

Original Research Article

Depression, anxiety, stress and its correlates among students in a medical college, Bengaluru, India

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ABSTRACT

Background: Mental disorders are often been neglected because of its non-specificity in diagnosis. Medical education is known to be challenging and highly stressful. Many medical students suffer from psychological stress which affects student behavior, cause learning burnout, and ultimately affect academic performance and graduation. Anxiety, Depression and Stress also have a critical impact on the doctor–patient relationship and the quality of medical care that they will provide in the future, hence this study has been undertaken to assess the same.

Methods: A cross-sectional study conducted among 200 MBBS students at Rajarajeswari Medical College (May–August 2023) using the DASS-21 questionnaire to assess depression, anxiety, and stress. Data were analyzed using SPSS v23.

Results: Among 200 students enrolled in the study, majority 143 (71.5%) were in the age group of 18-22 years, 119 (59.5%) were females. The prevalence of depression, anxiety and stress were found to be 96 (48%), 109 (54.5%) and 62 (31%); respectively.

Conclusions: A substantial proportion of students were found to be depressed, anxious and stressed revealing a neglected area of the students' psychology requiring urgent attention. Student counseling services need to be made available and accessible to curb this morbidity.

Keywords: Anxiety, Depression, India, Medical students, Stress

INTRODUCTION

Medical undergraduate students' psychological morbidity: The contribution of internalizing disorders numerous international studies have documented significant prevalence of mental health issues among medical undergraduate students, highlighting the growing recognition of psychological suffering within this demographic. However, there is still a dearth of systematic study on this psychological load in the Indian setting.¹ Anxiety and depression disorders are among the most common psychiatric problems that are encountered. In addition to commonly co-occurring, these diseases are sometimes conceptualized under the more general heading of internalizing disorders, which are typified by

symptoms that are directed inward, such as melancholy, dread, concern, and withdrawal.

Personality-based and genetic risk factors studies have estimated the heritability of anxiety and depression disorders to be around 40%, indicating a substantial genetic component.² Crucially, genetic research indicates that internalizing diseases have a hereditary susceptibility, with major depressive disorder (MDD) and generalized anxiety disorder (GAD) showing the highest level of shared risk. Additionally, anxiety and depression are intimately linked to the personality attribute neuroticism, which entails a propensity towards unpleasant emotional states. Internalizing psychiatric diseases and neuroticism share a same temperamental route, as evidenced by the

significant overlap between their hereditary predispositions.³

Comorbidity's development and evolution usually, these problems appear at crucial phases of growth. Anxiety disorders typically manifest in preadolescence or early adolescence, making it one of the first mental health issues to manifest. Major depressive disorder, on the other hand, typically shows up later, usually in late adolescence or early adulthood.⁴⁻⁶ Longitudinal investigations provide evidence of a chronological pattern in the development of these illnesses, with anxiety disorders typically emerging before depressive episodes.⁵ This cycle emphasizes how early anxiety symptoms may serve as a risk factor or precursor to later depressive disorders.

An increased incidence of suicide among students has triggered immense public concern regarding the mental health of adolescents and young adults.⁷ Various factors associated with major depressive disorder and GAD have been identified, including alcohol use, illicit drug use, tobacco use, and level of physical activity.⁸

All things considered, these results highlight the significance of early detection and intervention in medical students, a group that is especially susceptible because of academic demands, long hours, and emotional stress. More focused mental health interventions in medical education settings can be informed by knowledge of the genetic, developmental, and psychological variables that contribute to the emergence and comorbidity of anxiety and depression.

This study aimed to assess the proportion of anxiety, depression and stress among students in a medical college Bengaluru and their association with socio-demographic correlates.

METHODS

A cross-sectional study was conducted among 200 undergraduate medical students in Rajarajeswari medical college. Study conducted from May to August 2023. 40 from each year of undergraduate MBBS participants were randomly selected by using random number table. The data was collected using a semi structured standardized Depression, Anxiety and Stress Scale - 21 Items (DASS-21) questionnaire. Data obtained was entered in MS excel, expressed in terms of frequencies and percentage and analysis done using SPSS V23.

Inclusion criteria

All the students in the medical college were included.

Study tool

Depression, Anxiety and Stress Scale-21 Items (DASS-21) questionnaire was used.

Ethical consideration

Ethical committee approval was obtained from the Institute Ethics Committee. Informed written consent was obtained from all participants before data collection. Before obtaining informed consent, the purpose of the study, benefits of participating, the procedure of maintaining confidentiality, and the right not to participate were explained to the participants. The individuals who were found to have comorbid conditions needing further management were given guidance and counselling before referring them to the hospital.

Statistical analysis

The data was compiled in Microsoft (MS) Excel worksheet and analyzed using SPSS (Statistical Package for Social Sciences) software version 20.0. The descriptive statistics-All qualitative variables were presented as frequency and percentages. All quantitative variables were presented as mean and standard deviation. Chi-square tests of significance were applied to analyze the association between eating disorders and demographic variables. p values of less than 0.05 was considered statistically significant.

RESULTS

Among 200 students enrolled in the study, majority 143 (71.5%) were in the age group of 18-22 years, 119 (59.5%) were females. The prevalence of depression, anxiety and stress were found to be 96 (48%), 109 (54.5%) and 62 (31%); respectively.

Univariate analysis of association of DASS score with socio-demographic and personal characters such as age, gender, year of MBBS, and residence were taken and found only the gender is correlated with depression, anxiety and stress with the p value of 0.0022, 0.0047 and 0.0044; respectively

According to the statistics, medical students' levels of stress, anxiety, and depression clearly differed by gender. In all three psychological characteristics, men reported considerably higher scores than women; statistically significant differences were indicated by p-values of 0.0022 for depression, 0.0047 for anxiety, and 0.0044 for stress. In contrast, there was no noticeable correlation between the student's academic year and psychological suffering. The p-values for depression (0.6927), anxiety (0.5926), and stress (0.6889) indicate that these differences were not statistically significant, despite the fact that third-year students had the greatest mean stress levels and interns had somewhat higher depression scores. Similarly, students' living arrangements whether they lived in a hostel or with their parents had no discernible effect on their mental health scores, however hostel residents displayed somewhat in all three psychological characteristics, men reported considerably higher scores than women; statistically significant

differences were indicated by p-values of 0.0022 for depression, 0.0047 for anxiety, and 0.0044 for stress. Conversely, there was no discernible correlation between the students' academic year and psychological suffering. The p-values for depression (0.6927), anxiety (0.5926), and stress (0.6889) indicate that these differences were not statistically significant, despite the fact that third-year students had the greatest mean stress levels and interns had somewhat higher depression scores. According to the

statistics, medical students' levels of stress, anxiety, and depression clearly differed by gender. In all three psychological characteristics, men reported considerably higher scores than women; statistically significant differences were indicated by p-values of 0.0022 for depression, 0.0047 for anxiety, and 0.0044 for stress. Conversely, there was no discernible correlation between the students' academic year and psychological suffering.

Table 1: Severity distribution of DASS scores (%) among medical undergraduate students (n=200).

Variables	Categories	Normal, N (%)	Mild, N (%)	Moderate, N (%)	Severe, N (%)	Extremely severe, N (%)
Depression	All	104 (52)	26 (13)	27 (14)	11 (6)	32 (16)
	Male	39 (49)	10 (13)	8 (10)	3 (4)	20 (25)
	Female	54 (45)	16 (13)	19 (16)	8 (7)	12 (10)
Anxiety	All	91 (46)	13 (7)	34 (17)	16 (8)	46 (23)
	Male	34 (43)	5 (6)	12 (15)	4 (5)	25 (31)
	Female	57 (48)	8 (7)	22 (18)	12 (10)	21 (18)
Stress	All	138 (69)	15 (8)	9 (5)	21 (11)	17 (9)
	Male	51 (64)	3 (4)	3 (4)	14 (18)	9 (11)
	Female	87 (73)	12 (10)	6 (5)	7 (6)	8 (7)

Table 2: Univariate analysis of association of DASS scores with socio-demographic and personal characteristics among medical undergraduate students (values are mean±SD).

Variables	Categories	Total	Depression	Anxiety	Stress
Gender	Male	80	30.72±9.00	25.26±11.44	23.41±12.05
	Female	120	26.33±10.29	20.76±10.53	18.74±10.64
			P=0.0022	P=0.0047	P=0.0044
Year of MBBS	First year	40	22.4±11.07	21.7±11.23	28.14±10.80
	Second year	40	19.4±8.91	17.33±9.106	24.8±7.85
	Third year	40	22.7±12.7	21.3±12.79	31.2±11.12
	Final year	40	24.10±11.27	22.66±11.62	28.07±10.52
	Internship	40	24.4±11.5	21.70±12.18	29.5±10.08
			P=0.6927	P=0.5926	P=0.6889
Residing with	Parents	86	21.88±10.77	20.5±11.04	27.11±10.46
	Hostel	114	23.68±11.62	22.04±11.92	29.55±9.86
			P=0.2645	P=0.3517	P=0.0930
Age (years)		200	R=0.1868	R=0.1145	R=0.147
			P=0.0684	P=0.2358	P=0.2542

DISCUSSION

In the present study the prevalence of depression, anxiety and stress was found to be 36%, 39% and 25% and is comparable with the Indian study done by Iqbal et al showed that more than half of the respondents were affected by depression (51.3%), anxiety (66.9%) and stress (53%).¹

In the present study majority of students affected with depression, anxiety and stress were males than females which is statistically significant whereas the study done on first year medical college students in tamilnadu by

Rajanayagam et al has the similar results of increase in depression, anxiety and stress were males than females.⁹

According to a September 2017 study conducted by Taneja et al at Government Medical College in New Delhi, 32% of students reported depression, 40.1% had anxiety, and 43.8% had stress.¹⁰ Similarly, between June and July 2018, a study by Shah et al revealed that the total prevalence of stress, anxiety, and depression among first-year medical students at Nepal Medical College and Teaching Hospital in Kathmandu, Nepal, was 45.1%, 59.3%, and 44%, respectively.¹¹ These findings are similar to the present study observations. Numerous exposure variables, including intense pressure to do well, academic overwork, distance from family, and

acclimating to clinical interactions, are responsible for the high frequency of depression, anxiety, and stress among medical students.

This study has few limitations. The study captures data at a single point in time, limiting the ability to establish causal relationships between stressors and psychological outcomes. Conducted only in one Medical College, limiting the generalizability of findings to other medical colleges or regions, The DASS-21 is a screening tool and does not replace clinical diagnosis by mental health professionals. The study did not include follow-up assessments or offer structured interventions to address the psychological morbidities identified.

CONCLUSION

A substantial proportion of students were found to be depressed, anxious and stressed revealing a neglected area of the students' psychology requiring urgent attention. Student counseling services need to be made available and accessible to curb this morbidity.

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