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PREVALENCE OF ANXIETY AND DEPRESSION AMONG MEDICAL STUDENTS OF SHIFA COLLEGE OF MEDICINE

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ABSTRACT

Objective: To yield information regarding the prevalence of anxiety and depression among medical students in Islamabad and to emphasize on the need of psychological and mental well being of medical students. **Methods:** This is a cross-sectional study done at Shifa College of Medicine. A questionnaire was administered to 361 students who were present at the time of distribution and were consented. The instrument used to assess anxiety and depression level was the Aga Khan University Anxiety and Depression Scale (AKUADS). The data collected was tabulated and analyzed using SPS v. 16. **Results:** Out of a total of 500 students in a five year MBBS program at Shifa College of Medicine, 402 students were present at the time of the survey out of which, 361 students agreed to participate. The response rate was 89.8%. According to the AKUADS, 39.6% of students were found to have anxiety and depression. Among them, 28.1% were males and 49.5% were females. Hence, anxiety and depression was more prevalent among females. First year medical students were found to have more anxiety and depression (52.6%) as compared to the rest. **Conclusion:** Anxiety and Depression is widely seen among medical students. This study highlights the graveness of the situation, and the need for trained psychiatrists to deal with this enormous disease burden. There is a further need to explore the factors that influence anxiety and depression among medical students and its impact on students' academic performance.

INTRODUCTION

Anxiety and depression among medical students is significantly high⁽¹⁾. It is very important to investigate the prevalence of anxiety and depression among medical students as they are under significant pressure during years of medical education⁽²⁾. Medical students are at a higher risk of developing physical and mental health problems as compared to a non-medical student due to the academic stress⁽³⁾. The transition from basic science training to clinical training has been identified as a crucial stage of medical education regarding student stress⁽⁴⁾. Anxiety and depression are associated with a number of educational and socio-demographic factors including age, gender, academic performance in examination, past medical and psychiatric history, substance abuse and family history of psychiatric illness⁽⁵⁾. There are studies showing both, positive and negative correlation between academic performance and anxiety and depression in a medical student⁽⁶⁾. Those students living in university dormitories are more likely to have anxiety and depression as compared to those living at home⁽⁷⁾. Anxiety and depression in medical students is positively related to stress vulnerability and negatively related to emotional instability⁽⁸⁾. Anxiety

is more prevalent amongst medical students as compared to depression. Females are more prone to anxiety and depression as compared to males⁽⁹⁾. A study carried out in a medical college in Karachi, showed a high prevalence of anxiety and depression (70%) among medical students⁽¹⁰⁾. Another study done in private medical collage of Karachi, suggested that out of 252 students, 113 students (60%) had anxiety and depression⁽¹¹⁾. A similar study done in Nishtar Medical College, Multan, showed a high prevalence of psychiatric morbidity among medical students⁽¹²⁾. A study done in Saudi Arabia showed that female medical students (66%) are more prone to developing anxiety and depression as compared to males⁽¹³⁾. According to a study done in India, second and third year medical students are more stressed out and hence at a greater risk of developing anxiety and depression as compared to first year medical students⁽¹⁴⁾. A survey conducted in Hong Kong showed that students who are academically less successful are more prone to develop anxiety and depression⁽¹⁵⁾. A Study in USA, demonstrated that medical curriculum plays a significant role in prevalence of anxiety and depression among medical students⁽¹⁶⁾. Previous studies done in Pakistan show a higher prevalence of anxiety and depression among medical students^(10, 11).

However, to the best of my knowledge, no such study has been carried out in Islamabad. Most of the studies have been done in Karachi and a few in Punjab. The purpose of this study is to yield information about prevalence of anxiety and depression among medical students in Islamabad. It will also emphasize on the need of psychological and mental health of medical students.

METHODS

Setting

The study site is Shifa College of Medicine, a private institution in Islamabad. It has a five year medical curriculum, with 500 enrolled students.

Study design

A cross-sectional, questionnaire-based survey was carried out at Shifa College of Medicine to study the prevalence of anxiety and depression among medical students. The study cohort included 361 students, presently studying at Shifa College of Medicine.

Sampling method

The study was based on a sample of convenience. A questionnaire was administered to 361 students who were present at the time of distribution and were consented. The questionnaire used to assess anxiety and depression level was the AKUADS. The questionnaire has been validated on a statistically appropriate sample size, in the urban area of Karachi. It has a Specificity of 81%, Sensitivity of 74%, a Positive Predictive Value of 63% and Negative Predictive Value of 88%¹⁹. The desirable attributes of the scale make it reliable and valid. Exclusion criteria included all the students being treated for any mental and physical illness and those who had spent less than 3 months in the collage.

Data Collection

The students were identified through the Student Affairs Department at Shifa college of Medicine. A list, arranged by students roll number was obtained. All the students were informed about the nature of the study and those willing to participate were asked to fill out a questionnaire. To provide confidentiality we asked the students to write their roll numbers instead of names.

Analysis

The data collected was tabulated and analyzed using SPS v. 16. Descriptive statistics was obtained in response to each question.

RESULTS

Out of a total of 492 students present at the time of the survey, 361 fulfilled the inclusion criteria. The response rate

was 89.8%. Among them 167 were males and 194 were females. The mean age of students who participated in the survey was 21.24 years with the standard deviation of 1.665 years. According to the AKUADS, 39.6% of students were found to have anxiety and depression as shown in Table 1 below.

TABLE 1: Distribution of anxiety and depression among medical students

Anxiety and depression	Frequency	Percent%
Absent	218	60.4
Present	143	39.6
Total	361	100.0

Prevalence of anxiety and depression in students of first, second, third, fourth and fifth year medical students was 52.6%, 42.6%, 41.4%, 28.9% and 30.9 % respectively. (Table 2) shows the co-relation between anxiety and depression and the year of study in medical college. First year medical students were found to have more anxiety and depression followed by second, third, fifth and fourth year medical students.

TABLE 2: Co-relation between anxiety and depression and the year of study in medical college

No. of students	Anxiety and Depression		total
	Present	Absent	
First year	36	40	76
Second year	43	32	75
Third year	41	29	70
Fourth year	49	20	69
Fifth year	49	22	71
Total	218	143	361

Prevalence of anxiety and depression was more among female medical students. Out of a total of 194 females who participated in the survey, 96 had anxiety and depression i.e. approximately 50 % of them had the disease. However, out of a total of 167 males who participated in the survey, only 47 had anxiety and depression, i.e. approximately 28% of them had the disease. Hence, anxiety and depression was 1.8 times more prevalent in females than males. Table 3, below shows the distribution of anxiety and depression among males and females.

DISCUSSION

Anxiety and Depression is an important indicator of mental health of an individual; a treatable disorder, widely seen

TABLE 3: Gender distribution of anxiety and depression.

	Anxiety and depression		Total
	Absent	Present	
gender male	120	47	167
female	98	96	194
Total	218	143	361

among medical students. It can cause adverse effect on both, mental and physical health of an individual and hence is considered an important health issue ⁽¹⁷⁾. Inability to cope with anxiety and depression can lead to violence, self injury, drug abuse, reckless behavior and isolation from peers, family and other emotional relationships. In our study, we used the AKUADS as a screening tool for anxiety and depression among medical students. The choice of using AKUADS was because it has been validated in a similar society with Islamic cultures and is the most widely used screening tool for anxiety and depression in Pakistan. According to our survey, 40% of the students at Shifa College of Medicine had anxiety and depression. The prevalence was high because in addition to the normal stressors of daily life, medical students have to deal with a lot of extra stressors. These include long duty hours, ethical dilemmas, repeated exposure to traumatic patients, difficult cases, lack of leisure time, and pressure of work and information overload. There is also a lot of academic pressure due to the competitive environment in which the examinations are conducted. In our cross-sectional study, we co-related the risk factors such as age, gender and year of study with the prevalence of anxiety and depression among medical students of a private medical college in Islamabad. We had a response rate of 89.8%, which meant that we had an adequate sample of population studied. Depression and anxiety was seen to be significantly high among first year medical students. This finding co-relates with previous studies conducted in Pakistan ^(7, 10, 11). First and second year medical students seem to be under more pressure especially when compared to fourth and fifth year medical students. This can be due to the transition from college to a more challenging and competitive environment of medical school. Also, adaptation to a completely new environment and separation from friends, lower grades than anticipated, change in sleeping habits, increase workload and demand of medical training can contribute to sense of isolation and lead to stress. Our study results showed that female gender is at a greater risk of developing anxiety and depression. This is noteworthy, particularly because more than half of the medical students in Pakistan are females. Previous studies also emphasize on the fact that females are at greater risk of developing anxiety and depression ⁽¹⁸⁾. The fact that female students seek psychological help more often than males, suggest that the reported distress is of clinical significance.

Possible reasons for this disparity can be less effective coping mechanisms to deal with anxiety and depression in females, higher proportion of females in medical college and males being more forgetful and less expressive about their feelings of anxiety and depression. The limitation of the study includes the fact that the sample has been recruited from a single private medical college of Islamabad. Risk factors for anxiety and depression among medical students and their effect on academic performance cannot be determined from the study. Other limitations include lack of baseline information like socio-economic status, family history of anxiety and depression and the mental status of medical students at the time of entrance in the medical college. Also, ideally we should have confirmed the diagnosis of anxiety and depression by getting the students evaluated by a psychiatrist and those found to have anxiety and depression should have been counseled and treated. This study highlights the gravity of the situation, and the need for trained psychiatrists to deal with this enormous disease burden. Anxiety and depression has a negative impact on cognitive and learning of an individual. Hence, it is important to recognize and treat this disease appropriately. Also, this study results emphasize on the need of teaching coping and stress management techniques to medical students. Our study results motivate a new educational approach to minimize stress and hence anxiety and depression among medical students. However, there is a further need to explore the factors that influence anxiety and depression among medical students and its impact on students' academic performance.

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REFERENCES

1. Karaoglu N, Seker M. "Anxiety and depression in medical students related to desire for expectations from a medical career." *West Indian Med. J.* 2010 Mar; 59(2): 196-202.
2. Mancevska S, Bozinovska L, Tecce J, Pluncevik-Gligorovska J, Sivevska-Smilevska E. "Depression, anxiety and substance use in medical students in the Republic of Macedonia." *Bratisl Lek Listy.* 2008; 109(12):568-72.
3. Al-Dabal BK, Koura MR, Rasheed P, Al-Sowielem L, Makki SM. "A comparative study of perceived Stress among female Medical and Non-medical University Students in Dammam, Saudi Arabia". *Sultan Qaboos Univ Med J.* 2010 Aug; 10 (2): 231-40. Epub 2010 Jul 19.
4. Helmers KF, Danoff D, Steinert Y, Leyton M, Young SN. "Stress and depressed mood in medical

- students, law students, and graduate students at McGill University." *Acad Med.* 1997 Aug; 72(8):708-14.
5. Ami T, Assad F, Ramzan M, Khan FA. "Depression, anxiety and their associated factors amongst medical students". *J Coll Physicians Surg Pak.* 2010 Feb; 20(2); 122-6.
 6. Yeh YC, yen CF, Lai CS, Huang CH, Liu KM, Huang IT. "Correlations between academic achievement and anxiety and depression in medical students experiencing integrated curriculum reform." *Kaohsiung J Med Sci.* 2007 Aug; 23 (8): 379-86
 7. Rab F, Mamdou R, Nasir S. "Rates of depression and anxiety among female medical students in Pakistan." *East Mediterr Health J.* 2008 Jan-Feb; 14 (1): 126-33.
 8. Bunevicius A, Katkute A, Bunevicius R. "Symptoms of anxiety and depression in medical students and in humanities students: relationship with big-five personality dimensions and vulnerability to stress." *Int J Soc Psychiatry.* 2008 Nov; 54(6): 494-501.
 9. Mehanna Z, Richa S. "Prevalence of anxiety and depression disorders in medical students. Transversal study in medical students in Saint-Joseph University of Beirut." *Encephale.* 2006 Nov-Dec; 32 (6 Pt 1): 976-82.
 10. Muhammad S Khan, Sajid Mahmood, Areef B adshah, Syed U Ali, Yasir Jamal. "Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan." *Journal of the Pakistan Medical Association* 2006).Volume: 56, Issue: 12, Pages: 583-586
 11. S .N. B. Inam, A. Saqib, E. Alam. "Prevalence of Anxiety and Depression among Medical Students of Private University." *JPMA.* (2003) Volume: 53, Issue: 2, Pages: 44-47
 12. Jadoon NA, Yaqoob R, Raza A, Shehzad MA, Zeshan SC."Anxiety and depression among medical students: a cross-sectional study." *J Pak Med Assoc.* 2010Aug;60(8):699-702.
 13. Inam SB. "Anxiety and depression among Students of a medical collage in Saudi Arabia." *Int J Health Sci (Qassim).* 2007 Jul; 1 (2): 295-300
 14. Supe AN. "A study of stress in medical students at Seth G.S. Medical College." *J Postgrad Med.* 1998 Jan-Mar; 44(1):1-6.
 15. Stewart SM, Betson C, Marshall I, Wong CM, Lee PW, Lam TH. "Stress and vulnerability in medical students." *Med Educ.* 1995 Mar; 29(2):119-27.
 16. Smith CK, Peterson DF, Degenhardt BF, Johnson JC. "Depression, anxiety, and perceived hassles among entering medical students." *Psychol Health Med.* 2007 Jan; 12(1):31-9.
 17. Emma Warnecke, Stephen Quinn, Kathryn Ogden, Nick Towle and Mark R Nelson. "A randomized controlled trial of the effects of mindfulness practice on medical student stress levels." *Medical Education* Volume 45, Issue 4, pages 381–388, April 2011
 18. Faraz Khan Luni, Briha Ansari,Ahmed Jawad, Amber Dawson, Shahid Masud Baig. "PREVALENCE OF DEPRESSION AND ANXIETY IN A VILLAGE IN SINDH." *J Ayub Med Coll Abbottabad* 2009; 21⁽²⁾
 19. Badar S. Ali, Hashim Reza, Murad M. Khan, Imtiaz Jehan. "Development of an Indigenous Screening Instrument in Pakistan: The Aga khan university anxiety and depression scale." *JPMA* 1998, 48:261.

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Author's Contribution:

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