

## ORIGINAL ARTICLE

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### Prevalence of anxiety and depression among Medical Students in MMCH, Sindh, Pakistan

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#### Abstract:

**Introduction:** Medical education is stressful. High levels of stress have been seen in medical students in various studies. The academic stressors include the volume of material to be learned, academic performance and evaluation, examination and continuous assessment, mental tension and too much work load. All this can result in decreased life satisfaction among students. Stress during medical school can lead to problems later in professional life compromising patient care.

**Objectives:** To know the prevalence of anxiety and depression among medical students of Muhammad Medical College, Mirpurkhas, Sindh, Pakistan

**Methodology:** A Cross-sectional study was done on the students of Muhammad Medical College, Mirpurkhas, Sindh, who had spent more than six months in the medical college. Self-administered questionnaire was given to the students, present in the class and willing to participate in the study. The instrument used to assess the anxiety and depression levels was the, Aga Khan University Anxiety and Depression Scale (AKUADS). Additional quotations regarding socioeconomic variables were also included in them survey instrument, such as student's age order, family monthly income, and gender, marital status.

**Results:** Using anxiety and depression scale it was found out that 318 (96.36%) students had anxiety and depression. Among them 215 (67.61%) were females and 103 (32.38%) males. Prevalence of anxiety and depression in students of Final, 4th year and 3rd year 2nd and 1<sup>st</sup> years was 13%, 15%, 20% and 21%, 28% respectively. It was significantly higher in 1<sup>st</sup> year and 2<sup>nd</sup> year students, as compared to final and 4th year and students.

**Conclusions:** Most of medical students have anxiety and depression due to study burden and a busy schedule. It is also seen that anxiety and depression is more among female medical students, and more among in 1<sup>st</sup> year and 2<sup>nd</sup> year MBBS students, as compared to the final and fourth year students.

**Keywords:** Anxiety, depression, Medical students, prevalence

#### Introduction:

Medical education is stressful. High levels of stress have been seen in medical students in various studies.<sup>1-4</sup> among medical students, anxiety and depression has been reported to be due to their academic stressors include the volume of material to be learned, academic performance and evaluation, examination and continuous assessment. mental tension and too much work load.<sup>5</sup> All this can result in decreased life satisfaction among students<sup>6</sup> Stress during medical school can lead to problems later in professional life compromising patient care.<sup>7</sup> Anxiety is defined as excessive worry and tension, on most days, for at least 6 months, together with the following sign and symptoms; increase motor tension (fatigue, trembling, restlessness, and muscle tension); autonomic hyperactivity (shortness of breath, rapid heart rate, dryness of mouth, cold hand and dizziness). If not detected early and treated anxiety lead to lifelong problems and has co-morbidity with depression. Anxiety causes disruption on day to day functioning and reduction in quality of life.<sup>8</sup> A study among British medical students found that 39% had clinically significant levels of anxiety.<sup>9</sup> Depression is one of the most prevalent mental disorders today, and it is characterized by episodes of low mood associated with loss of interest in daily activities. According to the World Health Organization (WHO), depression is the third most common disabling disorder, especially among females.<sup>10</sup> Depression and anxiety have been reported universally among medical students as they are exposed to stressors.<sup>11-13</sup> This situation can lead to mental distress and have adverse effects on their cognitive functioning.<sup>14,15</sup> Many authors mention that medical

students have elevated levels of depression and anxiety compared to those who are not in the medical field.<sup>16</sup> However, numerous studies have been conducted about the factors related to depression and anxiety in medical students. Some of these factors include academic load, insomnia, watching patient's suffering, and financial concerns.<sup>17</sup> This study may help in designing appropriate intervention strategies to enhance the learning abilities which will improve the patient care by achieving good communication, increasing quality of care and decreasing medical errors in addition to burden the costs paid by the society through anxiety and depression attenuation.

#### Methodology:

A cross sectional study was done on students of Muhammad Medical College, Mirpurkhas, Data collection spanned over the month of May 2013. The approval was obtained from the principle and Dean of the college before administering questionnaires. Verbal consent was taken from students before distributing questionnaires. Performance and confidentiality was ensured. The students who had spent more than six months in the medical college were included in this study, the survey was done at a time when the students did not have any major examination scheduled.

The instrument used to assess the anxiety and depression levels was, Aga Khan University Anxiety and Depression Scale (AKUADS).<sup>18</sup> It has been validated on a statistically appropriate sample size, in urban squatter settlement of Karachi.<sup>19</sup> At a cut off score of 19 points KUADS has specificity of 81%, sensitivity of 74%, a positive predictive value of 63%, and negative predictive value of 88%, (20)

which is higher than other available scales like the self-reporting questionnaire (SRQ). (21, 22) The students were instructed to return the completed questionnaire. Out of 517 students, 380 were present during the survey. We distributed the forms which were returned later. A total of 330 out of 380 distributed forms were received with a response rate of 86.84%. To determine the prevalence of anxiety and depression, more questions were also included in the survey instrument, such as student's age, gender, locality, marital status, family monthly income, and monthly expenditure on education. To ensure anonymity, the respondents were asked not to put names or another identifying notation on the questionnaire.

**Results:**

There were total 517 students from final year MBBS to 1st year MBBS. In our survey there is 380 students present but questionnaire respond were given by 330. The 330 students present in survey among them 108 (32.72%) were males and 222 (67.27%) females' students. Using anxiety and depression scale it was found out that 318 (96.36%) students had anxiety and depression. Among them 215 (67.61%) were females and 103 (32.38%) males. Prevalence of anxiety and depression in students of final, 4th year and 3<sup>rd</sup> year 2nd and 1st years was 13%, 15%, 20% and 21%, 28% respectively. It was significantly higher in 1st year and 2nd year students, as compared to final and 4th year and students.

**Table 1: Anxiety and Depression causes according to class and gender**

Batch	Number of students			Anxiety and depression		
	Male	Female	Total	Male No. & %	Female No. & %	Total No. %
Final Year	18	36	54	19(18.44)	24(11.16)	43(13.52)
4 <sup>th</sup> year	12	49	61	18(17.47)	32(14.88)	50(15.72)
3 <sup>rd</sup> year	25	39	64	22(21.35)	44(20.46)	66(20.75)
2 <sup>nd</sup> year	21	52	73	19(18.44)	50(23.25)	69(21.69)
1 <sup>st</sup> year	32	46	78	25(24.27)	65(30.23)	90(28.30)
<b>Total</b>	<b>108</b>	<b>222</b>	<b>330</b>	<b>103(32.38)</b>	<b>215(67.61)</b>	<b>318(96.36)</b>

Table-2 gives the frequency of students in different groups with respect to age, gender, marital status, locality, total family income. Using AKUADS, it was found that 47.93% of students suffered from anxiety and depression.

**Table 2:**

*Association of anxiety & depression with demographic and social factors*

Variable:	n.	%	Anxiety and depression	
			present	absent
<b>Total participants</b>	<b>330</b>	<b>100%</b>		
Age				
< 20 Years	105	31.81%	55	50
22-24 Years	150	45.45%	62	88
> 24 Years	75	22.72%	24	51
Gender				
Male	108	32.72%	36	72
Female	222	67.27%	126	96
Marital Status				
Married	28	8.48%	16	12
Unmarried	302	91.51%	145	157
Locality				
Urban	284	86.0%	122	162
Rural	46	13.93%	19	27
Total Family Income				
< Rs. 25,000	74	22.42%	36	38
Rs. 15,000-Rs.30,000	94	28.48%	54	40
Rs.30,000-Rs.50,000	84	25.45%	39	45
> Rs.50,000	80	24.24%	35	45

Final year and 4th year MBBS students. It was also higher in female students as compared to male students. It was seen that higher in unmarried.

**Discussion:**

WHO estimates that one in five people are suffering from depression and anxiety. (23) Many studies reported significant distress in medical students (24, 25, 26) Based on the medical students in our study, the prevalence of anxiety and depression was 47.9% in MMCH, Sindh. Also, in our study shows the percentage ration of female medical students are higher than male students due to self-expectation, feeling of lack of competence and tendency to over report symptoms. that 67.27% in female and 32.72% in male students. The results of our study different significantly from some other studies due to the difference in teaching and assessment methodologies including introduction of problem based learning and objective structured performance evaluation in the recent years. In our study one thing in Difference from other studies is that percentage of anxiety and depression is 47.9% the difference is sample size of students were 330 out of 517total students. In our study anxiety and depression decreased with increasing age. This may be due to adapt to stress of clinical training after spending a year in it. Anxiety and depression can lead to negative outcomes including medical school dropout, not to do work properly, not having good relations- hips with friends, burnout, and increased suicidal tendency. There is need for greater attention for medical students to psychological point of view. It is necessary for medical student to seek appropriate help for mental health problem and view it as a weakness. Medical college should encourage the stressful students to spend adequate time on their social and personal lives and emphasize the importance of health promoting coping strategies. Preventive programming should begin in medical colleges to address the academic and financial and personal problems, early sign and symptoms of anxiety and depression should be addressed. We need strategy for students to cope with stress to make a smooth transition life from medical college towards professional life and to adjust to different learning environments during different phases of medical education. It is also necessary that base line information should be given to the medical students at the time of entrance in medical colleges. And further evaluation of positive cases should be done by a Psychiatrist to improve mental health of students. Follow up studies for monitoring prevalence of anxiety and depression will help in instituting interventional strategies. It is noted that proportion of medical students had ongoing psychiatric conditions. Action should be taken to find out psychological problems and to provide adequate facilities to the stressful students. Medical colleges also courage the stressful student from the beginning (from 1<sup>st</sup> year) to relieve depressive symptoms

## Conclusion:

Most of medical students have anxiety and depression probably due to more hard work load than any other professional study. Female medical students are far more commonly affected from anxiety and depression. The students of 1<sup>st</sup> year and 2<sup>nd</sup> year MBBS students were more frequently affected as compared to the final and fourth year students

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