



DO PERSONAL STRESSORS AFFECT PERCEIVED STRESS? A STUDY IN MBBS STUDENTS

Community Medicine

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ABSTRACT

Medical students are prone to higher levels of stress when compared with general population and students pursuing other academic courses. However, very limited data is available regarding the role of personal stressors in overall stress. So, the present study was aimed to access the prevalence of perceived stress among medical undergraduate students and to determine major personal stressors and their correlation with perceived stress in medical undergraduate students. A cross sectional, questionnaire based study was conducted in medical undergraduates of Subharti Medical College, Meerut. Sample size was calculated to be 379. Self-administered questionnaire was used to collect data. The overall response rate was 97.62%. The mean of perceived stress scores was 26.54±5.56. Poor time management skills, competition with peers, family demands, and romantic relationship management, and loneliness, lack of recreation, alcohol / drug abuse and accommodation away from home had a high impact on overall stress. The results show that personal stressors play a very important role in overall stress. This calls for further assessment of the problem and early intervention to decrease the level of stress in MBBS students.

KEYWORDS

medical students, stress, perceived stress scale, personal stressors

INTRODUCTION:

The World Health Organization (WHO) defines stress as "the reaction people may have when presented with demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope." (1) Some amount of stress is inevitable as life poses day to day challenges for everyone, however higher stress levels can pose consequences like low productivity, sleeplessness, lower overall wellbeing, anxiety, depression, and burnout and reduced quality of life (2). Not only these, stress is the leading cause of premature deaths as stated by 'The American Institute of Stress'. There is ample previous research literature (2, 3, 4, 5, 6, 7, 8) which suggest medical students are prone to higher levels of stress when compared with general population and students pursuing other academic courses. Medical students may experience stress when their curriculum demands more and their resources fail to deal with them. Academic stressors among medical students include vastness of academic curriculum, frequency of examination and fear of failure (10). As many studies focused on calculating stress through general well-being scores only they fail to access the role of personal stressors in the overall stress levels of medical students. Personal factors like loneliness, romantic relationship management, peer pressure, financial difficulties, accommodation away from home etc can not only lead to lesser or higher overall stress quotient but can also be an important determinant for coping up behaviour in a student. Keeping these facts in mind this study was designed to help researchers identify overall stress quotient through PSS as well as major personal stressors in medical students. This knowledge could help to find areas which might require appropriate measures (like counselling) to help medical students in tackling stress at an earliest stage.

METHODOLOGY:

A cross sectional, questionnaire based study was conducted from January 2020 to February 2020 in medical undergraduates of Subharti Medical College, Meerut. Sample size was calculated to be 379, using 43.80% as prevalence of stress at 95% confidence interval (11). Simple random sampling was used to select the individuals using attendance list as sampling frame. Data was collected on pretested predesigned questionnaire to assess the source of stress and perceived stress scale was used to access the level of stress. The participants were assured regarding the confidentiality of the information they provided and written informed consent were taken from participants prior to the study. The questionnaire was distributed among the students during breaks from teaching schedule and researchers collected the completed questionnaires. The questionnaire consisted of three parts: (a) socio demographic profile (b) sources of personal stress (c) perceived stress scale. Students had to mark their response against the column representing the source of personal stress by marking a $\sqrt$ or $\times$.

Perceived stress scale (PSS-10) was used to evaluate levels of stress. It is a brief and easy to administer tool. It has been proven to possess substantial reliability and validity. The questions in this scale ask about the feelings and thoughts of the participants during the last one month. In each case, they will be asked to indicate how often they felt or thought in a certain way. It is a 10 item questionnaire with responses in form of how often they experienced certain situations from 0-never to 4-very often. The scores were reversed for the positive questions 4, 5, 7, 8. On these four questions the scores were changed like 0=4, 1=3, 2=2, and 4=0. The scores were added for each item to get a total. Scores ranging from 0-13 were considered low stress, 14-26 as moderate stress and 27-40 as high perceived stress. Data entry was made in excel sheets and analysis was done using SPSS software. The mean scores of perceived stress were calculated and a $P < 0.05$ was considered as statistically significant.

Inclusion criteria

Students who had completed at least 1 year in medical college and the students who gave consent were included in the study.

Exclusion criteria

Students who were absent on the days of data collection and students less than 18 years of age.

Table 1: Socio Demographic Profile Of Study Population (n=370)

VARIABLE		No.	%
Gender	Male	252	68.10%
	Female	118	31.89%
Religion	Hindu	323	87.29%
	Muslim	27	7.29%
	Sikh	16	4.32%
	Others	4	1.08%
Living Accommodation	Hostel	270	72.97%
	Day Scholar	100	27.02%
Type of family	Nuclear	204	55.13%
	Joint	166	44.86%
Background	Urban	296	80%
	Rural	74	20%

TABLE 2

Sources of stress	Number of respondents Yes, n (%)
Poor time management skills	133 (35.94%)
Competition with peers	155 (41.89%)
Family demands	148 (40%)
Financial difficulties	118 (31.89%)

Romantic relationship management	220(59.45%)
Loneliness	152(41.08%)
Adjusting with peers	102(27.56%)
Lack of recreation	142(38.37%)
Alcohol/drug abuse	178(48.10%)
Accommodation away from home	150(40.54%)

Table 3 Personal determinants of stress by logistic regression

Stressor	OR(95% CI)	P
skills	1.7820(1.3786-2.3033)	<0.0001
Competition with peers	2.0508(1.5765-2.6679)	<0.0001
Family demands	1.5000(1.1647-1.9319)	0.0017
Financial difficulties	1.2260(0.5783-2.7843)	0.5869
Romantic relationship management	0.6818(0.5296-0.8778)	0.0030
Loneliness	2.0508(1.5765-2.6679)	<0.0001
Adjusting with peers	1.1342(0.7144-1.7458)	0.5791
Lack of recreation	1.6056(1.2451-2.0706)	0.0003
Alcohol/drug abuse	0.5169(0.3867-0.6907)	<0.0001
Accommodation away from home	2.1367(1.5392-3.0883)	<0.001

RESULTS:

Out of 379 students, 370 students returned the completed questionnaire giving a response rate of 97.62% and were included in the final analysis. Among them 68.10% (n=252) were males and 31.89% (n=118) were females. Majority of the students belonged to Hindu religion (87.29%) and had an urban background (80%). About ¾ students were living in the hostel premises. 46.76% (n=173) of the students had high perceived stress scores, 42.43% (n=157) of the students had moderate perceived stress and only 10.81% (n=40) of the students had a low perceived stress scores. The mean value of perceived stress scores came out to be 26.54±5.56 as their median value was 27. Socio demographic profile is presented in Table 1. Sources of stress are presented in Table 2. A major contributor of personal stress among medical students was found out to be 'romantic relationship management'. Drug/ Alcohol abuse was the second major personal stressor among the students. Other important stressors include financial difficulties, adjusting with peers and high family demands. To access the impact of personal stressors on overall stress, logistic regression was applied. Logistic regression analysis showed that poor time management skills (P<0.0001), competition with peers (P<0.0001), family demands (P= 0.0017), Romantic relationship management (P=0.0030), loneliness (P<0.0001), lack of recreation (P=0.0003), Alcohol/drug abuse (P<0.0001) and accommodation away from home (P<0.001) had a significant impact on overall stress where as financial difficulties (P=0.5869) and adjusting with peers (P=0.5791) had no impact on overall stress.

DISCUSSION:

The mean of the perceived stress score in our study was 26.54±5.56 with a median of 27. In our study 46.76% students face high stress and 42.43% students face moderate stress and only 10.8% of the students face low levels of stress and over all stress rate was found to be 89.19%. This result is very comparable to a study done in Kolkata by Chowdhury et al where 46.3% of the students face high stress. (12) This result is also comparable to the study done in Kolkata by Gupta et al which showed the prevalence of moderate and high stress 55.7% and 37.4% respectively and overall prevalence of stress was estimated to be 91.1%(13). However this finding is different from the study done by Bhavani Nivetha M et al in Mysore where majority of the students (70%) experienced moderate stress and only a few students (6%) experienced severe stress(2). In our study, poor time management skills, competition with peers, family demands, romantic relationship management, loneliness, lack of recreation, alcohol/ drug abuse and accommodation away from home had a high impact on overall stress and the result is comparable to a study done in Tamil Nadu by Anuradha R et al where loneliness, lack of recreation and accommodation away from home were also significant predictors of stress but in their study competition with peer group, high parental expectation and relationship with opposite sex had no significant impact on overall stress (10). But a high prevalence of stress among medical students is an important concern as it may affect them and the patients in a negative way.

CONCLUSION:

In our study, about half of the students were highly stressed (46.76%) and prevalence of stress was also very high (89.19%). Personal

stressors also play a very important role in overall stress as concluded by our study. There is a need to rethink about the MBBS curriculum and facilities like counselling, happy hours, recreational activities etc should also be taken as a part of MBBS curriculum to improve the quality of life and decrease the level of stress in MBBS students.

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