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Research Article

**PREVALENCE OF ANXIETY AND DEPRESSION AMONG  
MEDICAL STUDENTS OF KING EDWARD MEDICAL  
UNIVERSITY LAHORE**<sup>1</sup>Dr. Shabih ul Hassan, <sup>1</sup>Dr. Ishba Zainab Virk, <sup>2</sup>Dr. Saba Ali<sup>1</sup>Mayo Hospital Lahore<sup>2</sup>House Officer Sir Ganga Ram Hospital Lahore**Abstract:**

**Objective:** To assess anxiety and depression levels among medical students of King Edward Medical University Lahore by using a self-administered anxiety and depression questionnaire.

**Methodology:** A cross sectional study was done on the students of King Edward Medical University Lahore, who had spent more than six months in the medical school. A self-administered questionnaire was given to the students, present in the class and willing to participate in the study. During the survey students of 5th year were not available. Additional questions regarding socioeconomic variables were also included in the survey instrument, such as student's birth order, monthly income, number of siblings, and monthly expenditure on education. Data analysis was done on Epi info version 6.

**Results:** There were 252 students in 4th year MBBS to 1st year MBBS. Of these 189 were present during the survey. Using anxiety and depression scale it was found out that 113 (60%) students had anxiety and depression. Prevalence of anxiety and depression in students of 4th year, 3rd year, 2nd year and 1st year was 49%, 47%, 73% and 66% respectively. It was significantly higher in 1st year and 2nd year, as compared to 3rd and 4th year ( $p < 0.05$ ). It was seen that birth order, monthly income, number of siblings and monthly expenditure on education did not affect the prevalence of anxiety and depression.

**Conclusion:** This study suggests that medical students experience anxiety and depression, the finding is consistent with other western studies, however there is no local data available to support our findings. The study finding highlights the need of psychiatric counseling and support services available to vulnerable students. These findings should be further explored in longitudinal studies to identify the stressors leading to these outcomes and appropriate interventions (JPMA 53:44;2003).

**Corresponding author:**

**Dr. Shabih ul Hassan,**  
Mayo Hospital,  
Lahore

QR code



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**INTRODUCTION:**

Depression and anxiety levels in the community are considered as specific indicators for mental status of a person. Various studies have documented stress among medical students [1,6-9]. Among medical students, academic stressors include the volume of material to be learned, academic performance and evaluation (examination and continuous assessment) [7] Academically less successful students reported somewhat higher levels of depressive ideation and symptomatology [6] The potential negative effects of emotional distress on medical students include impairment of functioning in classroom performance and clinical practice, stress-induced disorders and deteriorating performance [8,9] Students in extreme stress or depression need serious attention<sup>2</sup>, otherwise inability to cope successfully with the enormous stress of education may lead to a cascade of consequences at both personal and professional levels [1].

There should be a system to identify the prevalence of their training and to specify the relevant contributing factors. This knowledge can assist in instituting specific interventions.

**METHODOLOGY:**

A cross sectional study was done on students of King Edward Medical University Lahore, who had spent more than six months in the medical school. A self-administered questionnaire was given to students, who were present in the class at the time of distribution and were willing to participate in the study. During the survey 5th year students were not available. The survey was done at a time when the students did not have any major examination scheduled. It was developed from the complaints of 150 anxious and depressed patients. The questionnaire has 25 items [13] psychological and 12 somatic, which increases its reliability for use as a screening instrument because most of the available instruments comprise of either psychological or somatic items. At a cut off score of 19 points

AKUADS has specificity of 81%, sensitivity of 74%, a positive predictive value of 63%, and negative predictive value of 88%<sup>12</sup>, which is higher than other available scales like the self-reporting questionnaire (SRQ) [13]. It also has a high internal consistency as all its stems are significantly related to the total score and stems inquiring about psychiatric issues are significantly related to each other, and the same is true for the stems of somatic manifestations [12]. These are desirable attributes of the questionnaire, which make it reliable, valid and generalisable

To determine the relationship between socioeconomic variables and prevalence of anxiety and depression, additional questions were also included in the survey instrument, such as student's birth order, monthly income, number of brothers and sisters and monthly expenditure on education. To ensure anonymity, the respondents were asked not to put names or other identifying notation on the questionnaire. Data entry and analysis was done on Epi info version 6.0.

**RESULTS:**

There were 252 students in 4th year MBBS to 1<sup>st</sup> year MBBS. Of these 189 (75%) were present during the survey. Among them 60 (32%) were males and 129 (68%) females. Using anxiety and depression scale it was found out that 113 (60%) students had anxiety and depression. Among them 80 (60%) were females and 33 (55%) males. Prevalence of anxiety and depression in students of 4th year, 3rd year, 2nd year and 1st year was 49%, 47%, 73% and 66% respectively. It was significantly higher in 1st year and 2nd year students, as compared to 4th year and 3rd years students.

Table 1. Anxiety and depression cases according to batch and gender.

Batch	Number of students			Anxiety and depression		
	Male	Female	Total	Male No. %	Female No. %	Total No. %
4th Year	16	21	37	5 (31.2)	13 (61.9)	18 (48.6)
3rd year	7	38	45	2 (28.6)	19 (50.0)	21 (46.7)
2nd year	21	31	52	14 (66.7)	24 (77.4)	38 (73.1)
1st year	16	39	55	12 (75.0)	24 (61.5)	36 (65.5)
Total	60	129	189	33 (55.0)	80 (60.0)	113 (59.8)

Using AKUADS at a cut-off score of 19 points, anxiety and depression was significantly higher in 1st and 2nd year as compared to 3rd and 4th year ( $p < 0.05$ ).

It was seen that birth order, monthly income, number of brothers and sisters and monthly expenditure on education did not affect the prevalence of anxiety and depression (Table 2).

Table 2. Anxiety and depression according to socioeconomic variable.

Variable		No. of students	Anxiety and depression	
			No.	%
Birth order	1	78	50	64
	2	56	34	61
	3	21	14	67
	>3	31	13	42
	Not recorded	3	2	67
Monthly Income (Rs.)	<20,000	30	20	67
	20,000 - 29,999	18	9	50
	30,000 - 39,999	20	8	40
	40,000 - 49,999	24	14	58
	≥50,000	73	48	66
	Not recorded	24	14	58
Brother and Sister	0	5	5	100
	1	22	9	41
	2	39	23	59
	3	54	32	59
	>3	64	41	64
	Not recorded	5	3	60
Monthly expenditure on education (Rs.)	<20,000	54	32	59
	20,000 - 29,999	33	14	42
	30,000 - 39,999	23	15	65
	≥40,000	10	5	50
	Not recorded	69	47	68

**DISCUSSION:**

Anxiety and Depression can be taken as reliable indicator for assessment of mental illness in a community.<sup>4</sup> The emotional status of students during medical school training has been a source of concern, reported as early as 1956.<sup>15</sup> As it may effect the over all performance of students and lead to a cascade of consequences at both personal and professional levels.

Several studies have reported significant distress among medical students.<sup>16-18</sup> On the other hand some studies have found little or no evidence of stress among medical students.<sup>92</sup> In our study 60% students had anxiety and depression. The prevalence appears to be high. Since the questionnaire was self-administered and anonymous. Therefore further work-up on students rating high on the AKUADS could not be carried out.

Western data suggest that females experience high levels of stress as compared to males.<sup>3</sup> The possible reasons explained by different studies are: i) females are more likely to report concerns about the volume and complexity of the material they had to cover, ii) they are also more likely to report stress due to self expectation and feeling of lack of competence', iii) and tendency for women to over report medical and psychological symptoms [21]. We did not find any significant gender difference for presence of anxiety and depression.

In this study it is seen that prevalence of anxiety and depression was high among newly entered students (1st and 2nd year) as compared to students who have cleared the first professional examination (3rd and 4th year). That could be due to stress of new study environment. However in the absence of baseline difference we cannot support this finding.

As less is known about the predictive variable that might effect the stress levels of the medical students [22], we also included socioeconomic variables (table 2) in our questionnaire along with the AKUADS. We did not find any significant relationship of stress with socioeconomic variables. However some studies consider parental income<sup>23</sup> and social support<sup>24</sup> as a definitive variable, which may influence the academic performance and mental status of medical students.

The generalizability of the study results is limited by the characteristic of the sample, which was recruited from a single private medical school. Cause-effect association between the studied psychological variables and depression cannot be made from the

study. Other limitations include lack of base line information concerning mental status of medical students at the time of entrance in the medical school and lack of population-based data to support our results and to compare our findings with general population. Anxiety and depression has a very high cost to individual and society, including medical school dropout [16,25] suicide [26], degeneration of relationship [27], marital problems<sup>28</sup>, impaired ability to work effectively [28]. Screening at the time of entrance and further evaluation of positive cases by a psychiatrist can establish baseline data. Follow-up studies for monitoring prevalence of anxiety and depression will help in instituting intervention strategies.

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