Reducing stress among medical students: A qualitative study of students’ perspectives

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INTRODUCTION

Study of medicine is considered one of the most stressful professional courses.¹,² The high stress associated with medical education is reflected in high rates of psychological morbidity among medical students.³,⁴ A recent systematic review of stress reported by the medical students reported alarming results.⁵ Stress experienced by medical students predisposes them to symptoms of anxiety, depression, and psychological distress.⁶,⁷

Medical students of today are the healers of tomorrow. Hence, an adverse effect of stress on their health is likely to impact their performance as health-care professionals that, in turn, affect the society at large. Addressing excessive stress among medical students can promote their well-being.⁸

Since medical students are the directly affected stakeholders, their views on stress, and measures to reduce or relieve them can provide key information for policy

Background: Qualitative studies on students’ perspectives about stress in medical education are sparse but nonetheless potentially relevant.
Aim: The aim of the study was to assess the proportion of students who considered medical education to be excessively stressful and to elicit students’ perspectives about ways to reduce stress in medical education.
Materials and Methods: All medical undergraduate students of the college were asked about various aspects of stress in medical training using a self-rated questionnaire. Qualitative answers about the ways of reducing stress were also obtained using the questionnaire.
Results: Medical education was considered to be excessively stressful by 265 (55.1%) students. The most common themes expressed for reducing the stress of medical education included those of “less frequent exams,” “more spare time,” and “slowing the pace of study or reducing syllabuses.”
Conclusion: Majority of students considered medical training to be stressful and curricular overload is an important reason for the same.

Key words: Coping, India, medical students, qualitative, stress

How to cite this article: Sarkar S, Menon V, Kumar S. Reducing stress among medical students: A qualitative study of students’ perspectives. Indian J Psychiatry 2020;62:198-201.
planners. As of present, limited literature has accrued about self-reported ways of reducing stress among medical students. Hence, this research aims to elicit student’s perspectives about stress and the ways of reducing stress in medical education.

MATERIALS AND METHODS

This cross-sectional study was conducted at a centrally funded medical school in South India. The details of the curriculum and student intake are available in a separate paper.[9] The study included all medical students from the various semesters of undergraduate training. Failure to give written informed consent constituted the only exclusion criteria. The study protocol had prior approval from the institutional ethics committee.

Participants answered a questionnaire that recorded their sociodemographic data, views about levels of stress in medical education, and measures to be taken to reduce stress. The process adopted for the development and validation of the complete questionnaire has been described in detail elsewhere.[10] The present article deals with the stress-related aspects of medical education.

The students were asked whether they considered medical education to be “excessively stressful,” and whether they thought that steps were required to reduce stress in medical education. These two questions were closed-ended. These were followed by a qualitative question which enquired about the ways in which stress in medical education could be reduced. Students could answer this question in a sentence or paragraph form and were provided adequate space for their self-reported responses. The data were collected in a single session. Convenient time to administer the questionnaire was sought from the liaison departments from each semester.

The questionnaires were anonymized which were handed out in the classrooms by one of the investigators (VM or SS) and were collected back. The investigators were also available for any clarifications. Nonresponders were not contacted or followed up.

The responses to the subjective question were categorized into themes. The coding of the responses into themes was done by one of the authors (SS) and was subsequently reviewed by the other author (VM). Discrepancies in coding were resolved by mutual discussion. Subjective responses from one student could be classified into multiple themes based on the replies.

The responses to the questions were compared with the various demographic variables using the Students’ t-test and Chi-square test. The frequencies of various responses were enumerated. All statistical tests were considered significant at $P < 0.05$, and the missing value imputation was not conducted.

RESULTS

Five hundred and ten students were approached for participation in this study. Twenty-nine forms were discarded due to incomplete information. Hence, the present analysis was based on responses from 481 students (response rate of 94.3%).

The baseline characteristics of the study participants are shown in Table 1. Roughly half of the students comprised males, while an overwhelming majority came from urban areas. About half of the sample opined that medical education was excessively stressful, while about four-fifth suggested that affirmative steps should be taken to reduce stress in medical education. There was no statistically significant relationship between gender, residential background, and the current semester of training with perceptions of stress or steps to reduce them.

For the subjective question about the methods to reduce stress, responses were received from 324 students (67.4% of the included sample). Those who had given subjective responses did not differ from those who did not differ with respect to age, gender, background, and semester of the studies. However, subjective responses were more forthcoming from students who had felt medical education to be excessively stressful ($\chi^2 = 22.936, P < 0.001$) and those who responded that steps should be taken to reduce stress in medical education ($\chi^2 = 121.125, P < 0.001$).

The qualitative responses of ways of reducing stress were classified into themes. The frequencies of responses in various themes are shown in Table 2.

| Variable                                      | Mean (SD) or n (frequency) |
|-----------------------------------------------|----------------------------|
| Age in years                                  | 19.6 (1.7)                 |
| Gender (%)                                    |                            |
| Male                                          | 259 (53.8)                 |
| Female                                        | 222 (46.2)                 |
| Background (%)                                |                            |
| Rural                                         | 72 (15.0)                  |
| Urban                                         | 409 (85.0)                 |
| Semester (%)                                  |                            |
| First                                         | 134 (27.9)                 |
| Third                                         | 119 (24.7)                 |
| Fifth                                         | 101 (21.0)                 |
| Seventh                                      | 68 (14.1)                  |
| Ninth                                         | 59 (12.3)                  |
| Whether medical education is excessively stressful | 265 (55.1)               |
| Whether steps should be taken to reduce stress in medical education | 392 (81.5)               |

SD – Standard deviation
The theme of less frequent examinations included responses such as “reduce number of notified tests,” “reduce frequency of exams,” and “avoid too many tests or postings coinciding with examination dates.” The theme of more spare time included statements such as “Saturday should be holiday, Friday a half day,” “reduce duration of classes,” and “reduce timings, maybe.” The theme of slowing the pace or reducing syllabus included “reduce theory portions,” “slowing the pace of covering topics,” and “reduce the syllabus.”

The major themes of reducing stress (i.e., endorsed by at least 5% of the sample) were compared between males and females. The male and female medical students differed with regard to the emphasis on reducing the frequency of examinations (more frequently endorsed by females than males, 28.2% vs. 15.4%, \( x^2 = 7.862, P = 0.005 \)) and having more spare time (more frequently endorsed by males 23.6% vs. 9.2%, \( x^2 = 11.684, P = 0.001 \)).

The reported themes were subsequently compared between semesters. It was found that students of lower semesters were in favor of slowing the pace or reducing the syllabus and favored interactive teaching as compared to students of higher semesters (in lower semesters \( t = 2.000, P = 0.046 \) and \( t = 2.272, P = 0.024 \)). Students of higher semesters were more inclined toward curriculum reforms (in higher semesters \( t = 2.688, P = 0.008 \)).

**DISCUSSION**

The present study found that roughly half of the students considered medical education to be “excessively stressful,” while more than four-fifth were of the opinion that some action should be taken to reduce stress in medical education. Various themes were suggested to reduce the stress of medical education including reducing the frequency of examinations, giving more free time to students, and slowing the pace of studies.

Our finding revealed that medical education is considered excessively stressful by about half of the students and suggested that they might be at risk of developing psychological morbidity consequent to the stress. Previous studies have found that a considerable proportion of medical students suffered from depression, anxiety, and psychological distress. Excessive stress puts a strain on the coping mechanisms and resilience and become worrisome when the coping mechanisms fail. Both males and females were comparably inclined to view medical education as being excessively stressful. Semester-wise differences did not emerge for medical education being considered excessively stressful, suggesting that medical studies remained stressful throughout the course.

An overwhelming majority of students suggested that steps were needed to reduce stress in medical education. Less frequent examinations, more spare time to students, slowing the pace or reducing syllabus, and alteration in test frequency and methods were the major reported themes in the ways of reducing stress. Based on these findings, we suggest steps such as curricular reforms, optimizing teaching–learning methods such as interactive lecturing, appropriately spacing formative and summative examinations, and contemplating other continuous forms of assessments such as portfolios to reduce stress.

Differences were found in the themes of reduction of stress among the students of various semesters and between the genders. Male students favored steps toward ensuring more free time, while female students favored less frequent examinations. This probably reflects the differences in approach to studies across the genders.

In recent times, there is a push toward curriculum reforms and emphasis on competency-based training of medical graduates. This change and vision may be benefitted by taking cognizance of the suggestions put forth by the students themselves. If medical students are overwhelmed with stress, they cannot perform their duties optimally. Hence, their concerns regarding excessive stress in medical education need to be addressed in a reasonable and informed manner. Furthermore, stress management modules for medical students can be incorporated into the medical training programs.

The findings of the study need to be considered with respect to some of its strengths and limitations. The strengths of the study include a high response rate and getting qualitative...
responses from the medical students, about which there is very little published literature. The limitations of the study include those pertaining to the themes of the suggestions, which could not be classified into watertight compartments. In fact, the segregation of themes at times could be considered subjective and arbitrary. Further, the findings relate to those experienced in a government-funded medical school in India, and extrapolation of findings to other settings needs to be done with caution.

CONCLUSION

To conclude, this study provides medical students’ perspectives about what might work in reducing stress among medical students. These perspectives can provide inputs on policymaking and undertaking curriculum research by the respective medical education units and regulatory authorities.

Acknowledgments

This article is drawn from a larger project where health-seeking patterns and behavior of medical students were assessed. We thank all the participants of the study for their time and honest reporting. We also thank the allied departments which allowed us to use their resources for the conduct of this research.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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