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Original Research Article

To Estimate Prevalence of Depression and Anxiety in Medical Undergraduates of a Tertiary Care

Mira Jadhav[1], Aarthi Kalantri[2], Shilpi Sahu[3]

[1]Associate Professor, Department of Pathology, Mahatma Gandhi Missions Medical College and Hospital, Kamothe, Navi Mumbai, Maharashtra

[2]Junior Resident (Post Graduate student), Department of Pathology, Mahatma Gandhi Missions Medical College and Hospital, Kamothe, Navi Mumbai, Maharashtra

[3]Professor and Head, Department of Pathology, Mahatma Gandhi Missions Medical College and Hospital, Kamothe, Navi Mumbai, Maharashtra

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Corresponding author: Dr. Aarthi Kalantri

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Abstract

Background: Medical profession is one of the most chosen professions in India due to its respected place and financial security. However, just like coin has two sides, it is considered one of the most stressful courses and students end up facing significantly higher psychological stress compared to non-medicos.

Aim: The aim of present study is to assess prevalence of depression and anxiety among medical undergraduates of tertiary care institution in Maharashtra.

Methods: A prospective cross-sectional study was conducted at a medical college for three months. All MBBS undergraduates were provided predesigned, pretested questionnaires via Google forms which included Patient Health Questionnaire (PHQ-9) to grade depression and Generalized Anxiety Disorder questionnaire to grade anxiety.

Results: Among the 400 respondents, 55% were found to have depression, 44% anxiety while 46% had both. Of the 55% having depression, majority of them (33%) were having Mild depression. And of the 44% having anxiety, majority of them (28%) were having Mild anxiety. In addition, depression and anxiety was found to be more in second year MBBS undergraduate students (61% and 56% respectively) with female preponderance of 71% and 66% respectively throughout the years.

Conclusion: This study reports 55% prevalence of depression and 44% prevalence of anxiety among medical undergraduates accounting for almost half. By assessing prevalence, we can understand depth of need for raising awareness about overcoming social stigma for early detection. Thus helping in establishing proper interventions like counselling and guidance which need to be given at the correct time to ensure mental wellbeing and quality of medical professionals.

Keywords: Depression, Anxiety, Medical Undergraduates.

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Introduction

In India, a developing nation, the psychological conditions are often neglected due to varied clinical presentations leading to non-specificity in their diagnosis, as well as various myths and beliefs associated with social stigma. In Indian society, the most chosen professional course is the medical profession due to its respected place, monetary benefits and financial security [1]. However, the students end up facing the burden of vast ocean of syllabus which keeps increasing with recent advancements, the peer competition, and the long duration of the course. High set of expectations from family, friends and society, and the responsibility of looking into the well-being of patients make the students feel enormous stress [2]. This leads to sleep deprivation, poor concentration, negative self-esteem, lack of motivation and confidence in handling patients and development of interpersonal conflicts.1Also, the medical students end up devoting ample amount of time for their academic pursuits. Hence, they are not being able to spare some reasonable amount of time for their hobbies leading to less relaxation. As a result, the accumulating stress is likely to have several deleterious effects on the medical students [3]. These negatively impact their mental and psychological health leading to anxiety, depression, substance abuse, suicidal ideations etc [2]. Thus, medical education can impose significant psychological stress on undergraduates and is

considered as one of the most stressful courses among the various professional courses. Some studies have shown that the prevalence of psychological distress among medical students is significantly higher when compared to the non-medical students. Among medical students, an increased rate of psychological distress was noted ranging from 21.6 to 50% [4]. Depression and anxiety are the common psychological health issues. The levels of depression and anxiety reflect the mental status of an individual which adversely affect the quality of their life. Depression is a serious health problem characterized by sadness, decreased energy as well as loss of interest in day to day activities. Anxiety is characterized by a constant vague feeling of worry and uneasiness which is mostly unknown to the individual [4].

In India, a systematic review had been done recently and it was found that the pooled prevalence of depression and anxiety among the medical students was 39.2% and 34.5% respectively [5]. One out of five medical students may need help to cope up with the mental or emotional distress. These were usually not properly addressed which could mainly be due to the associated social stigma [4]. Therefore, psychological distress is a serious health problem that has to be addressed to ensure the quality of medical professionals. Hence, it is important to assess the prevalence of depression and anxiety among the medical undergraduate students so that proper interventions like counselling and guidance can be given at the correct time to ensure their mental wellbeing.

The aim of the present study is to assess the prevalence of depression and anxiety among medical undergraduates of an institution in Maharashtra.

Objectives:

- To estimate the prevalence of depression among medical undergraduates.
- To estimate the prevalence of anxiety among medical undergraduates.
- To compare the severity amongst different years of medical undergraduates.

Material and Methods

Data Collection Method: Primary

Data Selection Method: Non-Probability sampling

Sample Selection: Convenient sampling

Sample Size: MBBS Undergraduates – Minimum 400 (75% of total MBBS UG students)

Study Design: Prospective study

Type of Study: Cross-sectional study

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Period of Study: 1st April 2025 to 30th June, 2025

Place of Study: Mahatma Gandhi Mission's Medical College, Kamothe, Navi Mumbai.

Inclusion Criteria

1. All MBBS medical undergraduates.
2. Both males and females.
3. Individuals willing to give informed consent.

Exclusion Criteria

1. Individuals not willing to give informed consent.
2. Individuals who did not fill up the questionnaire.
3. Individuals who are already on treatment for depression and anxiety.

Study Design, Place and Period: The present study is a **prospective cross-sectional study** which was conducted at Mahatma Gandhi Mission's Medical College, Kamothe, and Navi Mumbai for a period of 03 months starting from 1st April 2025 to 30th June 2025.

Data Collection: The detailed data for this study was obtained from the individuals by a survey conducted using predesigned, pre-tested questionnaires after taking informed consent.

Depression was assessed using Patient Health Questionnaire (PHQ-9), based on PRIME-MD Today (Primary Care Evaluation of Mental Disorders). The symptoms are scored on a 4-point scale ranging from 0 to 3 and the maximum score is 27. A score of 0-4 is considered as normal, 5-9 mild depression, 10-14 moderate depression and more than 15 as severe depression. Score of 5 and above is taken as presence of depression. Anxiety was assessed using Generalized Anxiety disorder questionnaire. The symptoms are scored on a 4-point scale ranging from 0 to 3 and the maximum score is 21. A score of 0-4 is considered as normal, 5-9 mild anxiety, 10-14 moderate anxiety and 15-21 as severe anxiety. Score of 5 and above is taken as presence of anxiety.

Statistical Analysis: The study data was collected and compiled using Microsoft Excel. Statistical Software SPSS was used in analysis. Data was tabulated as frequencies and percentages for categorical data. Fisher's exact test was used to find out the significance between levels of depression and anxiety between males and female. P value less than 0.05 was taken as statistically significant.

Observation and Results

The study included 400 medical students. Among the 400 respondents, 56% were males and 44% were females

Table 1: Gender Distribution of Study Participants

Male	224
Female	176
Total	**400**

Of the 400 respondents, 100 each belonged to first year, second year, third year and fourth year respectively. In the first year, 42% had depression and 30% had anxiety due to varied reasons. Also, 36% of students were found to have some degree of both depression and anxiety. In the second year, 65% had depression and 56% had anxiety due to varied reasons. Also, 50% of students were found to have some degree of both. Amongst the third year MBBS students, 47% had depression and 38% had anxiety. 42% were found to have both. And in the final year, 66% had depression, 52% had anxiety and 56% of students were found to have some degree of both.

Table 2: Prevalence of Depression and Anxiety among medical students.

	Number	**Percentage**
Depression based on a cut-off score of 5 or more on PHQ-9	220	55
Anxiety disorder based on a cut-off score of 5 or more in GAD-7	176	44
Both depression and anxiety disorder	184	46

Of the 55% (220) of students having depression, 33% were found to have mild depression, 14% moderate and 08% severe. Hence, it was found that majority of them (32%) were having Mild depression.

Table 3: Depression based on Severity

Severity	**Percentage**
Normal	46
Mild	**33**
Moderate	14
Severe	08

Of the 44% (176) of students having anxiety, 28% were found to have mild anxiety, 11% moderate and 05% severe. Hence, it was found that majority of them (28%) were having Mild anxiety.

Table 4: Anxiety based on Severity

Severity	**Percentage**
No	56
Mild	**28**
Moderate	11
Severe	05

In addition, depression and anxiety was found to be more in second year MBBS undergraduate students (61% and 56% respectively) with female preponderance of 71% and 66% respectively throughout the years.

Discussion

Some degree of stress is helpful for individuals in meeting the new challenges, but persistently high and unrelieved stress can lead to psychological, physical and behavioral ill health. This study reports 55% prevalence of depression and 44% prevalence of anxiety amongst all the medical students of an institution that accounts for more than half the medical undergraduates. This percentage prevalence of depression and anxiety among the medical students of Navi Mumbai, Maharashtra is more when compared to the medical students of Mysore city, Karnataka (i.e., 37.6% prevalence of depression and 52.1% prevalence of anxiety) [1] and also when compared to a similar study done by Taneja et al. among medical students at New Delhi (32% had depression and 40.1% had anxiety) [7]. However, depression was found to be 48.33% and anxiety was 60.56% in a study conducted by Recharla et al. at in Kancheepuram [2]. In the medical students of Bhubaneswar, Odisha, a study conducted by Iqbal et al. revealed 51.3% depression and 66.9% anxiety [6]. A systematic review conducted on mental health of medical students in India states that the prevalence rate of depression varied from 8.7% to 71.3% [3]. Hence, it can be seen that these variations in different parts of India may be an outcome of different cultural background, lifestyle, and academic management. However, most of them reveal that almost half the medical undergraduates suffer from depression and anxiety during their course of study. It is important to identify students, especially the more vulnerable with severe to extreme forms of depression early and to encourage them to seek and receive appropriate help in the form of group counselling, guidance or reference to a psychiatrist.

Prevalence of depression and anxiety is significantly more in females compared to males in the current study. This finding is similar to many other studies. This finding can also be contextualized with literature among the general population, which suggest that women are more likely to suffer from depression and anxiety than men. It may be because girls are more emotional or due to hormonal changes. Many girls also carry pressure of completing course timely due to insistence from family regarding marriage.

Conclusion

The study reports 55% prevalence of depression and 44% prevalence of anxiety among medical students of an institution that accounts for more than half the medical undergraduates.

By time-to-time assessment of prevalence of depression and anxiety among the medical undergraduates, we can understand the depth of need for raising awareness about overcoming the social stigma for early detection.

This can help in establishing proper interventions like counselling and guidance which need to be given at the correct time to ensure the mental wellbeing and quality of medical professionals. Educational institutes should adopt simple relaxation programmes for highly stressed students and provide psychiatrist support for their well-being. Therefore, the need of the time is to make medical teachers and medical students aware of negative consequences of high levels of depression and anxiety due to psychological stress as well as promote mentor-mentee programmes to discuss various things.

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