

Original Research Article

A cross sectional study to assess the psychological morbidity (depression, anxiety, stress) among undergraduate medical students in Bangalore Medical College and Research Institute, Bengaluru

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ABSTRACT

Background: Mental health is an important factor in medical student's career. But unfortunately many are suffering from some form of mental problems. Like other young adults, under graduate medical students are similarly vulnerable to turmoil due to academic and social stress which often hampers their education achievement. The objectives of the study were to assess the prevalence of psychological morbidity (depression, anxiety, stress) among under graduate medical students and to find the association of these psychological morbidity with personal data

Methods: A cross sectional study was conducted at Bangalore Medical College & Research Institute, Bangalore among Under-graduates medical students during November 2016- January 2017. Sample Size was calculated to be 151. Data was collected using a self-administered, pre-designed, pre-tested anonymous questionnaire, DASS 42. Data was analyzed by descriptive statistics and chi-square test.

Results: Out of 151 students, 80 (52.98%) were males and 71 (47.01%) were females. Out of 151, 64(42.38%) had some form of depression, 83 (54.96%) had some form of anxiety and 69 (45.69%) had some form of stress.

Conclusions: It is important to detect medical students who suffer from psychological morbidity at an early stage, so that treatment in the form of counselling could be initiated.

Keywords: Stress, Anxiety, Depression, Medical students

INTRODUCTION

Medical profession is considered to be a highly respected and noble profession in this society. A student after clearing his high school enters the medical field after overcoming the huge competition with high expectations. They have to undergo a 4 years academic and clinical postings and 1 year internship to acquire this degree.

During this time period, a student undergoes through a lot of psychological problems. It is due to various reasons. In one hand, personal life, family situations play a major role in determining the mental status of a medical student. Whereas in the other hand, the transition from pre-

clinical to clinical training has been identified as a crucial stage of medical school regarding student stress.¹ all this can result in decreased life satisfaction among students.² Stress during medical school can lead to problems later in professional life compromising patient care.³

Due to inadequate knowledge to overcome the stress, few students also acquire anxiety and depression in due course. To overcome these psychological morbidities and to provide a stress free environment to undergraduate medical students, this study is being conducted to assess the prevalence of the psychological morbidities and factors associated with it.

Objectives

- To assess the prevalence of psychological morbidity (depression, anxiety, stress) among UG medical students.
- To find the association of these psychological morbidity with personal data.

METHODS

A cross sectional study was conducted in Bangalore Medical College & Research Institute (BMC &RI), Bangalore during the period of November 2017-February 2018 among Under-graduate medical students of BMC&RI. After going through previous literatures the prevalence of the psychological morbidities among under graduate medical students were found to be 53%. With 15% relative precision and 95% confidence interval, using the formula $n = z^2pq/d^2$, the sample size was calculated to be 151.

Medical students from first year to final year (both boys and girls) were included in the study. Students those who have joined the institute less than 6 months and those who had physical illness during the study period were excluded from the study. Stratified random sampling technique was used to select the study population. Out of total sample, 37 were first years and 38 each in second, third and final year respectively. Those who were present on the day of study were selected randomly using lottery method, with equal number of boys and girls in each academic year.

A self administered, pre designed, pre tested DASS 42 questionnaire was given to the study participants. The objective for the study was explained well to the students and was assured of confidentiality. Verbal consent was obtained from all the participants. Along with the DASS questions, personal data like age, sex, alcohol intake, smoking, satisfaction with course were also obtained. Those who had taken alcohol even ones in last one year period were considered to be alcoholic and those who had smoked in last one month period were considered to be smokers for the purpose of study.

DASS 42 consists of 42 questions, 14 each for depression, anxiety and stress. Each question has a

scoring from 0-3. The scores for the questions for depression, anxiety and stress are added up separately. For depression, 0-9 is normal, 10-13 is mild depression, 14-20 is moderate depression, 21-27 is severe depression and 28+ is extremely severe depression. For anxiety, 0-7 is normal, 8-9 is mild anxiety, 10-14 is moderate anxiety, 15-19 is severe anxiety and 20+ is extremely severe anxiety. For stress, 0-14 is normal, 15-18 is mild stress, 19-25 is moderate stress, 26-33 is severe stress and 34+ is extremely severe stress. Data is analyzed by descriptive statistics and chi square test and is represented in percentages.

RESULTS

Out of 151 students, 80 (52.98%) were males and 71 (47.01%) were females. Out of 151, 64(42.38%) had some form of depression, 83 (54.96%) had some form of anxiety and 69 (45.69%) had some form of stress (Figure 1). Females are more prone to these psychological morbidities than males. The prevalence of depression is 30% among boys and 56.33% among girls (Table 1). Anxiety is also more common among girls which accounts for 59.15%, whereas in boys it is 51.25% (Table 2). The prevalence of stress is 52.11% among girls whereas only 40% of the boys have stress (Table 3). Most of the boys suffer from mild form of stress (20%). Mild stress is the most common form of psychological morbidity among medical students.

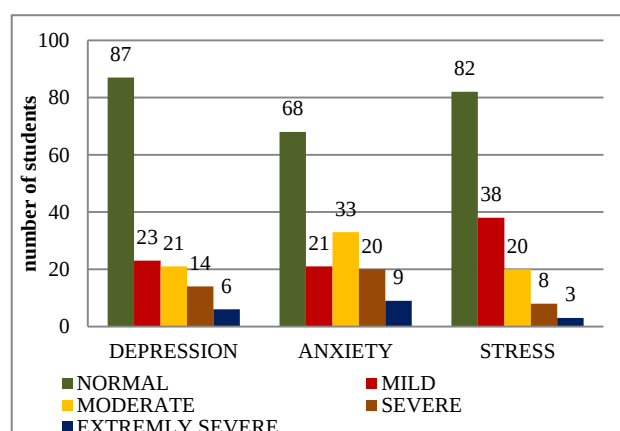


Figure 1: Number of students with depression, anxiety and stress.

Table 1: Prevalence of depression in study participants.

Depression	Normal (%)	Mild (%)	Moderate (%)	Severe (%)	Extremely severe (%)
Boys (80)	56 (70)	6 (7.5)	7 (8.75)	9 (11.25)	2 (2.5)
Girls (71)	31 (43.66)	17 (23.94)	14 (19.71)	5 (7.04)	4 (5.63)
Total (n=151)	87 (57.61)	23 (15.23)	21 (13.90)	14 (9.27)	6 (3.97)

Table 2: Prevalence of anxiety in study participants.

Anxiety	Normal (%)	Mild (%)	Moderate (%)	Severe (%)	Extremely severe (%)
Boys (80)	39 (48.75)	14 (17.5)	15 (18.75)	8 (10)	4 (5)
Girls (71)	29 (40.84)	7 (9.85)	18 (25.35)	12 (16.90)	5 (7.04)
Total (n=151)	68 (45.03)	21 (13.90)	33 (21.85)	20 (13.24)	9 (5.96)

Table 3: Prevalence of stress in study participants.

Stress	Normal (%)	Mild (%)	Moderate (%)	Severe (%)	Extremely severe (%)
Boys (80)	48 (60)	16 (20)	12 (15)	2 (2.5)	2 (2.5)
Girls (71)	34 (47.88)	22 (30.98)	8 (11.26)	6 (8.45)	1 (1.40)
Total (n=151)	82 (54.30)	38 (25.16)	20 (13.24)	8 (5.29)	3 (1.98)

Table 4: Association between depression and alcohol, smoking and studies.

Variables		Depression present	Depression not present	Chi square value	df	P value
Alcohol	Yes	57	53	14.758	1	<0.001 (significant)
	No	7	34			
Smoking	Yes	27	42	0.8174	1	0.50
	No	37	45			
No satisfaction in course	Yes	22	34	0.3481	1	>0.50
	No	42	53			

Table 5: Association between anxiety and alcohol, smoking and studies

Variables		Anxiety present	Anxiety not present	Chi square value	df	P value
Alcohol	Yes	53	57	7.537	1	<0.005 (significant)
	No	30	11			
Smoking	Yes	41	28	1.0194	1	0.10
	No	42	40			
No satisfaction in course	Yes	30	26	0.068	1	0.50
	No	53	42			

Table 6: Association between stress and alcohol, smoking and studies

Variables		Stress present	Stress not present	Chi square value	df	P value
Alcohol	Yes	40	70	14.215	1	<0.001 (significant)
	No	29	12			
Smoking	Yes	41	28	9.655	1	<0.001 (significant)
	No	28	54			
No satisfaction in course	Yes	39	17	20.58	1	<0.001 (significant)
	No	30	65			

Table 7: Association between gender and various psychological morbidities.

Variables	Stress present	Stress not present	Chi square value	df	P value
Boys	32	48	2.216	1	0.10
Girls	37	34			
Depression present		Depression not present			
Boys	24	56	10.27	1	<0.001 (significant)
Girls	40	31			
Anxiety present		Anxiety not present			
Boys	41	39	17.841	1	<0.001 (significant)
Girls	42	29			

Chi square test was used to find out association between these psychological morbidities and alcohol intake, smoking and satisfaction with the medical course. Table 4 shows the association between depression and various variables. A significant association was found between

depression and alcohol ($p \leq 0.001$). Table 5 shows the association between anxiety and alcohol ($p \leq 0.005$). Table 6 shows significant association between stress and alcohol ($p \leq 0.001$), stress and smoking ($p \leq 0.001$), stress and absence of satisfaction in the course ($p \leq 0.001$). Table

7 shows significant association between depression and gender ($p \leq 0.001$) and anxiety and gender ($p \leq 0.001$).

DISCUSSION

Mental health of medical students is important not only for the student but also for the future patient care. Increased psychological morbidities lead to impairment in behaviour, learning abilities, which ultimately affect the future medical practice. The prevalence of depression in this study was 42.39% whereas the prevalence of depression in the studies conducted at Bhubaneswar and Jhansi were 51.3% and 57% respectively.^{4,5} A study conducted at Kathmandu showed the prevalence to be 29.76%.⁶

The prevalence of anxiety was 54.97% in this study, where as it was 66.9% in a study conducted at Bhubaneswar and it was found to be as high as 71% in a study conducted at Jhansi.^{4,5} The prevalence of stress was 45.7% in this study, whereas it was 53% in the study conducted at Bhubaneswar.⁴ The study conducted at Basra showed the prevalence of stress to be 44.6% and the study at impala showed 28.4% of the students were under stress.^{7,8}

A significant association was found between alcohol and depression, alcohol and stress, alcohol and anxiety, smoking and stress and stress with unsatisfaction with studies whereas association was found between substance abuse and anxiety ($p \leq 0.01$) and substance abuse with depression ($p \leq 0.01$) in a study conducted at Jhansi.⁵ The study at Bhubaneswar showed significant association of Smoking, alcohol with depression, anxiety and stress.⁴

Limitation

As the study was done on a small population of medical students, the results cannot be generalized to entire student's population.

CONCLUSION

More than half of the medical undergraduate students were found to be affected by depression. It is important to detect medical students who suffer from psychological morbidity at an early stage; so that treatment in the form of counselling could be initiated. It may help to decrease the levels of psychological morbidity in tomorrow's doctors.

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