Research Article

Mental health and future doctors: a cross-sectional study

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Abstract

Background: Stress may occur while pursuing a career in medical education, as it is a training that involves emotions. Medical professionals are found to experience stress, especially the medical students who are mostly occupied with a tight schedule. The stress experienced by the students leads to negative consequences on their academic performances and psychological well-being.

Objective: To determine the level of stress and depression among the first-year medical students and to explore the sources of stress and depression.

Materials and Methods: About 300 first-year MBBS students were selected for the study. The students were informed and explained about the nature of the study. General Health Questionnaire 12 and the Beck's depression inventory were given to each participant to assess the stress and depression levels. Students were asked in detail about the academic and nonacademic problems. The responses were recorded. Data were analyzed using SPSS software.

Result: Among the 300 medical students, 128 (42.33%) students revealed stress and 79 (26.33%) of them showed depression. The remaining 94 did not show stress/depression. The stress in female subjects was more (60.93%) when compared with male subjects (39.08%). The depression was also found to be more in female subjects (54.43%) when compared with male subjects (45.56%), but the results were not statistically significant.

Conclusion: This study concluded that there is a high prevalence of stress and depression among medical students. Female subjects showed high prevalence then male subjects. Academic and nonacademic problems were contributing more to develop stress and depression.

KEY WORDS: Stress, depression, medical students, Beck's depression inventory/BDI, general health questionnaire/GHQ 12

Introduction

Stress is a state of an individual that results from the interaction of the individual with the environment, which is perceived as threat to the well-being. The physical and mental aspects of an individual get affected by stress, which is an external drawback. Medical education is more stressful, as evidenced by the high prevalence of stress among the medical students when compared with other streams.[1] It has been observed in various studies that the incidences of stress and stress-related illness, such as anxiety and depression, among medical profession, which are getting more every day. An increased incidence of depression, anxiety, and stress among the medical students is observed owing to the negative effects imposed by the system of education on the health of the students.[2–5]

The main stressors are examinations and classwork, among several other factors such as dissecting cadavers, the first examination, and feeling of inadequacy. Gender and lack of family support are also the associated risk factors.[6] Medical students are exposed to work overload in such a competitive environment with a constant pressure of examination and assessment, which brings various changes in their daily habits, such as lack of sleep, irregular diet, and substance abuse in order to cope with the academic burden.[7] The academic and professional performances of the students are affected, when they fail to match with the stressors during this

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phase of transition, which in turn causes an elevated psychological distress. First-year students are more prone to develop stress, which is owing to the transition of the environment.[3]

Hence, the study was planned to find out the levels of the stress and depression among medical students and explore the sources associated with them.

Materials and Methods

This cross-sectional study was conducted among 300 first-year MBBS students who were selected as the study group after an institutional ethical permission was obtained. The plan of study was explained in detail to each participant, and informed consent was taken from them. The students were asked for the history of any systemic disease, prolonged systemic medication, or major life events they had experienced in the last 6 months; those who responded positively were excluded from the study.

Each participant was given General Health Questionnaire (GHQ) 12, which measured the inability to carry out the normal functions and appearance of distress and the well-being of a person.

A four-point scale was used to respond to each question by choosing from four typical responses: not at all, no more than usual, more than usual, and much more than usual. A binary scoring method was used to evaluate responses, where 0 is assigned to the two least symptomatic answers and 1 to the most symptomatic answers (i.e., 0-0-1-1, respectively); thus, responses can be scored as zero or one. The scale is 0–12 scale. The participants who scored four and above were considered to exhibit significant distress and psychiatric caseness.[8]

The second questionnaire Beck's depression inventory (BDI) was given to each participant, which is a 21-item instrument, intended to assess the existence and severity of the symptoms of depression. Each of the 21 items corresponding to a symptom of depression was summed to give a single score of BDI. There was a four-point scale for each item ranging from 0 to 3 with a maximum score of 63. The severity of depressive symptoms was classified into mild (9–18), moderate (19–29), and severe (>29).[9] Students were asked about academic (vast information, workload, and language,) and nonacademic (recreational activities, homesickness, accommodation, food, friends, etc.) problems, and the responses were recorded.

The completed and returned questionnaires were coded and tabulated. Statistical analysis was done by SPSS software. The comparison between the two groups was done by χ^2-test, and $p < 0.05$ was considered statistically significant.

Result

Among 300 students, 132 were female subjects and 168 were male subjects. The mean age was 18.11 years (17–21 years). Stress and depression among the students were found to be 42.33% and 26.33%, respectively. Among those with stress (42.33%), 39.08% of male and 60.93% of female subjects revealed stress. But, the difference was not statistically significant. About 26.33% of medical students showed depression, of which 45.56% were male and 54.43% were female subjects. The gender difference was not statistically significant.

Table 1: Academic sources of stress

Sources	%
Vast amount of information to be mastered	90.01
Too much of work load	62.6
Long hours of academic work	70.25
Difficulty in teaching language	15.54
Communication with faculty staff	30.15
Competition for good grades	56.25

Table 2: Nonacademic sources

Sources	%
No time for recreation	50.06
Homesickness	30.6
Health problem	22.5
Accommodation	41.43
Roommates	15.24

We analyzed the sources of stress, and it was in our study that 90.01% of the students experienced difficulty in keeping pace with the amount of information that needs to be mastered. About 62.6% of the students felt that the workload was too much, and 70.25% of the students showed difficulty in adjusting to the long hours of academic work. Only15.54% of the students felt that they experienced difficulty in following the teaching language and in approaching the faculty staff. Competition for good grades was also a source of stress [Table 1].

Among the nonacademic problems, 50.6% of the students stated that they did not have any time for recreation, 30.6% of them felt homesick, and 22.5% of them seemed to experience problems with their health. The other sources of stress identified were difficulty with their accommodation, roommates, financial matters, and in making friends [Table 2].

Discussion

Medical students are expected to learn and master a huge amount of knowledge, attitude, and skills for which they have to work hard, which in turn put them under a lot of stress.[10] Earlier studies have identified a high frequency of stress.[11,12] This study also showed stress in medical students as high as 46.3%, which is alarming. Adjustment problems with the new educational environment and new curriculum load are mostly considered as the main reasons for this high stress.

Our study found that the stress prevalence was higher among female students when compared with the male students, which is supported by other studies.[13,14] Our study

also reported moderate levels of depression in 78 students (26.12%). The depression reported was higher in prevalence among female students when compared with male students. But, the gender difference was not statistically significant.

Extensive course training programs and examinations are a major cause of distress among medical students .Students' distress influences the professional development and affects their academic performances.[15] Distressed students show deterioration in humanitarian attitudes and decline in empathy.[16] Medical students are future doctors who are the caregivers for the physical and mental well-being of the patients. To ensure patients safety, it is very essential to focus on the mental health of the future doctors. Curriculum planners need to give proper attention to take appropriate measures to reduce the stress among the medical students.

Hernandez et al.[17] mentioned that it is a challenge for the educators to convert the effects of stress as a learning stimulus instead of eliminating it. Acute stress has some beneficial effects, but when stress is prolonged or excessive, it leads to a deterioration of physical and mental health. Preventive measures aim to enhance the mental health and psychological well-being of the individuals by providing workshops on time management, stress management, coping skills, training, and relaxation training. The at-risk group should be targeted, so that timely help and support can be provided.

Supportive nonthreatened educational environment in the institution can help to cope up the extensive course. Medicine is a profession that requires a high standard of behavior. The role of teachers is changing from being a deliverer to a more creative facilitator.[18] Teachers should be more supportive to guide these students.

Conclusion

The study concluded that the prevalence of stress and depression was high among medical students. Female students were more prone to develop stress and depression. Academic problems were greater sources of stress than nonacademic problems. The study provided the scope for adopting strategies intended to reduce stress. Early identification and appropriate intervention are a must, before they could lead to psychological morbidity.

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