

Original Research Article

Prevalence of anxiety disorder among undergraduate medical students: a cross-sectional study

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ABSTRACT

Background: It is widely acknowledged that medical colleges are stressful places that frequently have a detrimental impact on students academic performance, physical, mental health and psychological well-being. Depression, anxiety, stress, are very common among them. The objective of the study was to estimate the prevalence of anxiety disorder among undergraduate medical students, and to study the relation of anxiety disorders with sociodemographic factors.

Methods: A cross-sectional, descriptive study was conducted among undergraduate medical students of Gulbarga Institute of Medical Sciences, Kalaburagi for 2 months from September to October 2024. For the study 600 students from 1st year to 4th year (final year) were selected using convenience sampling method using Google form. General anxiety disorder-7(GAD-7) was used for assessing the level of anxiety among undergraduate students.

Results: Among 474 medical students who participated in our study, the prevalence of anxiety disorder was found among 171 students (36%). The prevalence of anxiety was more among students studying 1st year (43.5%), 4th year (41.4%) and low prevalence was seen among 2nd year students (30.2%). Among 171 students who were having anxiety disorder, 66% of students were having mild anxiety, 29% were having moderate anxiety and 4.70% were having severe anxiety. There was a significant association seen between anxiety disorder and some socio-demographic factors like family size and age.

Conclusions: With regular psychiatric evaluation and counselling for medical students in the initial stage we can detect the presence of any mental disorders and provide them immediate treatment early.

Keywords: Anxiety, GAD-7 scale, Tertiary teaching hospital, Undergraduate medical students

INTRODUCTION

Anxiety is a recurring feeling of excessive nervousness, worry, or fear (often triggered by a particular situation) that impact one's ability to function on a daily basis. Symptoms are severe enough to result in significant distress or significant impairment in functioning.¹ Anxiety is the fearful expectation of danger or bad luck in the future, along with feelings of concern, discomfort, and/or physical signs of tension. The expected threat may be internal or external.²

There are several different kinds of anxiety disorders, such as: generalised anxiety disorder (marked by an

overwhelming amount of concern), panic disorder (characterised by panic attacks), social anxiety disorder (characterised by excessive fear and worry in social situations), separation anxiety disorder (overwhelming anxiety or fear of being parted from whom the person has a deep emotional bond), and others. There is effective psychological treatment available, and medication may also be used based on the severity and age of the condition.

The hallmarks of generalized anxiety disorder include significant anxiety symptoms that last for at least a few months and most of days. These symptoms include either general apprehension (also known as "free-floating

anxiety”) or excessive worry about a variety of everyday events, usually related to family, health, finances, school, or work. Other symptoms include muscle stiffness or motor restlessness, sympathetic autonomic overactivity, subjective feelings of nervousness, difficulty focusing, irritability, or disturbed sleep. Considerable social distress or impairment familial, educational, occupational, or other critical domains of functioning are the outcomes of the symptoms. The symptoms are not brought on by the effects of drugs or medications on the central nervous system, nor are they a sign of another illness.³

The emotional, physical, and social health of everyone are essential and interconnected aspects of life. The value of mental health to the general well-being of people, communities, and nations becomes clearer as we gain more knowledge about this interaction. In reality, mental health is a condition of wellbeing that empowers individuals to reach their full potential, manage day-to-day obstacles, perform effectively at work, and contribute back to their communities. Unfortunately, mental health and mental diseases are not given nearly as much attention as physical health in most parts of the world. Instead, they haven’t received much attention or care.⁴

Even though several studies have been done on anxiety disorder among undergraduate medical students worldwide and in India, very few studies have been conducted in North Karnataka.

In light of this, the current study was conducted in order to ascertain the general prevalence of anxiety disorders among medical undergraduates and the ways in which these conditions are associated with certain sociodemographic traits.

METHODS

Study design and place

It was a descriptive cross-sectional study carried out at Gulbarga Institute of Medical Sciences, Kalaburagi.

Study period

The study period was 2 months from September to October 2024.

Sampling method and sample size

Convenience sampling method was used. 474 students from first to final year were included (based on inclusion and exclusion criteria).

Inclusion criteria

Students from first to final year MBBS and who were present on the days of data collection were included in this study.

Exclusion criteria

Students who did not give consent, who were absent on the day of data collection, having endocrine disorders, (hyperthyroidism, Cushing’s syndrome) and having third causes of anxiety (traumatic events, demise of a close relative etc.) were excluded from the study.

Study tools

The questionnaire consisted of 2 parts including socio-demographic factors, and GAD-7 assessment tool.

Methodology

Permission was obtained from the Institutional ethical committee. After obtaining permission, data collection was done on the day when the strength of the class was maximum.

Each batch of undergraduate medical students was briefed about the purpose of the study and after obtaining the consent, data was collected by using Google form.

The google form included two sections:

First section included socio-demographic profile of the students (age, gender, medium of education, migration status, family members, chronic illness, socio-economic class) and second section included general anxiety disorder assessment tool for assessing the levels of anxiety, having 7 questions. (GAD-7 scale)

The responses of the students to these questions were recorded in the form of ‘not at all’ for which the score is 0, ‘slightly’ for which the score is 1, ‘moderately’ for which the score is 2, ‘very’ for which the score is 3, ‘extremely’ for which the score is 4.

Then the students were assessed based on scoring system, if the score was between 0-4 it was considered as minimal anxiety, and if the score was between 5-9, 10-15 and >15 it was considered as mild, moderate and severe level of anxiety disorder. Utmost care was taken to see that confidentiality is maintained, while presenting the results.

Statistical analysis

Data was entered, in Microsoft Excel sheet and analysis was done using SPSS 26.0 software. Results were presented in the form of tables and graphs. Chi square test was used to present the strength of association.

RESULTS

In our study it was seen that, out of 600 students only 475 students participated in the study.

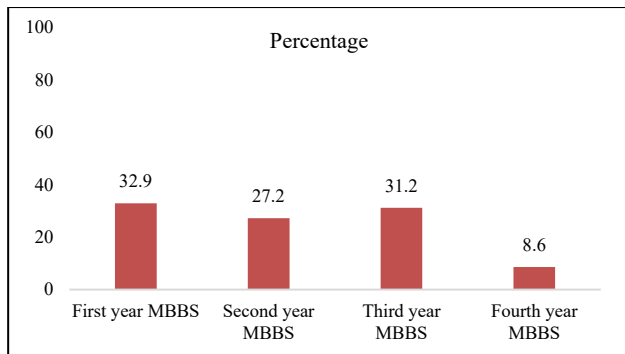


Figure 1: Distribution of the respondents based on the year of study.

It was seen that 32.9% (156) of the respondents were from first year, 27.2% (129) students were from second year, 31.2% (148) were from third year, and only 8.6% (41) final year students participated in the study. The vast majority of those surveyed were from First year as shown in Figure 1.

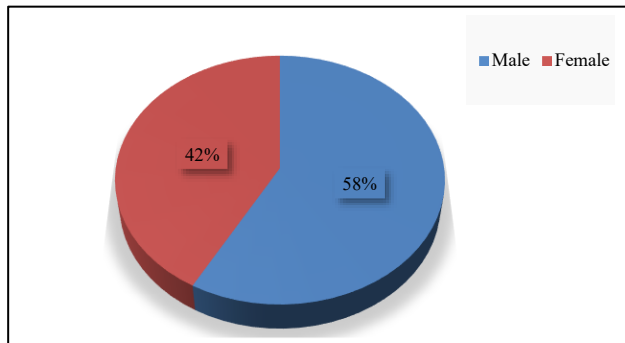


Figure 2: Gender-wise distribution of the respondents (n=474).

From the Figure 2 it was seen that out of a total of the 474 study subjects, 199 were males and 275 were females.

Table 1: Prevalence of anxiety disorder among study population.

Parameter	Frequency (n=474)	Percentage
anxiety absent	303	64
anxiety present	171	36

From the above table it is seen that, the prevalence of anxiety disorder in our study was found to be 36% and 64% of the study subjects were normal.

From Figure 3 it is seen that out of 171 (36%) students with anxiety disorder, 66% (113) of the students had mild anxiety, 29% (50) had moderate anxiety and 4.70% (8) had severe form of anxiety.

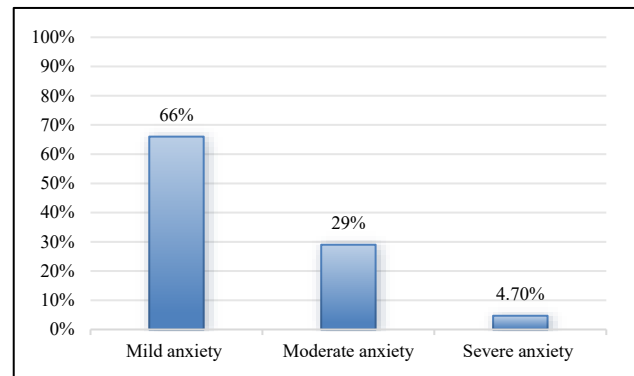


Figure 3: Severity of anxiety disorder based on GAD-7 scoring (n=171).

Table 2: Association between anxiety disorder and socio-demographic factors(n=474).

Parameters	No anxiety (n=303) (%)	Anxiety (n=171) (%)	Chi square	P value
1) Age (years)				
17-19	66 (56)	51 (43)	6.014	0.049
20-22	219 (68)	105 (32)		
23-26	18 (55)	15 (45)		
2) Gender				
Male	185 (67)	91 (33)	2.76	0.097
Female	118 (60)	80 (40)		
3)Medium of education				
Kannada	26 (72)	10 (28)	1.586	0.663
Hindi	9 (69)	4 (31)		
English	261(63)	154 (37)		
Others	7 (70)	3 (30)		
4)Migration status				
Yes	87 (62)	53 (38)	0.273	0.601
No	216 (65)	118 (35)		
5) Residing in				
Hostel	189 (63)	110 (37)	0.179	0.672
Day scholar	114 (65)	61 (35)		

Continued.

Parameters	No anxiety (n=303) (%)	Anxiety (n=171) (%)	Chi square	P value
6) Year of study				
First year	88 (56)	68 (44)	15.7	0.059
Second year	90 (70)	39 (30)		
Third year	101 (68)	47 (32)		
Fourth year	24 (59)	17 (41)		
7) Family size				
2-6 members	254 (64)	144 (36)	7.87	0.020
7-12 members	44 (72)	17(28)		
>13 members	5 (33)	10 (64)		
8)Type of family				
Nuclear	251	144	4.76	0.575
Joint	43	23		
Three generation	9	4		
9) Chronic illness				
Yes	2 (40)	3 (60)	0.961	0.327
No	211 (62)	132 (38)		
10) Socio-economic class (according to updated modified BG Prasad scale 2024)				
Lower middle class	21(55)	17 (45)	1.791	0.617
Middle class	32 (60)	21 (40)		
Upper middle class	65 (66)	34 (34)		
Upper class	182 (65)	98 (35)		

From the above table it is seen that statistically significant association was seen between anxiety disorder and sociodemographic factors like age ($p=0.049$) and family size ($p=0.02$). Whereas no significant association was seen with other sociodemographic factors like gender, migration status, medium of education, year of study, socioeconomic class, type of family, residing place and chronic illness.

DISCUSSION

In our study it was found that the prevalence of anxiety disorder among undergraduate medical students was 36%. Our findings are in accordance with those of a study by Hakim et al at Dr. S. N. Medical College in Jodhpur, which found that 47.41% of students experienced anxiety.⁴

Both results highlight the universality of anxiety in medical training environment, despite the fact that our prevalence is rather lower.

The study by Kumar et al also reported that students in Jhansi had a high combined incidence of anxiety and depression (64%) suggesting that emotional distress is a widespread problem across various geographical areas.⁶

The high prevalence observed may be attributed to the academically demanding and emotionally challenging environment of medical education.

Among the 171 students with anxiety, 66% had mild anxiety, 29% moderate anxiety, and 4.7% severe anxiety. Most students who experienced anxiety had it in mild or

moderate form, which presents a crucial opportunity for early identification and intervention.

In a similar study, Yadav et al found that similar severity distribution, with 55% of the students having mild anxiety, 33% having moderate anxiety and 12% having severe anxiety, indicating that early psychological support could prevent progression to more severe mental health disorders.⁹

Among the sociodemographic variables assessed, age and family size were significantly associated with anxiety disorder ($p<0.05$). Anxiety disorder were seen among younger students (17-19 years) and those from larger families (>13 members). This can be due to lack of social support essential for managing the pressure of medical education among the students and students from larger families might have faced additional responsibilities, financial stress, or limited personal space, contributing to psychological strain.

Sandhu et al identified significant levels of psychological distress among medical students in GMC Patiala, however their study found no statistically significant associations between anxiety disorder and variables such as gender, BMI, and socio-economic status.¹² Similarly in our study also no significant association was seen between anxiety disorder and socio demographic factors like gender, socio-economic class, or medium of education.

The results of this study cannot be generalized because it was only carried out in one medical college. It is impossible to rule out information bias because the data

came from a self-administered questionnaire. Furthermore, it was not a follow-up study and only provided an overview of a certain time period, making it challenging to predict how the same behaviour of students would evolve over time. Due to its reliance on self-perceptions, the study was unable to accurately depict the entire actual situation.

CONCLUSION

According to our research, 66% of students during their first and last year are having milder form of anxiety, so by providing adequate knowledge to the students about the early signs and symptoms of anxiety disorder and with regular psychiatric evaluation and counselling in the initial stage we can detect presence of any kind of mental disorders and provide them immediate treatment early in their course.

There may be a need to provide more time and facilities in the campus for recreation and sports to make it less stressful to the students. Counselling cells can be established for students.

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