

## Clinical Survey

## Burn Out Among Medical Students – A Study Across Three Medical Colleges in Eastern India

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### Abstract

**Background :** Burnout is described as a syndrome of emotional exhaustion, and reduced personal accomplishment that may develop when there is significant stress without adequate support and resources in the face of work overload, as commonly happens with physicians and undergraduate medical students. **Materials and Methods :** This work attempted to study the level of burn out among all the third and fifth semester medical students in three different medical colleges. 596 students from three medical colleges participated in the study wherein they were given standard questionnaires for assessment of stress, support, satisfaction and control parameters. **Results :** Overall 310 students of the 596 (52.01%) interviewed had scores correlating with burn out. All the colleges across semesters showed burnout in the various parameters individually like stress, lack of support, dissatisfaction, lack of control and

perception of success. **Conclusions :** Individual as well as organizational interventions need to be targeted to prevent burnout among medical students.

### Keywords

*burn out, medical students, stress*

### Introduction

Burnout is described as a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment<sup>1</sup>. This may develop in many providers and therefore is an important concern in healthcare<sup>2-4</sup>. It is more likely to occur when there is significant stress without adequate support and resources in the face of work overload, as commonly happens with physicians and undergraduate medical students.

Burnout in medical students is highly prevalent and is associated with self-reported unprofessional conduct involving patient care. Physicians do not seek the kind of professional help for themselves, as they provide for their patients<sup>5-8</sup>. Medical students seem to adopt a similar behavior<sup>9-10</sup>. However, we know little about the prevalence of clinically significant mental distress. Most studies of medical student's distress rely on questionnaire data or qualitative studies from focus group interviews and they are few in number.

Prevalence rate of burnout for medical students vary. Interview-based studies show 6–8% one-year prevalence of depression in an American sample, reported twenty years ago<sup>11</sup>. Recently in a UK sample, psychiatric morbidity was found in 16% of medical students<sup>12</sup>. Based on self-ratings, a prevalence rate of 14–24% (BDI scores) of depression have been reported<sup>13-15</sup>. In a longitudinal sample<sup>12</sup> 22–36% (GHQ-12) of psychiatric cases were found. A study of Swedish university students shows 27% of depression during the previous academic year<sup>16</sup>.

Among physicians and undergraduate medical students who interact with patients, burnout and the level of

emotional exhaustion may be important. Firstly, this may produce receivers' perception that the doctors no longer have the emotional resources to continue to help people. Secondly, development of depersonalization encompasses the negative, cynical feeling the providers have towards patients or colleagues. Thirdly, reduced personal accomplishment is a perception of decreased satisfaction or value with the tasks accomplished<sup>1</sup>. Thus, added together the standard scales of assessment of a three-dimensional syndrome of burnout could predict the outcome in most studied participants.

### Objectives

To determine the presence of clinically significant psychiatric morbidity at the initial stage of clinical training and to examine its relation to burnout levels in three different medical colleges in eastern India.

### Materials and Methods

#### Participants and procedures –

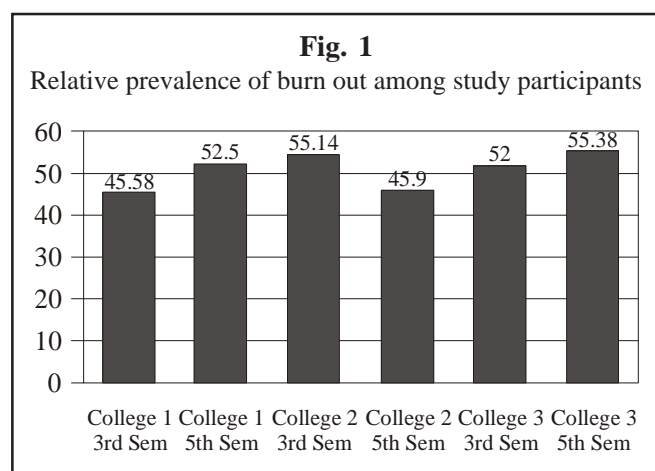
All students (n = 596; 11.24% women) included in the study from the three different medical colleges (College 1,

**Table 1**  
**Burn out scores of students of 3 Medical Colleges in Eastern India**

College		1	1	2	2	3	3
Domain	Score	Semester 3	Semester 5	Semester 3	Semester 5	Semester 3	Semester 5
Total students		150	135	150	135	150	130
Surveyed Students		107	61	107	61	78	72
Male (%)		67.29	60.66	67.29	60.66	64.67	68.47
Female (%)		32.71	39.34	32.71	39.34	35.33	31.53
Age ( years)		19.1	22.68	19.1	22.68	20.82	22.34
Stress Score*	≤ 14	10.47	11.48	10.47	11.48	9.91	10.99
Support Score	≥ 14	9.06	11.9	9.06	11.9	10.15	10.14
Satisfaction Score**	≥ 12	8.93	9.18	8.93	9.18	9.04	8.68
Control & accomplishment Score	≥ 04	3.22	2.69	3.22	2.69	2.93	2.88
Burnout Score (Prevalence)	≤ 44	45.58	55.14	45.58	55.14	52	55.38

\*High stress denotes parental pressure and financial difficulties

\*\* High satisfaction denotes support from friends and academic success



2 and 3) were given a questionnaire. Written informed consent was obtained for the study. Students identified with clinically significant suffering were given counseling and appropriate help. Approval of the study was obtained from the Institutional Ethics Committee.

### Measures

The questionnaire contained items on previous and concurrent psychological or personal problems. Four Domains of measurements –stressor, support, satisfaction and control were tested using Likert Scale<sup>12-16</sup>. Each Domain included six or seven questions that participants had to answer from which the mean is drawn. Burnout was said to be present if the composite score was less than or equal to 44. Stress was assessed to be present in case of scores less than or equal to 14. Similarly support was said to be dissatisfactory if the scores were less than or equal to 14. Satisfaction scores 12 or less describe lack of satisfaction and lack of sense of control. Accomplishment assessed by a score of 4 or less.

Statistical analysis was done using statistical software GRAPH PAD PRISM version 4.03 for Windows (Graph Pad Software Inc., San Diego, CA, USA). Standard tests for descriptive statistics using Microsoft Excel were applied.

### Results

Our study reveals that on an average, there is significantly high perceived stress, lack of support, lack of control and dissatisfaction among the students of third and fifth semesters of three medical colleges. Of these, two medical colleges (College 2 and 3) were located in a metropolitan city while College 1 was located in a district

remote from the city. On an average burn out was observed to a lesser degree in the medical college in the suburbs compared to those in the metropolitan city. However, the difference was not statistically significant.

Overall 310 students of the 596 (52.01%) interviewed had scores correlating with burn out. This is higher than the reported statistics from previous studies where prevalence of burnout and psychiatric co morbidities ranged from 6 to 27%<sup>11-16</sup>. The results are depicted in **Table 1** and **Fig. 1**. Since there have been no similar studies in India; we anticipate future studies would support our findings.

### Discussion and Conclusion

Medical training comes with immense workload without adequate support, leading to loss of control at times that contributes to a sense of emotional exhaustion. Some may have had thoughts of “I just can’t take it anymore.” Feelings of reduced personal accomplishment, overwork, and emotional commitment to medicine can lead to depersonalization. These are the key elements of burnout. During both preclinical and paraclinical years, the setting is one of overwhelming work (facts to be learned) with limited resources (time and memory). The prevalence of burnout increases over the initial years, indicating the development of burnout from preclinical medical education and continuing into clinical years.

Several areas of focus need to be adopted to reduce burn out. These include stress, time of work, environment, and resiliency. While our study created scales of stressors and support, each item is associated with burnout. To help prevent burnout there may be several strategies medical colleges can take to diminish stressors. For example, allowing some controlled time off or deemphasizing grades. Counselling programs may help students with the uncertainty of future plans, as well as helping support their decision in choice of specialties.

Stress in this study was generally presumed to be a negative force in students’ lives. Well managed stress might provide motivation without negative effects. Thus, one remedy might be methods to help students better manage stress with the help of counseling in the pre- and para-clinical years in medical colleges.

Our study is limited by several factors. Although our response rates are high, there may still be response bias.

Students with burnout might be more or less likely to respond to the survey. This study is cross-sectional rather than longitudinal.

A major strength however, of the present study is the interview based, diagnostic procedure, showing that a substantial proportion of medical students could be having an ongoing psychiatric condition that could range from stress, anxiety to depression.

Interventions addressing the mental health of medical students might be directed towards those revealing depressive symptoms already during their first year of medical school. Individual as well as organizational interventions should be targeted to prevent burnout among medical students.

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