

## ASSESSMENT OF PERCEIVED STRESS AMONG MEDICAL RESIDENTS AND ITS RELATION WITH COPING PATTERN, BURN OUT AND GENERAL PSYCHOPATHOLOGY: A CROSS-SECTIONAL STUDY

Saurabh Shekhar<sup>1</sup>, Navneet Kumar Chaudhary<sup>2</sup>, Vidya Sagar Kumar<sup>2</sup>, Upendra Paswan<sup>3</sup>

<sup>1</sup>Assistant Professor, Department of Psychiatry, Netaji Subash Medical College, Bihta, Patna, Bihar, India.

<sup>2</sup>Senior Resident, Department of Psychiatry, AIIMS Patna, Bihar, India.

<sup>3</sup>Professor, Department of Psychiatry, Netaji Subash Medical College, Bihta, Patna, Bihar, India.

Received : 05/03/2024  
Received in revised form : 22/04/2024  
Accepted : 07/05/2024

### Keywords:

Stress, medical residents, coping, Burn out, psychopathology.

Corresponding Author:

Dr. Navneet Kumar Chaudhary,  
Email: navneetrim@gmail.com

DOI: 10.47009/jamp.2025.7.1.41

Source of Support: Nil,  
Conflict of Interest: None declared

Int J Acad Med Pharm  
2025; 7 (1); 211-214



### Abstract

**Background:** There is ample support to the fact that the medical students go through a lot of stress during their medical study. Evidence suggests that mental illness during medical training may predict later problems in terms of personal suffering or patient care. Medical student does not seek professional help for themselves which they would otherwise render to their patients in similar situations. **Materials and Methods:** An assessment of perceived stress and its relation to general psychopathology, the pattern of coping, and burnout in the final-year medical student was done to bring out clear nature, pattern, and extent of the problem. **Result:** There was no significant difference between married and unmarried residents. Mean and SDs of important psychological variables revealed that 59.5% of residents were above cutoff on scores of general psychopathology. On MBI-Depressive-Anxiety score, 38.7% of residents had low-level burnout, 67.4% had moderate level burnout, and others (3.2%) had high burnout. On MBI-Depersonalization component 2% of residents had mild level burnout, a significant portion 96.5% had moderate level burnout, and 1.8% had high-level burnout. **Conclusion:** Stress is one of the major growing mental problems among highly educated health professional, and it should not be ignored as it can cause many other health issues.

## INTRODUCTION

There is ample support to the fact that the medical students go through a lot of stress during their medical study.<sup>[1,2]</sup> Sources of stress may be academic, social, financial, or personal problems. While academic stress involves dealing with death/suffering and relating with teachers, being a medical student itself comes with a lot of changes in personal life, leisure, and social commitments. Workload, overwhelming wealth of information, financial constraints, family dynamics, and examination pressure further increases the stress.<sup>[3-5]</sup> Burnout is group of symptoms which arises in professional in relation to the work. Pressure to perform in medical education can make an erstwhile, a hardworking and committed person increasingly dissatisfied or disillusioned with various aspects of work and life.<sup>[6]</sup> Evidence suggests that mental illness during medical training may predict later problems in terms of personal suffering or patient care.<sup>[7]</sup> Medical student does not seek professional help for themselves which

they would otherwise render to their patients in similar situations.<sup>[8-10]</sup>

Little is known about the prevalence of mental distress in medical students; some have been extrapolation from medical fraternity of various hierarchies. Most of them have been from questionnaire data or qualitative group interviews. Psychiatric caseness was found in 22%–36%,<sup>[11]</sup> depression in 14%–21%,<sup>[12-14]</sup> and anxiety in 29% in various studies in medical professionals.<sup>[15]</sup> Indian studies have found the stress in up to 73.5% of the medical students.<sup>[16]</sup> Knowledge about the psychiatric conditions is important and would require attention if found. It also may suggest a vulnerability which a medical student need not be responsible for. Studies have found higher depression rates in medical student vis-a-vis general population even before their starting medical training.<sup>[17]</sup>

Whether it is the demand of medical education or the inherent disposition of the individual which leads to the manifestation of the problem has been questioned by many researchers in the past. Clear delineation has

remained impossible.<sup>[18-20]</sup> Greater perception of stress leads to more mental distress. Burnout though a measure of induced distress has also been associated with neuroticism and Type A behavior.<sup>[21]</sup> Researchers have found the burnout to be as high as 45% in multicentric studies on medical students.<sup>[2]</sup> Off late, there is trend toward developing curricula with integration of preclinical training and clinical training at an early phase of education. Although medical students have more negative attitude toward traditional curricula, there is no evidence that either model attracts more vulnerability.<sup>[22]</sup> However, the transition from preclinical training to clinical training in traditional curricula has been recognized as crucial to stress.<sup>[23]</sup> While internal disposition does affect the distress and burnout, it has been seen that the coping strategies of an individual also impact the manifestations significantly. Coping strategies, which are behavioral or psychological efforts employed to master or minimize stressful events, affect the medical students variably. Studies have revealed that the active coping strategies such as positive reframing, planning, and acceptance affect the mental health outcome favorably.<sup>[24]</sup> With the above literature in review, we felt that there are less structured studies on medical students in particular (not medical professionals) in their transition phase from preclinical to clinical (final-year medical students) phase, data in Indian paradigm being further less. An assessment of perceived stress, coping pattern, burnout, and general psychopathology in final-year medical undergraduate students was done with objectives of determining the level of perceived stress and its relation with coping, burnout, and general psychopathology.

## MATERIALS AND METHODS

The study was undertaken Department of psychiatry, Netaji subash medical college, Bihta, Patna, Bihar. The study was approved by the Institutional Ethics

Committee. Around 58 residents from various departments were taken up for the study after informed consent. A good rapport was established between the investigator and respondent. The instructions of each part of the questionnaires were adequately explained, and care was taken to ensure that they understood the questionnaire. Each participant was requested to respond to each item in the questionnaire freely and frankly without any hesitation. Each participant was asked to clarify for understanding before they attempted to respond. Structured pro forma was used for recording demographic profile and relevant medical history. Perceived Stress Scale (PSS),<sup>[17]</sup> a widely used 10-item psychological instrument, was used to measure the degree to which situations in an individual's life are appraised as stressful, over the last 1-month duration. The Brief COPE,<sup>[18]</sup> a self-report questionnaire, was used to assess a number of different coping behaviors and thoughts the person may have in response to a specific situation. Aspect of coping seen are self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame. General Health Questionnaire (GHQ 12), a self-administered standardized 12-item screening test,<sup>[19]</sup> was used to find out the presence of psychiatric disorders in individuals. Score of more than 2 was taken as abnormal. Maslach burnout Inventory (MBI),<sup>[20]</sup> was used which is a valuable tool for assessing professional burnout. Burnout was assessed on following paradigms: depressive-anxiety syndrome, depersonalization, and reduction of person achievement. Scoring on each component yield mild, moderate, and high level of burnout. Residents suffering from any major psychiatric disorder or with past history of one were excluded from this study. The data was analyzed using appropriate statistical tests.

## RESULTS

**Table 1: Sociodemographic profile of the study population.**

Parameters	Variables	N (%)
Gender	Male	50 (84.2)
	Female	8 (16.7)
Age Group	>30	13(25.3)
	31-35	37 (63.0)
	>35	8 (12.6)
Marital Status	Unmarried	4 (12.3)
	Married	54 (88.6)

**Table 2: Association and correlation of various psychological variables with the perceived stress scale**

Variables	ANOVA (F)(P)	Correlation (rho) (P)
GHQ	1.181 (0.02)	0.411 (0.00)
MBI(DAS)	2.410 (0.001)	0.504(0.00)
MBI(D)	1.212 (0.260)	0.122(0.056)
MBI(RPA)	1.533(0.116)	-0.080(0.353)

The subjects were Residents medical students in various Departments in a tertiary care hospital. There

were total of 58 residents. Sociodemographic profile is as brought out in [Table 1]. Self-administered

questionnaire of PSS, Maslach burnout inventory, Brief COPE inventory, and General Health Questionnaire-12 were given to the subjects in the middle of the academic year from November to December to avoid the examination-related academic pressures. Females were found to have statistically significant high PSS scores and GHQ-12 scores compared to their male counterpart. There was no significant difference between married and unmarried residents. Mean and SDs of important psychological variables revealed that 59.5% of residents were above cutoff on scores of general psychopathology. On MBI-Depressive-Anxiety score, 38.7% of residents had low-level burnout, 67.4% had moderate level burnout, and others (3.2%) had high burnout. On MBI-Depersonalization component 2% of residents had mild level burnout, a significant portion 96.5% had moderate level burnout, and 1.8% had high-level burnout. On Reduction of personal achievement component, 50% had mild level burnout, and 26.6% had moderate level burnout whereas 24.4% students had high level of reduction of personal achievement.

## DISCUSSION

Studies of medical students from various medical colleges in India and other countries worldwide identified a high frequency of stress.<sup>[2,21-23]</sup> The present study also showed a high-stress level in Resident medical students. More than 70% residents in our study were more than 30 yrs of age. However, there was no significant association of perceived stress with age. Earlier studies showed a higher stress level in younger age group compared to elder group, but the results were not statistically significant.<sup>[2,24]</sup> Stress levels were more in married residents than as compared to unmarried in a study by Gobblur et al.<sup>[21]</sup> However our study did not show any significant association between marital status and stress level. A study conducted by Das et al.<sup>[25]</sup> had concluded that gender as a factor does not influence the level of stress rather it influence the level of depression among male and female students. In an another study by Amr et al,<sup>[23]</sup> male and female medical students were similar on level of perceived stress, number of stressors, clinical anxiety, physical well-being factors, and the extraversion scale. Our study observed that the difference between the mean scores of PSS for females and males was statistically highly significant akin to Gobblur et al,<sup>[21]</sup> and Abdulghani et al.<sup>[22]</sup> In addition, in our study, there was significant scores on GHQ-12 among females indicating high risk for general psychopathology. Nearly 59.5% of students were above cut-off on scores of general psychopathology. This score was higher than few researchers,<sup>[16,26-28]</sup> it was lesser than that of Inam et al,<sup>[29]</sup> who found it to the tune of 60% and above. High-level burnout was 3.1% on depressive-anxiety; 1.6% on depersonalization; and 29.4% on reduction of personal achievement. Dyrbye et al. found the

burnout to be around 45% in their study.<sup>[14]</sup> Perceived stress had statistically significant association with general psychopathology and depressive-anxiety component of burnout akin to Singh et al.<sup>[30]</sup> It was also seen that higher the perceived stress, higher was the scores on burnout. Findings are akin to those of similar researches in the past.<sup>[11,31]</sup> There is no much research on resident medical students existing in this direction. GHQ showed significant association and correlation with perceived stress akin to Singh et al.<sup>[30]</sup> Not much research exists in this direction.

In a study conducted on among 376 medical and medical sciences undergraduates,<sup>[28]</sup> it was found that subjects were using used positive coping strategies (active coping, religious coping, positive reframing, planning, and acceptance) more than avoidant strategies (denial, self-blame, and alcohol or substance use). Further, it also showed that perceived stress had statistically significant association with general psychopathology and depressive-anxiety component of burnout. In our study residents who had higher score on perceived stress were found to have statistically significant positive correlation with negative coping strategies like denial, self blame, venting and those with high score on positive coping skills like use of emotional support, religious practices, planning had negative correlation with perceived stress indicating developing positive coping skills would decrease the stress and hence general psychopathology. The scores of perceived stress had a significant association with score of general psychopathology and depressive anxiety component of burnout in our evaluation.

Our study has provided significant findings regarding correlation of Perceived stress with general health and burnout. The findings are further supported by earlier studies done both in Indian and foreign medical colleges as highlighted above. It provides a sound groundwork for planning interventions to reduce postgraduate medical student's mental morbidity and avoid burnout. The interventions so planned will help the postgraduate medical students in improving their quality of work output both in professional and personal front.

## CONCLUSION

Higher score on perceived stress was associated with higher scores on general psychopathology and burnout. Age of joining resident course and doctor in the family did not affect the stress significantly. People who displayed positive coping strategies had lesser stress and general psychopathology.

## REFERENCES

1. Wallin U, Runeson B. Attitudes towards suicide and suicidal patients among medical students Eur Psychiatry. 2003;18:329-33
2. Dyrbye LN, Thomas MR, Huntington JL, Lawson KL, Novotny PJ, Sloan JA, et al Personal life events and medical student burnout: A multicenter study Acad Med. 2006;81:374-84

3. Miller PM, Surtees PG. Psychological symptoms and their course in first-year medical students as assessed by the Interval General Health Questionnaire (I-GHQ) *Br J Psychiatry*. 1991;159:199–207
4. Omokhodion FO. Psychosocial problems of pre-clinical students in the University of Ibadan medical school *Afr J Med Med Sci*. 2003;32:135–8
5. Thompson D, Goebert D, Takeshita J. A program for reducing depressive symptoms and suicidal ideation in medical students *Acad Med*. 2010;85:1635–9
6. Guthrie E, Black D. Psychiatric disorder, stress and burn-out *Adv Psychiatr Treat*. 1997;3:275–81
7. Firth-Cozens J, Greenhalgh J. Doctors' perceptions of the links between stress and lowered clinical care *Soc Sci Med*. 1997;44:1017–22
8. Rosvold EO, Bjertness E. Physicians who do not take sick leave: Hazardous heroes? *Scand J Public Health*. 2001;29:71–5
9. Rosvold EO, Bjertness E. Illness behaviour among Norwegian physicians *Scand J Public Health*. 2002;30:125–32
10. Hooper C, Meakin R, Jones M. Where students go when they are ill: How medical students access health care *Med Educ*. 2005;39:588–93
11. Guthrie E, Black D, Bagalkote H, Shaw C, Campbell M, Creed F. Psychological stress and burnout in medical students: A five-year prospective longitudinal study *J R Soc Med*. 1998;91:237–43
12. Tjia J, Givens JL, Shea JA. Factors associated with undertreatment of medical student depression *J Am Coll Health*. 2005;53:219–24
13. Givens JL, Tjia J. Depressed medical students' use of mental health services and barriers to use *Acad Med*. 2002;77:918–21
14. Clark DC, Zeldow PB. Vicissitudes of depressed mood during four years of medical school *JAMA*. 1988;260:2521–8
15. Caplan RP. Stress, anxiety, and depression in hospital consultants, general practitioners, and senior health service managers *BMJ*. 1994;309:1261–3
16. Supe AN. A study of stress in medical students at Seth G.S. Medical College *J Postgrad Med*. 1998;44:1–6
17. Zocolillo M, Murphy GE, Wetzel RD. Depression among medical students *J Affect Disord*. 1986;11:91–6
18. Rosal MC, Ockene IS, Ockene JK, Barrett SV, Ma Y, Hebert JR. A longitudinal study of students' depression at one medical school *Acad Med*. 1997;72:542–6
19. Enns MW, Cox BJ, Sareen J, Freeman P. Adaptive and maladaptive perfectionism in medical students: A longitudinal investigation *Med Educ*. 2001;35:1034–42
20. McManus IC, Keeling A, Paice E. Stress, burnout and doctors' attitudes to work are determined by personality and learning style: A twelve year longitudinal study of UK medical graduates *BMC Med*. 2004;2:29
21. Shaufeli W, Enzmann D. *The Burnout Companion to Study and Practice – A Critical Analysis*. 1998 London Taylor and Francis
22. Gude T, Hjortdahl P, Anvik T, Baerheim A, Fasmer OB, Grimstad H, et al. Does change from a traditional to a new medical curriculum reduce negative attitudes among students. A quasi-experimental study? *Med Teach*. 2005;27:737–9
23. Helmers KF, Danoff D, Steiert Y, Leyton M, Young SN. Stress and depressed mood in medical students, law students, and graduate students at McGill University *Acad Med*. 1997;72:708–14
24. Sreeramareddy CT, Shankar PR, Binu VS, Mukhopadhyay C, Ray B, Menezes RG. Psychological morbidity, sources of stress and coping strategies among undergraduate medical students of Nepal *BMC Med Educ*. 2007;7:26
25. Chandrashekar TS, Pathiyil RS, Binu VS, Mukhopadhyay C, Biswabina R, Menezes RG. Psychological morbidity, sources of stress and coping strategies among undergraduate medical students of Nepal *BMC Medical Education*. 2007;7:26 doi:10.1186/1472-6920-7-26
26. Carver CS. You want to measure coping but your protocol's too long: Consider the brief COPE *Int J Behav Med*. 2007;4:92–100
27. Goldberg D. *The Detection of Psychiatric Illness by Questionnaire: A Technique for the Identification and Assessment of Non-Psychotic Psychiatric Illness*. 2021 London, New York Oxford University Press
28. Maslach C, Leiter MP. *The Truth About Burnout: How Organizations Cause Personal Stress and What to Do About It*. 2022 San Francisco, CA Jossey-Bass
29. Inam SB. Anxiety and depression among students of a medical college in Saudi Arabia *Int J Health Sci (Qassim)*. 2023;1:295–300