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Prevalence of Depression among Medical Undergraduates of Medical College Srinagar JK

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Abstract **Original Research Article**

Background: Depression among medical students is an important health issue at the global level. Academic pressure, though established, is an unavoidable cause of depression in medical students. It is associated with anxiety and psychological stress. Medical education across the globe is perceived as being inherently stressful. Studies on psychological problems such as stress, depression and anxiety among medical students have found that these disorders are under diagnosed and under treated. In this background the present study was undertaken with the objectives to assess the magnitude of depression and its associated factors among medical students**.** ***Methods:*** Medical undergraduates of Govt. Medical College Srinagar were enrolled for the study conducted between October 2018 to December 2018. A predesigned, pretested scale was used to assess their depression levels ***Results:*** The overall prevalence of depression was found to be 47.5%. Among those with depression, 49.5% had mild depression and 21% had borderline depression. Moreover, 26.31% had moderate depression and 3.15% was found with severe depression. 41.05% (39) of the depressed were males and 58.9% (56) were females. According to cut-off scores, 105 students (52.5%) scored as normal (1-10), 47 (23.5%) as mild (11-16), 20 (10%) as borderline (17-20), 25 (12.5%) as moderate (21-30), and 03 (1.5%) as severe (31-40) depression. The prevalence of depression was comparatively less among 2nd year and 3rd year medical students (35.38% and 30.22%, respectively) ($\chi 2=34.76$, P=0.001). ***Conclusion:*** Emphasize should be laid on the importance of screening for depression of medical students on a regular basis for early detection and rendering appropriate intervention like group counseling, stress management training etc. to protect the future professionals.

Keywords: Depression, Stress, Medical students, Becks depression inventory scale, srinagar.

INTRODUCTION

Medical school is recognized as a stressful environment that often exerts a negative effect on the academic performance, physical health and psychological wellbeing of the student. Medical education across the globe is perceived as being inherently stressful. During medical training students are subjected to different kinds of stressors such as burden of academic pressure, an uncertain future, and difficulties of integrating into the system along with emotional, social, physical and family problems. Psychological distress among students reduces their self-esteem, quality of life and quality of care to patients [1-3].

Medical students are confronted with significant academic, psychological and existential stressors with the academic sources as main stressors [4]. Prevalence of depression is higher in medical students compared to the general population. It has been observed that mental health worsens after students begin medical school and remains poor throughout training. On a personal level, this distress can contribute to substance abuse, broken relationships, suicide, and attrition from the profession. On a professional level, studies suggest that student distress contributes to cynicism and subsequently may affect students' care of patients, relationship with faculty, and ultimately the culture of the medical profession [5].

Depression is highly common and according to WHO by 2020, it would be the second-most prevalent condition worldwide. There is considerable evidence that rates of depression and suicide are higher in medical students and that these rates continue to remain elevated when these students become physicians. Medical students are a valuable human resource for our future and depression in them leads to less productivity,

reduced quality of life, learning difficulties and may negatively affect patient care. Studies from other parts of world have shown a high prevalence of depression in medical students but studies on Indian medical students are lacking. India has one of the largest numbers of medical colleges and medical students in Government as well as private medical schools [6-8].

Therefore it becomes important to study the overall mental health status and prevent the ill effects of depression among medical students as these constitute neglected public health problem in India. In this background the present study was undertaken to determine the prevalence of depression among the students of Government Medical College Srinagar and to look for related demographic characteristics and contributing factors.

OBJECTIVES

1. To determine the prevalence of depression among 1st, 2nd and 3rd and 4th year students of medical undergraduates.

MATERIAL AND METHODOLOGY

Medical undergraduates from all the four years of Govt. medical College, Srinagar were invited to participate in the study in October 2018. A total of 200 students participated in the study voluntarily. Confidentiality of the information given was ensured

STUDY DESIGN

It was a cross sectional study done to screen the students for depression after informing them about the purpose of study and explaining the general instructions.

METHOD OF DATA COLLECTION

A pre designed self-administrated questionnaire was distributed among students which included information regarding class, social factors like family problems. Family history of depression was assessed based on earlier diagnosis among first or second degree relatives and stress factors like academic stress, relationships, future concerns. A validated scale (Beck Depression Inventory scale (BDI)) which is a 21-item self-rating scale, with each item rated on a 0-3 point was used for scoring with score ranging from 1(complete absence of depressive symptoms) to over 40(most severe depression).(Score 1-10= Normal, 11-16=Mild depression, 17-20=borderline depression, 21-30= moderate depression, 31-40=severe depression, over 40=severely depressed).

STATISTICAL ANALYSIS

Data was compiled in Microsoft excel and analysed using IPM SPSS V23 .Appropriate statistical tests were applied and p-value<0.05 was considered significant (chi-square test)

RESULTS

Of the 200 medical students who participated in the study, 85 (42.5%) were males and 115 (57.5%) were females. The overall prevalence of depression was found to be 47.5%. Among those with depression, 49.47% had mild and 21% had borderline degree of depression. The prevalence of moderate and severe was 26.35% and 3.15% respectively. The present study showed that 58.94% (56) of the depressed were females and 41.05% (39) were males; and the association between the grade of depression and sex was not statistically significant ($\chi 2=3.60$, P=0.32). According to the cut off scores, 105 students (52.5%) scored as normal (1-10), 47 (23.5%) as mild (11-16), 20 (10%)as borderline (17-20), 25(12.5%) as moderate (21-30), 03 (1.5%) as severe (31-40) [Table 1].

The prevalence of depression was less among 2nd and 3rd year medical students (35% and 30% respectively). During the 2nd and 3rd year, totally 10% of the medical students were classified to have moderate grade of depression. Among the students of the 1st and 4th year, the prevalence of moderate depression was found to be 26.9% and 12.5% respectively. Similarly, degree of severe depression among the medical students of 1st and 4th year is 3.84% and 2.5% respectively while as the degree of severe depression among the medical students of 2nd and 3rd year is zero. The difference found between the grade of depression and year of studying was statistically significant ($\chi 2=34.76$, P=0.001) [Table 2].

Analysis was done by using Microsoft Excel and trivial SPSS 23.0 respectively for windows, it was observed that the prevalence was high among those medical students with family problems like parental status, family history of psychiatric illness and history of deaths .Those with family history of depression had higher prevalence compared to those students without family history of depression ($\chi 2=1.499$, P=0.82). Moreover, the prevalence of depression was observed in the students who are smokers and staying in the hostels. There was no significant difference in the prevalence of depression among those with other associated factors for depression [Table 3].

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Limitations: the study was conducted in one medical college and so the findings cannot be generalized. The study didn't include all the undergraduate students from different academic years.

Table-1: Grade of depression according to sex

S. No	Grades of Depression (Score)	Male (%)	Female (%)	Total (%)
01	Normal	46 (54.11%)	59 (51.3%)	105 (52.5%)
02	Mild	18 (21.17%)	29 (25.21%)	47 (23.5%)
03	Boderline	08 (9.4%)	12 (10.43%)	20 (10%)
04	Moderate	13 (15.29%)	12 (10.43%)	25 (12.5%)
05	Serve	0 (0%0	03 (2.6%)	03 (1.5%)
Total		85	115	200

Table-2: Grades of depression according to year of graduation

Grade of depression	1st year	2nd year	3rd year	4th year	total
Normal	13	42	30	20	105
Mild	15	12	11	09	47
Borderline	08	06	01	05	20
Moderate	14	05	01	05	25
Serve	02	0	0	01	03
Total	52	65	43	40	200

Table-3: Prevalence of Depression according to associated factors

S. No.	Determinants	No. of Students	No. of Students with Depression	Prevalence (In %)	$\chi 2$, P
01	Sex				
	Male	85	39	45.8%	$\chi 2=3.605$, P=0.462
	Female	115	56	48.69%	
02	Year of Studying				
	1st Year	52	39	75%	
	2nd Year	65	23	35.38%	$\chi 2=34.76$, P=0.001 ☆
	3rd year	43	13	30.23%	
	4th Year	40	20	50%	
03	Parental Status				
	Both Parents alive	194	92	47.42%	
	Either of the Parent alive	05	02	40%	$\chi 2=4.57$, P=0.802
	None of the Parent alive	01	01	100%	
04	Family history of psychiatric illness				
	Present	04	02	50%	$\chi 2=1.499$, P=0.827
	Absent	196	93	47.43%	
05	Smoking				
	Present	27	16	59.25%	$\chi 2=10.34$, P=0.035 ☆
	Absent	173	79	45.64%	
06	Staying in Hostels				
	Yes	173	86	49.71%	$\chi 2=3.787$, P=0.43
	No	27	09	33.33%	

DISCUSSION

Consistent with the economic changes in the country, medical student population is increasing every year. In this competitive era, this has enhanced the risk of developing various mental disorders like depression. Well-documented studies to determine the prevalence of depression and its associated factors among medical students are few at global level [9-12].

Depression has been recognized as major public health problem evidenced by ranking of its fourth position among global burden of diseases. These are very good indicators to assess mental health as well as the learning capabilities of the students. The emotional status of medical students has been a source of concern; it may affect overall performance of students and may lead to cascade of consequences at both personal and professional level.

Out of 105 students with no depression; 13students were from 1st year, 42 students were from 2nd year, 30 students were from 3rd year and 20 students were from 4th year. Out of 47 students with mild depression; 15 were from 1st year, 12 students were from 2nd year, 11 students were from 3rd year and 09 students were from 4th year. Out of 20 students with borderline depression; 08 students were from 1st year, 06 students were from 2nd year, 01 student was from 3rd year and 05 students were from 4th year. Out of 25

students with moderate depression; 14 were from 1st year, 05 students were from 2nd year, 01 student was from 3rd year and 05 students were from 4th year. Out of 03 students with serve depression; 02 were from 1st year, 0 students were from 2nd year, 0 students were from 3rd year and 01 student was from 4th year.

Present study revealed that 47.5% medical students were depressed (mild, borderline, moderate and severe) and that depression level continues to decrease from 1st year to 3rd year and then again increases in 4th year of MBBS. In the 1st and 4th year of MBBS maximum level of depression was noted, which might be due to some factors such as home sickness, going to hospitals, higher number of study hours and fatigue. In other words, both the first year and fourth year students reported academic stress and hectic life style as their principal stress inducing factors. Even studies from India reported academic stress and exams as the most troublesome stressors [13, 14].

Another finding of our study is that a gender difference regarding the association with depression was noted where female students reported a marginally higher prevalence of depression than in men .But this association was not found to be statistically significant (p=0.462). A study done in a Pakistani medical school also showed that female students reported more depressive symptoms than their male counterparts. Other similar studies also report depression to be more in female students. This gender variation in depressive status in medical students could be the reflection of usual trend of high prevalence of depression in females as in the general population [15].

Moreover, fourth year medical students have clinical rotations in wards, they understand how they are destined to work as doctors in wards and OPD's and treating patients i.e. they see the challenges ahead and they begin to think for the post graduate entrance exams they have to face in future, so future concerns might have been shown to be a significant stressor in clinical years of medical schooling in our study.

There were several limitations to the study. Only the well-studied principal stressors were assessed. The students were not questioned about their coping strategies and possible measures like, student counselors, to alleviate the situation. However, the study has been able to throw some light about the mental health of medical students and their stress inducing factors. Medical schools in India has started health promotion programmes and have reported positive results in reducing the negative effects of stress upon medical student's health and academic performance [16]. Others methods suggested for reducing stress are use of small groups for teaching and support, provision of recreation and sports and more participation in social activities. Even, Leisure activities can reduce stress in medical schools.

CONCLUSION AND RECOMMENDATIONS

The results showed the prevalence of depression in medical students which is especially in the first year medical students and marginally more in females. So, student counseling units in the first year of schooling itself should be established as they may be able to cope up with stress in the later years. By identifying the symptoms of depression and the stress inducing factors at an early stage hopefully the psychological morbidity among medical students can be prevented and the ones in morbid state can be helped to seek the professional.

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