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ORIGINAL RESEARCH

Prevalence Of Stress And Its Association With Resilience Among Medical Students In A Tertiary Care Center, Badnapur, Maharashtra: A Cross-Sectional Study

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ABSTRACT

Background: Studying medicine is stressful. Stressors of medical students have been described in many studies. "Stress is a body's non-specific response to demands made upon it, or to disturbing events in the environment". It is a course by which we feel and cope with environmental threats and challenges. Events which cause stress are referred to as stressors. Stress is nothing but the emotional disturbances or changes caused by stressors. Stress is of two types Favourable Stress – facilitates learning and Unfavourable stresses-suppress learning. Medical students may perceive the same stressors differently based on their inbuilt talents. Excessive amount of stress affect students' self-esteem, achievement and development in their field. Aim & Objective: Prevalence of stress and its association with Resilience, and coping strategies adopted among Medical Students. Method: Study design: A cross-sectional study. Study setting: Department of Community medicine at tertiary care centre .Study duration: Aug to Nov 2022 Study population: The study population included all MBBS students and interns studding in a tertiary care center. Sample size: Using purposive sampling, a total of 425 medical students from 1st year to internship were included by Using the Cochran formula. Results: Majority of study participants belongs to the age group 18-22 years e.g 139 (32.70%) followed by 23-27 years age group 127 (29.88%) 98 in 28-32 and 61 students in >33 years age group. majority of study Participants were Females contributing 247 (58.11%) and males 178 (41.89%). Maximum of study participants belongs to the Hindu religion 237 (55.76%) followed by Muslim 81 (19.05%) Buddhist 47 (11.05%) Christian 31 (7.29%) and 29 study participants in other religion. maximum of study participants Duration of Sleep less than 8 hours 297 (69.88%) and 122 participants reported duration of sleep more than 8 hours. maximum of study participants reported that the worried about future 217 (51.05%) followed by academic related 197 (46.35%) 59 participants reported family problems and 33 participants reported other cases of stress. Prevalence of stress among medical students was 57.64%. majority of 1st year students reported stress 97 (39.59%) followed by final year students 53 (21.63%) 2nd year 42 (17.14%), Third year 29 (11.83%) and 24 interns reported stress. Association of coping habits with stress among medical students was statistically Significant at p<0.5. Conclusions: Academic factors are greater perceived cause of stress in medical students in this study. Interventions must be developed to target the particular stressors to reduce the burden on students. The students should be taught various stress management techniques to improve their ability to cope with the demanding professional course. Various programs should be implemented to reduce the

stress burden right from the 1st year itself. Teaching stress management and self-care skills to medical students become essential.

Keywords: Stress, Medical Student, Kessler 10 Inventory, BRIEF.

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INTRODUCTION

Studying medicine is stressful. Stressors of medical students have been described in many studies. "Stress is a body's non-specific response to demands made upon it, or to disturbing events in the environment".1,2 It is a course by which we feel and cope with environmental threats and challenges.3

Events which cause stress are referred to as stressors.4 Stress is nothing but the emotional disturbances or changes caused by stressors.

Stress is of two types 1. Favourable Stress – facilitates learning,

2. Unfavourable stresses-suppress learning.

Medical students may perceive the same stressors differently based on their inbuilt talents. Excessive amount of stress affect students' self-esteem, achievement and development in their field.5,6.

Studies in the United States have said that the studying of medicine produce risks to the mental health of qualified medical students high rates of psychological morbidity among them at various stages of their training.7-11 In a Singapore based study, 57% of law students and 47.3%

of medical students had emotional disorder as measured by GHQ.8 Another study in Turkey reported that 47.9% of medical students had emotional disorder compared to 29.2% of economic and physical education students as measured by GHQ.12

These facts suggested a situation of elevated psychological pressure on medical students. Studies have also shown chronic exposure to stress is associated with anxiety and depression interpersonal conflict sleep disturbances and poor academic or clinical performance.13-17 Stress was also found to decrease the quality of attention, concentration, decision-making, and reduces the students' abilities to establish good relationships with patients.13

Need for the study: very few study regarding Prevalence of stress and its association with Resilience, and coping strategies adopted among Medical Students conducted in Maharashtra so I am interested to know Prevalence of Stress and its association with Resilience among Medical Students in a Tertiary care Center, Aurangabad, Maharashtra.

AIM AND OBJECTIVES

Prevalence of stress and its association with Resilience, and coping strategies adopted among Medical Students.

MATERIAL AND METHODS

Study design: Cross Sectional study

Study setting: Department of Community Medicine at tertiary care centre

Study duration: 2 Month (from September 2022 to October 2022)

Study population: The study population included all MBBS students and interns studding in a tertiary care center

Inclusion criteria:

1. All MBBS students and Interns

Exclusion criteria:

1. Not willing to participate in study
2. Incomplete proforma

Approval for the study:
Written approval from Institutional Ethics committee was obtained beforehand. Written approval of Community medicine department and related department was obtained. After obtaining informed verbal consent from all students and interns studding in a tertiary care centre such study participants were included in the study.

Sample Size: 425

Sampling technique: Using purposive sampling technique a total of 425 medical students from 1st year to internship were included by Using the Cochran formula. A self-administered questionnaire consisting of Sociodemographic characteristics, items from Kessler 10 inventory and BRIEF Resilient coping scale were used.

Sample size calculation:
Sample size was calculated using the previous study done in South Gujrat in which prevalence of stress among medical students was 51.1%. Using the Cochran formula Sample size was calculated to be 383 with precision of 5%.By adding non response rate total 425 students included in study

Methods of Data Collection and Questionnaire:
Predesigned and pretested questionnaire was used to record the necessary information. Questionnaires included general information, such as age, sex, residential address, and date of admission. Place of residence, Batch of MBBS.

STUDY PROCEDURE:
This study was conducted in Community Medicine Department of tertiary care center, in students who satisfied the above said inclusion and exclusion criteria and this study conducted from September 2022 to October 2022

Data entry and analysis:
The data were entered in Microsoft Excel and data analysis was done by using SPSS demo version no 21 for windows. The analysis was performed by using percentages in frequency tables, Correlation of with various variable $p<0.05$ was considered as level of significance using the Chi-square test.

RESULTS AND OBSERVATIONS

The present Cross sectional study was done among 425 UG Medical students and interns at tertiary care centre during study period of 2 months (from September 2022 to October 2022)
The maximum of study participants belongs to the Hindu religion 237 (55.76%) followed by Muslim 81 (19.05%) Buddhist 47 (11.05%) Christian 31 (7.29%) and 29 study participants in other religion and maximum of study participants Present address were Hostelite 297 (69.88%) followed by localite 72 (16.94%) and Flat or Room on rent 56 (13.17%). The maximum of study participants Duration of Sleep less than 8 hours 297 (69.88%) and 122 participants reported duration of sleep more than 8 hours**.** Most of study participants had a no complain 387 (88.94%) followed by 33 (7.76%) reported minor complain, 5 participants had a history of Hypothyroidism 2 participants with DM and 7 participants reported HTN. Prevalence of stress among medical students was 57.64%.

Table 1: Distribution of study participants according to age (N=425)

Age in years	Frequency	Percentage
18-22	139	32.70%
23-27	127	29.88%
28- 32	98	23.05%
>33 years	61	14.35%
Total	**425**	**425 (100%)**

Above table shows that majority of study participants belongs to the age group 18-22 years e.g 139 (32.70%) followed by 23-27 years age group 127 (29.88%) 98 in 28-32 and 61 students in >33 years age group.

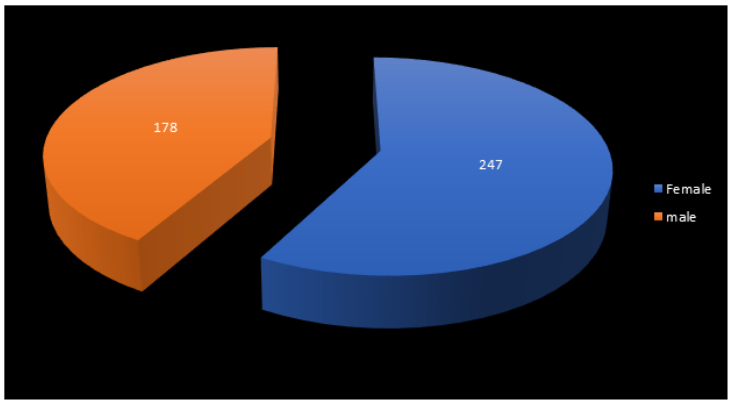

Figure 1: Distribution of study participants according to Gender (N=425)

Above figure shows that majority of study Participants was Females contributing 247 (58.11%) and males 178 (41.89%)

Table 2: Distribution of study participants according to Duration of work (N=425)

Duration of work (Daily)	**Frequency**	**Percentage**
Less than 8 hours	231	54.35%
9-12 hours	122	28.70%
> 12 Hours	72	16.94%
Total	**425**	**425 (100%)**

Above table shows that maximum of study participants worked daily less than 8 hours 231 (54.35%) followed by 122 study participants reported worked 9-12 hours and 72 participants reported daily worked more than 12 hours.

Table 3: Distribution of study participants according to cause of stress interfering sleep (N=425)

Cause of Stress	**Frequency**	**Percentage**
Academic related	197	46.35%
Family problems	59	13.88%
Worried about future	217	51.05%
Other	**33**	**7.76%**

Above table shows that maximum of study participants reported that the worried about future 217 (51.05%) followed by academic related 197 (46.35%) 59 participants reported family problems and 33 participants reported other cases of stress.

Table 4: Distribution of stress study participants as per academic year (N=245)

Academic year	**Frequency**	**Percentage**
1 year	97	39.59%
2 year	42	17.14%
3 year	29	11.83
Final year	53	21.63
Intern	24	9.79
Total	**245**	**100**

Above table shows that majority of 1st year students reported stress 97 (39.59%) followed by final year students 53 (21.63%) 2nd year 42 (17.14%), Third year 29 (11.83%) and 24 interns reported stress.

Table 5: Association of coping habits with stress among medical students

Sr No	Stress	Coping habits				Total (%)
		Present	Percentage	Absent	Percentage	
1	Yes	48	19.59%	197	80.40%	245 (100)
2	No	169	93.88%	11	0.93%	180 (100)
	Total	**217**	**51.05%**	**208**	**48.94%**	**425 (100)**

The Chi-Square statistic-229.2174, the p-value is <0.00001.
Association of coping habits with stress among medical students was statistically Significant at p<0.5.

DISCUSSION

Various studies published in different parts of the world have reported higher stress levels (>50%) among medical students (14,15) However, the higher stress levels reported in 57.64% of students in our study are much higher than that reported by others.
In this study majority of 1st year students reported stress 97 (39.59%) followed by final year students 53 (21.63%) 2nd year 42 (17.14%), Third year 29 (11.83%) and 24 interns reported stress. Similar result found in the study of Satpathy P et (2021)[16] He reported that most of the 1st year students reported stress 63% followed by final year students17%.
In current study maximum of study participants reported that the worried about future 217 (51.05%) followed by academic related 197 (46.35%) 59 participants reported family problems and 33 participants reported other cases of stress. Similar result reported in the study of Rock B et al (2017) [17] he observed that maximum of study participants reported that the worried about future 43% followed by academic related 37% participants reported family problems and 20% participants reported other cases of stress
In current study maximum of study participants Duration of Sleep less than 8 hours 297 (69.88%) and 122 participants reported duration of sleep more than 8 hours. Similar result observed in the study of Rock B et al (2017) [17] he reported maximum of study participants Duration of Sleep less than 8 hours 72%.
In current study Association of coping habits with stress among medical students was statistically Significant at p<0.5.Similar result found in the study of Satpathy P et (2021)[16] he reported that the Association of coping habits with stress among medical students was statistically Significant at p<0.5.

CONCLUSIONS

Academic factors are greater perceived cause of stress in medical students in this study. Interventions must be developed to target the particular stressors to reduce the burden on students. The students should be taught various stress management techniques to improve their ability to cope with the demanding professional course. Various programs should be implemented to reduce the stress burden right from the 1st year itself.
Teaching stress management and self-care skills to medical students become essential. Stress load of students can be taken care by motivating them to participate in the faculties can be formed in the medical colleges to address stress concerns of the medical students. Workshops on skill development, time management, and career counseling should be arranged.

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