

# Frequency of Anxiety Disorders in Medical Students

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## ABSTRACT

**Background:** Among psychiatric disorders, anxiety disorders are most prevalent in any age category, and are more common in females. In medical students, stressors like financial problems, workload, academic pressure, strained teacher-student and parent-child relationships, family problems, friendship issues, medical illness, psychological problems and worries about the future correlate with anxiety. In the background of paucity of literature in anxiety disorders among medical students, present study is aimed at studying anxiety disorders among medical students.

**Aims:** To evaluate the frequency of anxiety disorders in medical students; to compare and correlate severity of anxiety, and to evaluate socio demographic and clinical profile of medical students with anxiety disorders.

**Methodology:** The study is an observational cross sectional study, conducted in FMMCH, Mangalore (November 2017-May 2018). 137 undergraduate medical students meeting inclusion and exclusion criteria were evaluated for their clinical characteristics using the Beck Anxiety Inventory (BAI). Severity of anxiety disorders was assessed based on the BAI score as, mild (score 0-21), moderate (score 22-35) and severe (score 36 and above) and it's relation with socio demographic and clinical variables was evaluated.

**Results:** About one-third of the respondents had moderate anxiety (33.6%) and 3.6% had severe anxiety. Females had higher anxiety scores than males. Among medical students with significant anxiety, stressors were found to have statistical significance.

**Conclusion:** There is a high frequency of anxiety disorders in medical students, which highlights the urgent need for intervention. This would help improve their academic performance and quality of life.

**Key Words:** Anxiety disorder, medical students, severity, BAI

## INTRODUCTION

Anxiety disorders include disorders that share features of increased fear and anxiety and other related behavioral abnormalities. Fear is the emotional reaction to actual or perceived forthcoming threat, whereas anxiety is expectation of future threat. These two states extend over each other, but they also differ, with fear mostly associated with burst of autonomic arousal necessary for fight, flight or fright, ideas of immediate danger, and escape activities, and anxiety mostly is associated with muscular

tension and mindfulness in preparation for future threat and vigilant or avoidant behaviors. [1]

In International Classification of Diseases-10<sup>th</sup> revision (World Health Organization), neurotic, stress-related, and somatoform disorders (F40-48) have been brought together in one large overall group because of their historical association with the concept of neurosis and the association of a substantial proportion of these disorders with psychological causation. [2]

Among psychiatric disorders, anxiety disorders are the most prevalent conditions in any age category, and are more common in females. They are associated with substantial cost to society due to disability and loss of work productivity.<sup>[3]</sup>

In medical students stress has been found to correlate with anxiety. Various stressors such as financial problems, workload, academic tension, strained teacher-student and parent-child relationships, family issues, friendship problems, medical illness, psychological problems and excessive worries about the future contribute to poor mental health in some medical students.<sup>[4]</sup>

It appears to be evident that there is a paucity of literature in anxiety disorders in medical students, especially in Indian subcontinent. In this background, the present study is aimed at studying anxiety disorders in medical students.

#### **AIMS**

1. To study the frequency of anxiety disorders in medical students.
2. To compare and correlate the severity of anxiety disorders in medical students.
3. To evaluate the socio demographic profile of medical students with anxiety disorders.

#### **MATERIALS AND METHODS**

The study was conducted in Father Muller Medical College Hospital, which is a multispecialty teaching hospital, in Mangalore, Karnataka, in South India. The study was conducted from November 2017 – July 2018. Data collection was started after obtaining institutional ethical clearance, along with written informed consent obtained from each participant. Medical students who were not diagnosed with any primary psychiatric disorders, apart from anxiety disorders, and those who were not taking any psychiatric medications, other than that for anxiety disorders were included in the study. Students with other psychiatric disorders, apart from anxiety disorders, those having significant medical

comorbidities and non consenting individuals were excluded from the study. 137 undergraduate medical students meeting the inclusion and the exclusion criteria, were evaluated for their clinical characteristics using the Beck Anxiety Inventory (BAI). Severity of anxiety disorders was assessed based on the BAI score as mild (score 0-21), moderate (score 22-35) and severe (score 36 and above) and it's relation with sociodemographic and clinical variables was evaluated.

#### **Materials**

1. Sociodemographic profile and clinical variables were recorded in a specific proforma, prepared by the authors for this study.

2. Beck Anxiety Inventory (BAI):<sup>[5]</sup> It is an internationally accepted, standardized, self administered rating scale, and diagnostic tool widely used in assessment of psychopathological symptoms, in terms of validity and reliability, for anxiety disorders.

#### **Procedure**

The design and nature of the clinical study was explained to all the participants and written informed consent was obtained from them. Specific proforma for socio demographic and clinical variables was administered. Beck Anxiety Inventory (BAI), which is a self administered rating scale was provided to the medical students, and they were evaluated based on the score of anxiety symptoms. Socio demographic profile and clinical variables of medical students were compared based on the severity score in Beck Anxiety Inventory (BAI).

#### **Statistical Analysis**

Statistical analysis was done using SPSS V 24.0 (Statistical Package for Social Sciences). The results obtained were analyzed using frequency, incidence and chi square test.

#### **RESULTS**

This study included 137 participants, of which 52 were males, and 85 were females. Majority of participants belonged

to age of 18 years (67.9%), followed by 24.1% belonging to age of 19 years, and 8% belonging to age group of 20 years. All of the participants were unmarried, and 77.4% were belonging to urban area, and 87.6% were from nuclear family. 78.1% participants were residing in hostel, and 84.7% had tuition fee funded from family. With respect to the socio demographic variables, there was no statistically significant difference between the groups, and also, in terms of severity in BAI score.

While assessing the severity of anxiety disorders, 3.6% of medical students had significant or severe anxiety and about one third (33.6%) had moderate anxiety, whereas majority of the students (62.8%) reported of having mild or essential anxiety. Out of the 3.6% participants, who were having severe anxiety, 60% were females, and 40% were males. Moreover, out of the 33.6% who were having moderate anxiety, 76.1% were females, and 23.9% were males (p value <0.05). Moderate to severe anxiety was found to be more in females (27%), as compared to males (9.6%).

Among the medical students with moderate to severe anxiety, the stressors which were found to have statistical significance with the BAI score were, college rules (p value 0.012), department rules (p value 0.029), assignments (p value 0.011), family issues (p value 0.001), financial problems (p value 0.033), relationship problems (p value 0.031), and exam stress (p value 0.012).

70.1% of participants had their own hobbies, and 35.8% participated in cultural events, and 28.5% participants used to do regular physical exercise. However, there was no statistically significant difference with those who didn't have hobbies (p value 0.885), those who were not participating in cultural events (p value 0.854) and those who didn't do regular physical exercise (p value 0.791), when they were compared with the severity of anxiety in BAI score. 29.9% used to participate in sports, for whom the severity of anxiety in BAI score was observed to be less, compared to those

who didn't participate in sports, which was found to be statistically significant (p value 0.028).

Majority of participants (71.5%), reported of having 6-8 hours of daily sleep, where as 27% reported of sleeping less than 6 hours per day. Majority of participants (66.4%), reported of having good appetite, who used to have 3 meals per day, while 21.2% participants reported of taking only 2 meals per day. However, there was no statistically significant difference between these groups in terms of sleep (p value 0.805) and appetite (p value 0.100), when they were compared with the severity of anxiety in BAI score.

## DISCUSSION

The study is an observational cross sectional study, conducted in FMMCH, Mangalore (November 2017-May 2018) on 137 undergraduate medical students. The socio demographic data was analyzed among the students, and no statistically significant difference was found among them, in terms of the socio demographic variables analyzed.

A study conducted among medical undergraduate students by Shawaz Iqbal et al in 2015 on 353 medical students found that more than half of the respondents had anxiety (66.9%) along with comorbid stress (53%) and depression (51.3%).<sup>[6]</sup> Indoo Singh and Ajeya Jha, in 2013 conducted a study in private medical college students and found that 56% of medical students had anxiety disorders.<sup>[7]</sup> Muhamad Yusoff et al, in their study found that prevalence of moderate to extremely severe level of stress, anxiety and depression were 3.6%, 54.5% and 1.9%, respectively.<sup>[8]</sup>

This study also indicates similar results, as of the previous studies conducted in the area of, anxiety disorders among medical students.<sup>[9]</sup> All together, 37.2% of the participants had moderate (33.6%) to severe (3.6%) anxiety, in this study. Females had higher anxiety scores than males, which was in concordance with other similar studies.<sup>[10]</sup> Among the medical

students with significant anxiety, stressors were found to have statistical significance ( $p$  value  $<0.05$ ).

Merits of this study include, use of an appropriate sample population, from a reputed institution. It is one of the few studies done with an objective to evaluate anxiety disorders in medical students. Also use of a standardized, reliable and valid tool, like Beck Anxiety Inventory, adds to its merits. Limitations of the study were, cross sectional assessment of anxiety, smaller sample size which is non representative of general population, possibility of bias in reporting by participants in self administered scale, non availability of diagnosis of specific anxiety disorders, and, comorbid depression and stress, with BAI.

Future studies should ideally address the following issues, like selecting a larger sample size, prospective assessment on multiple occasions, multicenter investigations including general population and use of scales which can be applied for screening and assessing severity, as well as to diagnose specific anxiety disorder, and comorbid depression, and stress.

## CONCLUSION

There is a high frequency of anxiety disorders in medical students, which highlights the urgent need for intervention. This would help improve their academic performance and quality of life.

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