Analysis:** The data analysis conducted through a structured questionnaire.

1. **Socio-Demographic Profile of the Medical Students:** The details of the socio-demographic profile of the medical students are as follows:

Sr. No.	Descriptions	Number	Percentage
1	<b>Gender</b>		
	Male	125	62.50%
	Female	75	37.50%
2	<b>Age</b>		
	17 Years to 19 Years	110	55.00%
	20 Years to 22 Years	50	25.00%
	23 Years to 25 Years	40	20.00%
3	<b>Residential Status</b>		
	Urban cities	130	65.00%
	Rural cities	70	35.00%
4	<b>Medical Course Studying</b>		
	MBBS	135	67.50%
	BDS	65	32.50%
5	<b>Course Year</b>		
	First Year	115	57.50%
	Second Year	40	20.00%
	Third Year	30	15.00%
	Fourth Year	15	7.50%

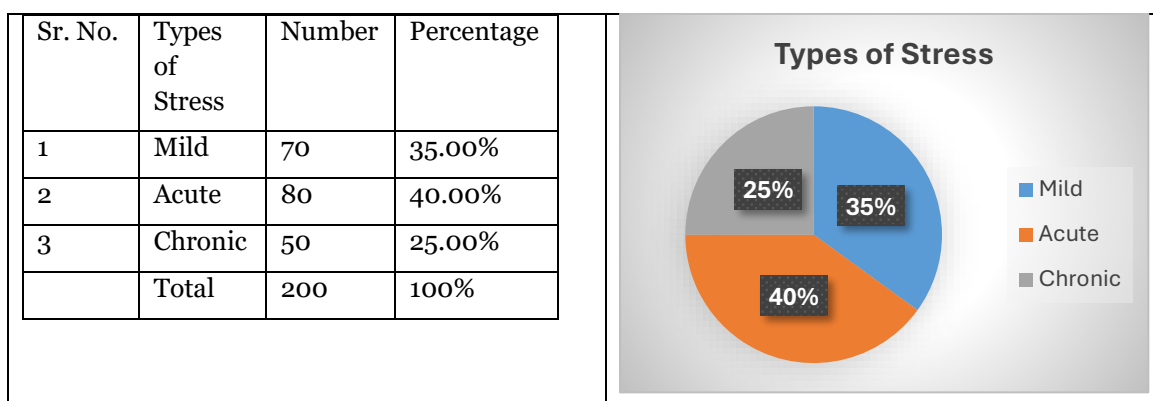
**Inferences:**

- Male respondents consist of 62.50%, and female respondents are 37.50%. Different age groups of students participated in the survey, such as 17 to 19 years consisting of 55.00%, 20 to 22 years are 25.00%, and 23 to 25 years are 20.00%.
  - 65.00% of the medical students belong to urban cities, and 35.00% of students belong to rural cities.
  - 67.50% of respondents study the MBBS courses and 32.50% of respondents studying the BDS courses.
  - 57.50% of respondents' students were from first-year medical courses, 20.00% of respondents studying in second-year medical courses, 15.00% of respondents studying in third-year medical courses and finally 7.50% of respondents studying in fourth year medical courses.
2. **Academic Factors are as follows:**



### Inferences:

- Academic factors are significant for measuring stress level among medical students. These factors vary according to the medical students' social and economic background. Therefore, we have observed different ranges of responses.
- The highest percentages, i.e., 60.00% (strongly agreed and agreed), of medical students feel that hectic academic sessions put a lot of stress on their studies.
- The majority of the respondents, i.e. 57.00%, strongly agreed and agreed that too many submissions of assignments are causing stress among medical students.
- Most of the faculty keep regular internal assessments for the students at short intervals, causing tremendous stress to the students.
- 72.00% strongly agreed / agreed that high competition in academic performance in the college is putting students into high stress levels.
- It is observed that there is strong peer group pressure during the presentation and assignment submissions. 70% agreed that there is high stress from peer group pressure.
- Apart from attending the sessions, senior batch students are required to attend to ward duties and handle the patients and their relatives. Handling different types of patients and their relatives is a stressful task.
- Due to hectic academic and ward duties, students are finding difficulties in following time management.
- 57.50% of students strongly agreed and agreed that some faculties are strict and did not cooperate with the students at times.
- 62.00% of the medical students reported that there is a lack of cooperation from the college staff.
- Types of stress reported by the medical students:** The details are as follows:



**Inferences:**

1. 35% of the students felt mild stress during the course of their study.
2. 40% of the students felt an acute level of stress.
3. 25% of the students felt chronic stress due to various reasons which they could not cope up.
4. ***Stress Management (Coping) Strategies adopted by the medical students to overcome stress:*** The details are as follows.

Sr. No.	Descriptions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
1	Perform regular yoga exercise	35.00%	30.00%	15.00%	10.00%	10.00%	100.00%
2	Managing effective time management	27.50%	32.50%	12.50%	15.00%	12.50%	100.00%
3	Improve eating habits	40.00%	30.00%	7.50%	10.00%	12.50%	100.00%
4	Visit counsellors for guidance	17.50%	27.50%	15.00%	25.00%	15.00%	100.00%
5	Perform meditations	35.00%	40.00%	10.00%	10.00%	5.00%	100.00%
6	Engaged in social activities	50.00%	30.00%	10.00%	5.00%	5.00%	100.00%
7	Discuss the matter with friends and family	25.00%	22.50%	10.00%	15.00%	17.50%	90.00%

**Inferences:**

1. Many medical students face some sort of stress during their studies. These students must follow coping strategies to overcome the stresses.
2. 65.00% of the medical students strongly agreed and agreed that they perform regular yoga exercises.
3. 60.00% of medical students are prioritizing their work to manage their time to avoid stress during the study.
4. 70.00% of the medical students strongly agreed and agreed that they started concentrating on diets and trying to improve their eating habits.
5. 45.00% of the medical students strongly agreed and agreed that they visited counsellors for counselling guidance during the counselling sessions.
6. 75.00% of the medical students strongly agreed and agreed that they perform meditation to overcome stress.
7. 80.00% of the medical students strongly agreed and agreed that they regularly engaged in social activities to overcome stress.
8. 47.50% of the medical students strongly agreed and agreed that they discuss matters with their friends and family members only whenever they feel stressful situations.

- **Hypothesis Testing:**

- ***Null Hypothesis (H<sub>0</sub>)*** – There is no significant relationship between academic factors and stress among medical students.

- ***Alternative Hypothesis (H<sub>1</sub>)*** – There is a significant relationship between academic factors and stress among medical students.

**Conducting the Chi-Square Test:**

**Calculate the Chi-Square statistic:** The formula for the Chi-Square statistic is:

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where:

- Observed frequency for category =  $O_i$
- Expected frequency for category =  $E_i$
- The sum is over all categories (SA, A, N, D, SDA).

**Compare the Chi-Square statistic to the critical value:** We compare the calculated Chi-Square statistic to the critical value from the Chi-Square distribution table for the appropriate degrees of freedom and significance level (usually  $\alpha = 0.05$ ).

Degrees of freedom (df) = (Number of categories - 1) = 5 - 1 = 4 (since there are 5 categories for each factor).

#### Chi-Square Calculation:

- For "Strongly Agree":  $(27.5 - 20)^2 / 20 = 2.8125$
- For "Agree":  $(32.5 - 20)^2 / 20 = 7.8125$
- For "Neutral":  $(15 - 20)^2 / 20 = 1.25$
- For "Disagree":  $(10 - 20)^2 / 20 = 5$
- For "Strongly Disagree":  $(5 - 20)^2 / 20 = 1.25$

**Sum of Chi-Square values:**  $2.81 + 7.81 + 1.25 + 5.0 + 1.25$

$\chi^2 = 18.12$

#### Comparing with Critical Value:

- Degrees of freedom (df) = 4 (5 categories - 1)
- At the 0.05 significance level, the critical value for df = 4 is 9.488 (from the Chi-Square distribution table).
- The calculated Chi-Square statistic value, i.e., 18.125 is higher from the critical value (9.488), therefore, we reject the null hypothesis and conclude that there is a significant association between academic factors and student stress among medical students.

### FINDINGS

1. The majority of the participants are male with the age group 17 years to 19 years. They belong to urban cities and get admission to medical courses under the reservation category. The majority of the respondent's family income is between Rs. 6 lakhs and Rs. 10 lakhs. 67.50% of students are pursuing medical courses in MBBS, and they are staying in hostels.
2. It is found that all the academic factors are equally responsible and contribute to stress among the medical students.
3. Chronic Stress was found in 25% of the students.
4. The majority of medical students are following stress management strategies to overcome stress levels, such as performing regular exercise, managing effective time management, stopping junk food, and improving eating habits, severe students asked to visit the counsellors for counselling guidance. Students perform meditations, engage in social activities, and discuss their stress issues with their friends and family members.

#### Summary and Conclusions:

Indian education systems are very robust and complex. Pursuing medical courses is a dream for many aspirants. Medical courses are more stressful as compared to other non-medical courses. The stress levels observed in the students from the start of the admission till they complete the course successfully.

The research design consists of mixed approaches of qualitative and quantitative research design. There are academic factors that cause stress among medical students, such as academic workload, examination, college infrastructure/facilities, poor hostel facility, low self-esteem, and financial crisis etc.

Students are facing challenges such as shortage of college seats, qualified teachers, and staff in the colleges. Many rural areas are having an acute shortage of medical colleges, which forces the students to migrate to urban cities to pursue medical education.

Stress levels found among medical students are Mild, Acute, and Chronic Stress Level. Common symptoms include headache, fatigue, poor sleep, depression, anxiety and stress, suicidal ideation, burnout, and poor study concentration. Stress Coping Strategies adopted by the students are Yoga and Meditation, visit to Psychiatrist, discussing issues with mentors/ counsellors, visit family home to burst their stress, Regular Exercise or Jogging in the park, Proper Time Management and Work Prioritization.

### CONCLUSIONS

From the study, it is found that as the demand for medical courses is increasing, stress issues are also increasing in multiple folds. It is important for the National Medical Council of India need to look into this matter and advise the college management to take initiatives to address stress issues on a priority. To maintain the high-quality education and standards of medical education courses, medical colleges need to set up a special department of psychiatrists and counsellors to address the students' issues. They need to arrange a regular counselling session rather than handling it on a case-by-case basis. Many times, students themselves don't know they require counselling to care for their physical and mental health.

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