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Original Research Article

A Cross-Sectional Study on Factors Causing Stress and Coping Strategies in Medical Students at a Medical College in Andhra Pradesh

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Abstract:

Background: Stress is a personal intuitive episode occurring in persons, creating an obstacle in their path of reaching the goals in life. It generates negative consequences among the groups of persons. Medical curriculum is vast, ever changing and generates stress among the medical students. Doctors being very essential in a social fabric, they should be allowed to learn and educate themselves in a stress free environment. In the present study an attempt was made to assess the perception of stress, its various sources, and the strategies used by the medical students to cope up with stress.

Aim of the study: The study was aimed at listing the sources of stress, its coping strategies and calculating the extent of psychological stress in medical students, Interns, and Postgraduates; to evaluate the influence of different variables on overall stress and the effect of various stress relievers among them.

Material and Method: A survey was conducted using a proforma of questionnaire sent through Google survey form to collect the data. The survey was sent to 800 medical students of a private medical college attached with a tertiary care Hospital. There were 670 replies for the questionnaire out of which 261 were male and 409 were female students. The questionnaire was prepared with 22 main stress factors which were grouped under three broad categories such as Personal factors, curriculum Factors and clinical Factors. The stress score was marked on a three-point scale and termed; Mild stress-0, Moderate stress- 1, and severe stress-2.

Results: The result showed that most of them were normal or mild stressed, with females being more stressed than males, though the difference between the two genders was statistically non-significant for most of the perceived sources of stress except for homesickness. In overall stress scores for different variables, the difference was statistically non-significant in all of them. Among the stress busters use of emotional support (69%), Talking to friends (64%), and Active coping (50%), were significantly associated with some of the student characteristics.

Conclusion: The stress levels in the curriculum exist and the students should adopt proper stress busters to relieve the stress to work efficiently during their course.

Keywords: Medical students; stress; coping factors; Medical College.

Introduction

According to the World Health Organization, "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Mental health is defined as a state of well-being, in which every individual realizes his or her own potential to cope up with the normal stresses of life and can work productively and fruitfully, and also is able to contribute to his or her community. [1] Mental health depends on the psychological stress of an individual in his or her day-to-day life. Psychological stress is described as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being." [2] Stress is associated with many professions including the

medical profession. Stress is part of our life. It can happen anywhere including in medical school. Medical school is perceived as stressful because of the difficulties in education, the longest study period, and dealing with patients. Stress can be perceived as negative or positive. Coping strategies are the methods that are used to prevent stress when it is experienced by the individuals. Stress is defined as a subjective personal experience of individuals which cannot be avoided as it results from intricate interactions between an individual and his or her environment. [3] When a person exceeds his or her situational demand of resources to tackle a new problem the feeling of stress occurs. [4] Higher degree of stress was reported to be the cause of fall in self-esteem, as well as affecting the academic achievement, personal and professional developments [5]. The vastness of the medical curriculum demands a high degree of attentiveness on the part of medical students and failure to cope up would result in very stressful mental status which could prove to be having a negative impact on the student's well-being. [6]

Medical students all over the world require adopting complete commitment and responsibility towards their academic tasks and care provided to patients. (7) 20.9% and 94.5% of the medical students were reported to have experienced one or the other form of stress during their study period at one or other periods. [8, 9, 10,11] Certain factors commonly causing tress among the medical students were the vastness of academic curriculum, clinical duties and long emergency duties, staying away from family, examination system, and administration. [12] Once stress develops in the personality of a medical student it was proved to decrease the persistent attention, ability to make decisions and overall judgment of that person resulting in damage to the academic performance and patient care.

The stabilizing factors which help the individual to cope up with the stressful situations are called as coping strategies. They help to reduce the levels of stress and assist the stressed out persons in alleviating the stress. [13] Such methods are many but to name a few are: effective time management, social support and engagement in leisurely pursuits such as internet browsing, watching movies, and playing games. [14] Research studies have revealed that stress in the early life of medicos predicts the late life stress associated with their profession and job satisfaction. [15,16]

Hence assessment of exposure to different types of stressors among medical students becomes timely to target specific health promotion activities. [17] Keeping these facts into consideration, the current study aimed to assess the perceived stress, various sources of stress among medical undergraduate students, the coping strategies adopted to tackle stress, and to find an association of perceived stress with sociodemographic characteristics and various stressors and suggest appropriate and timely interventions.

Materials:

Type of Study: A Cross-sectional Analytical study

Duration of the Study: December 2022 to July 2023

Place of Study: Viswabharathi Medical College, Kurnool

A total of 800 bachelor of medicine and bachelor of surgery (MBBS) students from 1st year to final year Part I and postgraduate (PG) students pursuing masters (MD/MS) were studying in this college.

Inclusion Criteria: Students willing to participate were included. Students of all years of MBBS course from a single college were included. Students with previous history of stress and taking treatment were also included. Students aged between 18 and 25 were included.

Exclusion Criteria: Students not willing to participate in the study were excluded. Students with organic psychological diseases were excluded. Students with biased attitude towards the study were excluded. A purposive sampling technique was used, and all the MBBS students from the first year till final year Part I (there were only these three batches of medical undergraduate students in the institute at the time of the study) and PGs (first, second, and final year) were invited to participate in the study.

Data collection tool and technique:

The students who consented to participate in the study were asked to complete the self-administered questionnaire consisting of parts on age, Sex, Education status, Father's education, and Occupation, Mother's Education and Occupation, Siblings, Family History of Psychosomatic disorder, 22 factors shortlisted for questionnaire, broadly subdivided under personal, curriculum, and clinical factors.

Medical student's Stressor questionnaire (MSSQ) was modified with a 17-item screening questionnaire used as an instrument to assess the stress factors incidences among the students. The response by the subjects was judged by a 5-point Likert scale. 5 – Strongly Agree, 4 – Agree, 3 – Neither disagree nor agree, 2 – Disagree & 1 – Strongly Disagree. The subject scoring higher score was considered as having a higher stress.

Statistical Analysis: Data were entered into excel sheet as codes and were analyzed using IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY. The descriptive statistics (frequency

distribution, median, mean, and standard deviation) were calculated to summarize the obtained data. The ranking for stressors was done, and adequate comparisons were made for different variables.

Results: The present survey based study was sent to 800 medical students of a private medical college attached with a tertiary care Hospital. There were 670/800 (response rate: 83.75%) replies for the questionnaire. Out of 670 students, 261 (38.95%) were male and 409 (61.04%) were female students. Among the 261 male students, 28/261 (10.72%) were male PG students and 233/670 (34.77%) students were under graduate (UG) students. Out of 409 female students, 43/261 (10.51%) students were post graduates and 366/670 (54.62%) were female UG students. The incidences of stress factors were tabulated in Table1. Among the stress factors, Unable to cope up with daily syllabus taught scored highest with 89.43% incidence.

Table 1: Showing the stress factors in students and their incidence in the study (n-670)

No:	Stress Factors	% Of Student's Who Had Stress
1	Unable to cope up with daily syllabus taught	89.43
2	Insufficient time to study subjects taught	88.54
3	Increased study material before exams	88.12
4	Necessity to be increased responsibility	85.33
5	Insufficient time for record work	80.65
6	Exhaustive syllabus/portions	77.65
7	Underdeveloped habit of reading daily	75.90
8	Physical exhaustiveness after 9 am to 5 pm schedules	89.12
9	Teaching progressing at a rapid rate	76.34
10	Unable to learn self-directed learning	74.18
11	Unable to develop time management skills	71.80
12	Unable to retain topics/subjects learned and read	67.25
13	Overburdened by exams and seminars by different departments at the same time	66.57
14	Duration of phases altered by the authorities	64.49
15	Difficult to follow new medical/English language in all the text-books	63.90
16	Topics are difficult to understand	62.16
17	Preparedness for all types of educational activities is difficult	61.67

MSSQ of the students showed that 459 students (68.50%) had stress. Out of 459 students, 113 (16.86%) students (male 71 (62.83%), female 42 (37.16%) had a severe stress. 148 (22.08%), (52 male (35.13%) and 96 female student (64.86%) students had a moderate stress and 127 (18.95%) students (male 66 (51.96%) and 61 female (48.03%) had mild type of stress in the study. (Table 2) The total female students with stress were 199/459 (43.35%) and 260/459 (56.64%) male students had some degree of stress. (Table 2) There were 72/459 (15.68%) male students without stress and 199/459 (43.35%) female students without stress in this study (Fig 1). The difference between the groups was found to be statistically significant (Table 1 and Fig 1).

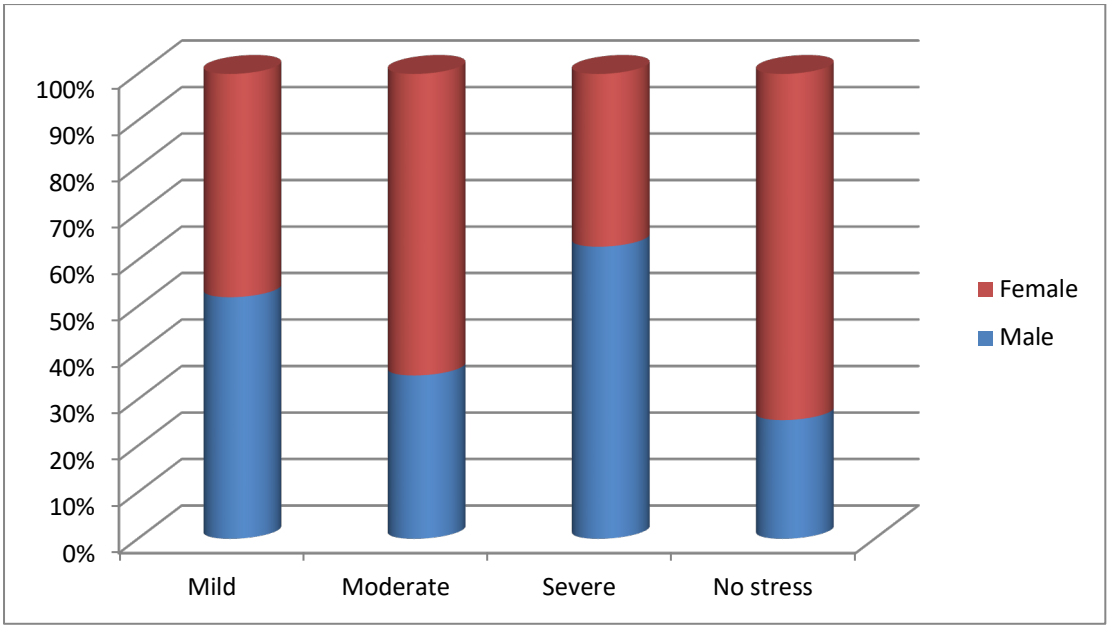

Figure 1: Showing the distribution of degree of stress among the male and female students (n-459)

In this study it was found that many students used certain coping strategies like self-distraction, active coping, planning, positive reframing and acceptance and the incidence of such strategies used were tabulated in the Table 2. Self-distraction was used in 52% of the students. Self-blame was used in 08.11% of the students. The students not using such coping strategies were also tabulated in the Table 2.

It was found that the difference between thegroups was found to be statistically significant (p value less than 0.05 was taken as significant).

Table 2: Showing the incidence of coping strategies used and not-used by the students in the study (n-800). (p value 0.001)

Coping strategies	Yes- percentage	No- percentage
Self-distraction	52%	15.30
Active coping	50.5%	14.24
Denial	49.21	11.53
Substance use	41.78	11.02
Use of emotional support	40.33	19.65
Use of instrumental support	39.27	18.71
Behavioral disengagement	35.10	16.85
Venting	32.55	18.35
Positive reframing	29.32	08.77
Planning	25.19	06.35
Humour	23.58	07014
Acceptance	22.96	05.39
Religion	20.88	06.32
Self-blame	19.25	08.11

Discussion:

Stress in students is common and exhibits many negative consequences affecting their mental and physical status of health. [18] The present study attempts to find out such chronic stress in the medical students, interns, post graduate students and the methods and mechanism of coping up it. Such studies help us to understand better of these stress phenomena and helps us to find a support mechanism to maintain the health and well-being of stressed out medical students. [19] In addition the various coping up strategies adopted by the medical students knowingly and unknowingly could be identified and compared with the students who do not use them. [20] Various factors such as gender, year of study and the social back ground of the students played important roles in the mechanism of producing stress in them. [20] The stress results in the behavioural attitudes of the students and reflects upon the progress in studies. [19]

The study was aimed at listing the sources of stress, its coping strategies and calculating the extent of psychological stress in medical students, Interns,

and Postgraduates; to evaluate the influence of different variables on overall stress and the effect of various stress relievers among them. The changing scenario in the medical curriculum, added advanced methodology of teaching, vastness of the subjects, play a demanding role in the lives of the students and result in negative impact on the student's life and well-being. [21] Whereas the day to day life of the medicals student demands complete commitment and responsibility toward not only academic tasks, clinical duties, long emergency duties, staying away from family, examination system, and administration but also the care expected to be provided to patients by hem [22]. Stress in the medical students was reported as between 20.9% and 94.5% in various studies. [23] As a result the stress was found to affect the decision making by the students, reduced sustained attention, and overall judgment. This in turn affects the overall performance in the academics. [21]

The present survey based study was sent to 800 medical students of a private medical college attached with a tertiary care Hospital. There were 670/800 (response rate: 83.75%) replies for the questionnaire. Out of 670 students, 261 (38.95%) were male and 409 (61.04%) were female students. Among the 261 male students, 28/261 (10.72%) were male PG students and 233/670 (34.77%) students were under graduate (UG) students. Out of 409 female students, 43/261 (10.51%) students were post graduates and 366/670 (54.62%) were female UG students.

Coping is generally regarded as a stabilizing factor that assists an individual in adapting to various stressful events. Coping methods often used by medical students, to reduce levels of stress include, Emotional support, exercise, talking to friends, Active coping, social media, and humour. [22] Earlier researchers found that the students stressed in their career were also stressed during the professional career and lowered job satisfaction. [23] Hence timely assessment of stressors in medical students would help to initiate health promotion activities. [24] A study conducted in a medical college in Maharashtra among the post graduate students, it was observed that 30% had mild stress, 20% had moderate stress and 02% had reported severe stress. The prevalence of anxiety among these students was also high. [25] In a study form a medical college in Mumbai, the authors found mild levels of stress in 36%, moderate degree stress in 57.7% and 05.97% experienced severe stress. [26] In another study from Kolkata, the stress was moderate in 55.7% and high in 35.4% students. [27] Authors in all the above studies opined that the successful coping strategies were successful in buffering the students and their respective stressors. The present study the medical students were using 'self-distraction' and 'active coping' methods as strategies of coping and 'self-blame' was noted as a significant factor of associated perceived stress.

Conclusions

The stress levels in the curriculum exist and the students should adopt proper stress busters to relieve the stress to work efficiently during their course.

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