

(RESEARCH ARTICLE)



Anxiety level among undergraduate medical students: A cross-sectional study using the Hamilton: A scale

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Abstract

Introduction: Medical education being a stressful course; high levels of anxiety and depression have been studied and documented among medical students all over the globe. Anxiety, being the precursor of depression, needs special attention and screening in Indian medical students.

Objectives: To study the level of anxiety in medical students of different academic years.

Methodology: A self-reporting questionnaire using 'Google forms' format was shared by WhatsApp and emails to undergraduate medical students of college. The questionnaire contained demographic details and Hamilton-A scale to assess the anxiety having maximum score of 56. Written consent was part of questionnaire and only consented forms were accepted. The responses were collected anonymously and analyzed using MS excel 2007 and EpiInfo 7.2

Results: Total 623 students participated in the study, of which 54.4% were male. 73%, students had minimal to mild anxiety, whereas 15% and 13% had mild to moderate and moderate to severe anxiety respectively. Severe anxiety in male students was higher (16.07%) as compared to female students (8.71). Final year medical students (24.11%) and Day Scholars (19.57%) showed highest severe anxiety.

Conclusion: Anxiety is prevalent in medical students. Female and final year students reported higher levels on the anxiety score.

Keywords: Stress; Anxiety; Indian Medical Graduates; Hamilton A scale

1. Introduction

Generalized anxiety disorder is one of the most common mental disorders. Up to 20% of adults are affected by anxiety disorders each year.(1) Generalized anxiety disorder produces fear, worry, and a constant feeling of being overwhelmed. Generalized anxiety disorder is characterized by persistent, excessive, and unrealistic worry about everyday things. This worry could be multifocal such as finance, family, health, and the future or career. It is excessive, difficult to control, and is often accompanied by many non-specific psychological and physical symptoms.

Medical education being a stressful course; high levels of anxiety and depression have been studied and documented among medical students all over the globe.(2) Attending college can be a stressful time for many students. In addition to coping with academic pressure, some students have to deal with the stressful tasks of separation and individuation

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from their family of origin while some may have to attend to numerous work and family responsibilities. In this context, many college students experience the first onset of mental health and substance use problems or an exacerbation of their symptoms.

Medical students face a number of personal, environmental, and academic challenges that may put them at risk for Suicide Ideation and Suicide Attempt.(3)

The proportion of doctors and other health professionals showing above threshold levels of stress has stayed remarkably constant at around 28%, whether the studies are cross sectional or longitudinal, compared with around 18% in the general working population.(4)

Given the uniqueness of medical college students, there was a need to outline critical issues of this population. The study has helped us to know the prevalence of anxiety in the medical students of different academic year.

2. Method

It was a cross-sectional study done in the year of 2023 from January to March.

Sample size was calculated taking prevalence of severe anxiety in medical students being 19.8% as reported by Shawaz Iqbal Et Al(5). Required sample size was 381 with 4% absolute allowable error.

The data were retrieved using 'google form'. Study tool was a self-reporting questionnaire which had three segments. First segment having written consent, second segment had basic demographic information and last segment had the questions for assessing anxiety. The Hamilton scale for Anxiety was used to determine the level of anxiety.(6) Scale consisted of 14 items, each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0–56, where <17 indicates mild severity, 18–24 mild to moderate severity and 25–30 moderate to severe.(7)

The 'google form' was shared by 'WhatsApp' to undergraduate medical students of the institute. Snowball technique of data collection was used by sending the link of google form containing questionnaire to the medical students and they were asked to forward the same in their colleagues from the same institute. Multiple responses were not allowed and the same was checked by unique IP address.

The responses were collected and analyzed using MS excel 2007 applying frequency, percentages and associations with Chi-square test using epi info 7.2.4.0 software.(8)

3. Results and Discussion

The results of the study were compiled and presented below:

623 participated in the given study out of 803 students present in the medial college after combining all academic year students. The given response rate is of 77.58%.

Table 1 Mean age of the participants (n=623)

Age (in years)	Descriptive statistics
Mean±SD	19.6±1.6
Median	20.0
Mode	20.0
Range	17-30

SD: Standard Deviation

The median age of the participants here is 20 years. The maximum age of the medical student is 30 years while minimum age is 17 years old. Here the students enter the medical school at the age of 17 or 18 completed years which is late

adolescent period too. Many of these may suffer from social anxiety coming to the new environment or separation anxiety.(9)

Table 2 Academic Profile of the participants (n=623)

Year	No. of participants (n)	%
1ST YEAR MBBS	126	20.22
2ND YEAR MBBS	184	29.53
PRE-FINAL YEAR MBBS	172	27.61
FINAL YEAR MBBS	141	22.63
Total	623	100

The given table shows the description of the student’s year wise in which highest participation was seen from the 2nd year students being 184 (29.53%), while lowest participation was from 1st year students being 126 (20.22).

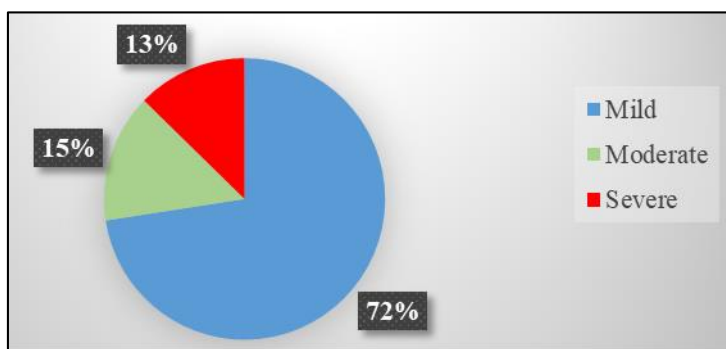


Figure 1 Severity of Anxiety level (n=623)

13% students over all were suffering from severe anxiety while 15% suffered from moderate anxiety. Debkumar et. al found the pooled prevalence of anxiety disorder among adolescents in India to be 0.41 (CI: 0.14-0.96).(10) which was for all the adolescent in each branch/sector. However, the prevalence in our study for severe anxiety came to be 13%.

Table 3 Level of anxiety with different predictors (n=623)

Characteristics		Anxiety level (score)			p-Value	Chi-square
		Mild (<17)	Moderate (18-24)	Severe, (≥25), (%)		
Year	1st	102	13	11(8.73)	0.000	56.22
	2nd	133	28	23(12.5)		
	Pre-final	147	14	11(6.40)		
	Final	70	37	34(24.11)		
Gender	Male	219	63	54(16.07)	0.000	19.91
	Female	233	29	25(8.71)		
Residence	Hosteller	425	82	70(12.13)	0.000	27.27
	Day scholar	27	10	9(19.57)		
Total (%)		452(72.55)	92(14.77)	79(12.68)		

[Note: % shown as year wise among No. of participants; Day scholar: living outside the college campus.]; Significant association was found between students of different academic year, gender and residence of the participant with anxiety level (p<0.001). It was seen that, anxiety level higher in 2nd (12.5%) and final year (24.1%) students as compare to other years’ student.

Among gender, male has severe anxiety than female (16.07 vs 8.71). As per residence of the participant day scholar participant has more anxiety than hostellers (19.57 vs 12.13). It is concluded by Pedrelli et. al, that becoming familiar with the unique problems, characteristic of the developmental stage and environment of the college students helps practitioners serve them better.(11)

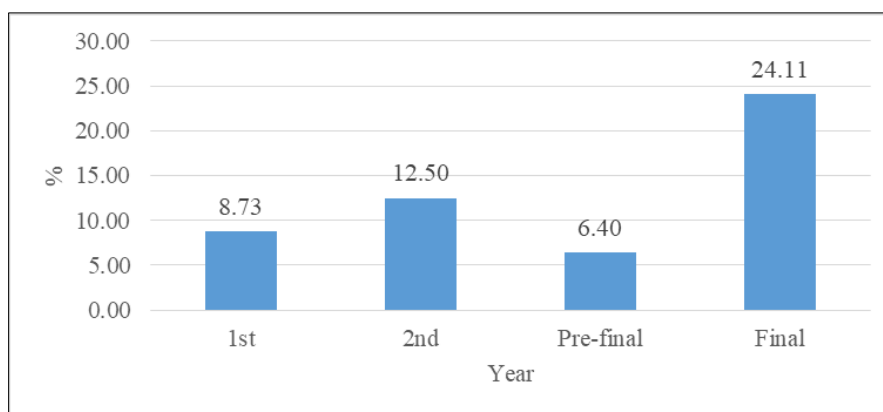


Figure 2 Year wise percentage of severe anxiety

Final year medical students showed highest number of anxiety as compared to other years with 24.11%. The fall in anxiety levels is seen in the pre-final year medical students.

4. Conclusion

12.6% (79) medical students suffered from moderate to severe anxiety. Students residing in home and final year students reported higher levels of anxiety score.

Compliance with ethical standards

Disclosure of conflict of interest

There are no conflicts of interest.

Statement of ethical approval

Study was approved from the institute ethical committee (IEC).

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

Availability of supporting data

Data pertaining of the original article will be provided to editorial board of Magna Scientia Advanced Research and Reviews (MSARR) Journal if needed by the editorial board.

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