

ORIGINAL ARTICLE

Anxiety and Depression among new entrants in a Medical College**Vikrant Prabhakar¹, Amrit Virk², Parmal Saini³**¹Associate Professor, Department of Community Medicine, Adesh Medical College, Kurukshetra; ²Professor, Department of Community Medicine, Adesh Medical College, Kurukshetra; ³Assistant Professor, Department of Community Medicine, Adesh Medical College, Kurukshetra

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Abstract

Background: Depression is commonly reported by university students due to change in environment, academic demands, developing new relations and more financial freedom. If that professional course happens to be medical education, the transition is even more drastic. Studies have also shown that Quality of Life (QOL) is negatively affected by the presence of anxiety and depression. **Aim:** Present study aims to find the prevalence of anxiety, depression and stress among students who have recently joined medical college. **Materials & Method:** This cross-sectional study was undertaken at Private medical college in north India. Depression, Anxiety and Stress Scale (DASS) was used for the data collection. MBBS students who have joined the institution in August 2019 were included in the study. Statistical Analysis Used: Data was entered in excel and analysed using Statistical Package for Social Science (SPSS) Version 21. **Result:** We found that almost half of the students who participated in the study had scores above 10 (meaning thereby depressed) on the depression scale, with 23.5% of respondents showing moderate or severe depression. Two-third students experienced anxiety, with 20% students having severe to very severe anxiety. Stress levels amongst the students were also high, with 47% of the students reporting stress. 3.4% students experienced severe or very severe stress. **Conclusion:** Medical students have high prevalence of stress, anxiety and depression. It is recommended that medical colleges should implement appropriate and timely measures to address students' well-being and offer comprehensive intervention and preventive programs to help students cope with this transition phase.

Keywords

Stress; Depression; Medical Students

Introduction

Depression and anxiety are a significant public health problem. Depression is the fourth most important contributor to the global burden of the disease and 4.4% of the total disability adjusted life years (DALY) is explained by depression (1,2). Anxiety is a vague feeling of apprehension, worry, uneasiness or dread, the source of which is often non-specific or unknown to the individual (3), whereas a depressed patient feels sad, has low energy and loses all interest in day-to-day activities. Though the features are not different from normal mood changes, the differentiation is made on the basis of severity of symptoms and duration of the disorder (4). The transition

from school education to professional college is a major turning point for a young adult, causing mal-adjustments. Depression is commonly reported by university students (5,6) due to change in environment, academic demands, developing new relations and more financial freedom (7). If that professional course happens to be medical education, the transition is even more drastic (8). Medical college environment and the demands of medical education cause greater degree of depression as compared to engineering students (9), given the fact that Medical Colleges are known to be stressful environment for students (10), because of long working hours, lack of sleep, fear of failure, lack of peer support and exposure to

practical education sessions very different from those experienced in the school classrooms. Medical students report higher prevalence of mental health problems compared to other professional course students (11,12), due to prevailing education system (13). Studies have shown high prevalence of depression of 20-30% among medical students (14,15). In Malaysia, 44% and 34.9% of medical students attending a private university have been reported to have some levels of anxiety and depression (16). Studies have also shown that Quality of Life (QOL) is negatively affected by the presence of anxiety and depression (17,18,19). Medical students have consistently shown lower QOL as compared to peers (20,21). However, not many students seek help for the problems (22), because of varied fears.

Aims & Objectives

To find Present study aims a cross sectional study to find the prevalence of anxiety, depression and stress among students who have recently joined medical college.

Material & Methods

This cross-sectional study was undertaken in October 2019. The study was approved by the Institutional Ethical Committee. Depression, Anxiety and Stress Scale (DASS) was used for the data collection. DASS is a set of three self-reported scales, measuring depression, anxiety and stress respectively. Each section has fourteen questions and the response are graded between 0 (does not apply to me) to 3 (apply to me very much most of the time). MBBS students who have joined the institution in August 2019 were included in the study. The students were asked to respond to the questions in a self-reported, anonymous fashion in a single session, after obtaining an informed verbal consent. It was decided that students who decline to participate in the survey will be excluded from the study. Students absent on the day of data collection were also excluded from the study population.

The total score of each section is than classified as given in ([Table 1](#)) (23)

Data collected was entered into Microsoft Excel sheet. Descriptive statistics were calculated for Depression, Anxiety and Stress. Percentages and number of participants are presented for categorical data. Karl Pearson's coefficient of correlation was used to study the correlation between Depression, Anxiety and Stress. P value <0.05 (<0.01) was considered as statistically significant (Highly significant). Statistical analysis was performed using SPSS version 21.

Results

A total of 150 first year students were eligible to participate in the study. However, on the day the data collection, a total of 115 students, present and agreed to participate in the study, were included in the study.

We found that almost half of the students who participated in the study had scores above 10 (meaning thereby depressed) on the depression scale, with 23.5% of respondents showing moderate or severe depression. A total of 60 students (52.2%) had score less than 10 (normal).([Table 2](#))

Two-third students experienced anxiety, with 20% students having severe to very severe anxiety. 14.8% were classified under mild anxiety category, and 27.8% had scores corresponding to moderate anxiety category.([Table 3](#))

Stress levels amongst the students were also high, with 47% of the students reporting various levels of stress. Of these, 3.4% students experienced severe or very severe stress. 53% students reported no stress.([Table 4](#))

The three DASS scales were all moderately inter-related, with value of r varying between 0.5 to 0.7. ([Table 5](#))

Discussion

Various studies have confirmed the high prevalence of stress, anxiety and depression among medical students. Though there have been wide variations in the prevalence of depression reported (9% to 56%), meta-analysis of 167 cross sectional studies for 43 countries reported depression prevalence of 27.2% (14). Similar figures (28%) were also obtained in another meta-analysis of 77 studies (12,24). However, much higher rates, as high as 58% (5) have been reported from studies conducted in India. Other studies have also shown high prevalence, 51.3% from Odisha (22) and 45.4% from Andhra Pradesh (24). In a similar study, depression was found in 28.7% of the students (10). In the study in Ethiopia, magnitude of anxiety was 30.1% (25), which was similar to studies in Brazil (33.7%) (26). However, low rates were reported from India (9.8%) (27) and Nepal (5%) (28) whereas it was reported at 73% in Egypt (29), 51% in Bahrein (30), 70.7% in Pakistan (31).

A systematic review of 29 studies from North America reported the Prevalence of 7.7-65.5% for anxiety, 12.2-96.7% for psychological distress (32). A meta-analysis of 59 studies from Brazilian medical students reports the prevalence of anxiety among 32.9% and stress among 49.9% (33). A discreet study from Nepal reported an overall prevalence of anxiety in 41.1% and stress in 27% of Nepalese medical undergraduates (34). Indian studies have reported the prevalence of anxiety and stress among 66.9% and 53% (22), 64.9% and 40% (24), 50.6% and 32.8% respectively (35).

First year medical students have been found to be 12.06 times more likely to have anxiety as compared to final year students (25). Similar results have been reported from studies in Pakistan (13). Low levels (20.28%) of stress were reported among final year students of Deccan medical college Hyderabad indicating better stress management

strategies by students like regular sports, peer support and active participation of teachers in student counselling (10).

Moutinho et al reported marked differences in prevalence of depression and anxiety among medical students from different course semesters. Indian studies showed high prevalence of depression and anxiety among second term students when compared to eight term medical students. As stated by Mandal et al the reasons for stress among second term students may be language problem, vast syllabus, fear of failure, parental and peer pressure, tight schedule, away from home, tough topics, substance abuse etc (35,36).

Conclusion

The study confirms the high prevalence of psychological mal adjustments in medical students. High prevalence of stress, anxiety and depression highlights the importance of developing strategies to identify students at risk of developing mental stress and disorders, and institute comprehensive wellness programs and strategies to improve capacities of the students to cope with the emotional and psychological stress. Mentorship programs (like FAME) will help the students in coping with life and academic stress and will have definite positive impact on mental wellbeing of the medical students.

Recommendation

There has been an increased interest among the governing body for Medical Education (The Medical Council of India) to look into the welfare of medical students. This study throws light on an important component of wellbeing ie. mental health among medical students. This, and other such studies should be taken as reference to design programs for welfare of medical students so that the future generation of health care professionals are able lead a comprehend the vast medical knowledge in a healthy environment and are also to develop as efficient professionals and are able to provide health care services more efficiently.

Limitation of the study

One of the limitations of this study was a small sample size, limited to a single college. Additionally, as it was a cross sectional study, we could not comprehensively evaluate psychological symptoms and its progress throughout the course. We have also not taken into consideration students' attitude and interest in the course they have enrolled.

Relevance of the study

There has been an increase in incidents of violence against doctors. This, coupled with high academic demands and long working hours creates an environment of stress for medical students. It is important that medical colleges take appropriate measures to help students cope with this. An attempt for early identification of risks using tools

like DASS and developing programs to help address the stress will go a long way in helping aspiring doctors.

Authors Contribution

All the authors have contributed significantly for the designing the study, implementing it, collecting data and analyzing data as well as repairing the final document.

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Tables

TABLE 1 DASS CLASSIFICATION OF DEPRESSION, ANXIETY AND STRESS

Grading	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely severe	28+	20+	34+

TABLE 2 PREVALENCE OF DEPRESSION AMONG THE STUDENTS

Depression Grading with respect to DASS	No of Students	Percentage
Normal	60	52.2
Mild Depression	23	20.0
Moderate Depression	21	18.3
Severe Depression	6	5.2
Extremely Severe Depression	5	4.3
Total	115	100.0

TABLE 3 PREVALENCE OF ANXIETY AMONG THE STUDENTS

Anxiety Grading with respect to DASS	No of Students	Percentage
Normal	43	37.4
Mild Anxiety	17	14.8
Moderate Anxiety	32	27.8
Severe Anxiety	13	11.3
Extremely Severe Anxiety	10	8.7
Total	115	100.0

TABLE 4 PREVALENCE OF STRESS AMONG THE STUDENTS

Stress Grading with respect to DASS	No of Students	Percentage
Normal	61	53.0
Mild Stress	27	23.5
Moderate Stress	23	20.0
Severe Stress	2	1.7
Extremely Severe Stress	2	1.7
Total	115	100.0

TABLE 5 CORRELATION BETWEEN STRESS, ANXIETY AND DEPRESSION SCORES OF THE STUDY SUBJECTS

	Mean	Std. Deviation	N	Karl Pearson's Coefficient of Correlation (r)	p Value
Stress	13.49	7.20	115	0.707	<0.001*
Anxiety	10.10	6.68	115		
Stress	13.49	7.20	115	0.673	<0.001*
Depression	10.39	7.92	115		
Anxiety	10.10	6.68	115	0.592	<0.001*
Depression	10.39	7.92	115		

*Correlation is highly significant at 1% level of significance