

PREVALENCE OF ANXIETY AND DEPRESSION AMONG MEDICAL STUDENTS OF PRIVATE MEDICAL COLLEGE IN PAKISTAN

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ABSTRACT

Background and Objectives: Medical education is perceived as being stressful, as it is characterized by many psychological changes in students. This cross-sectional study was designed to determine prevalence of anxiety and depression among medical students and to observe an association between anxiety, depression, gender, year of study, overburdening test schedules and dissatisfaction with examination system. The study was carried out at CMH Lahore Medical College from May to June 2015.

Methods: This cross-sectional study was carried out on students of Combined Military Hospital (CMH) Lahore Medical College, Lahore in 2015. Data was collected via self-administrated questionnaire from 250 medical students. The prevalence of anxiety and depression was assessed using Hospital Anxiety and Depression Scale (HAD Scale). The collected data was analyzed using IBM SPSS version 20 program.

Results: Using Hospital Anxiety and Depression Scale, it was found that among 250 students, 89 (35.6%) were normal, 67 (26.8%) borderline abnormal and 94 (37.60%) had symptoms of anxiety. Out of 94 cases of anxiety, 38 (40.4%) were males and 56 (59.6%) were females. This shows prevalence of anxiety of was more in females as compared to males, and this difference was significant statistically ($p = 0.014$). Similarly, out of 250 students, 157 (62.80%) were normal, 53 (21.20%) borderline abnormal and 38 (15.20%) had depression. Association between dissatisfaction with examination system and anxiety was highly significant ($P = 0.001$).

Conclusion: The findings of this study suggest that level of anxiety and depression was higher among female students as compared to male students. The anxiety prevalence was higher than depression. The dissatisfaction with examination systems was important stressor for medical students.

Key Words: Prevalence, Anxiety, Depression, Medical Students, Private Medical College, Pakistan.

INTRODUCTION

Anxiety and depression are worldwide problems which reflect the mental health status of a population. Medical education is perceived as being stressful, as it is characterized by many psychological changes in students. Previous studies in many countries have shown that medical students have higher rates of anxiety and depression during their study period.¹⁻² It is estimated that 15 to 25% of medical students exhibit some kind of psychiatric distress during medical college training.³ Amongst medical students, stress has been reported due to academic demands, exams, inability to cope, feeling of helplessness, increased psychological pressure, mental tension and excessive work load.⁴ In medical field, students have huge amounts of course to be memorized. Shortage of time for course revision and examinations are found as main indicators of stress.⁵⁻⁷ Mostly students do not get personal satisfaction without revising plenty of subjects due to extra burden of course material and this generates emotions of aca-

ademic disappointment. Hence, several students fight with queries according to their capability to fulfill the demands of medical curriculum.⁸

The transition from preclinical to clinical training phase has been identified as a crucial stage of medical college in relation to students' stress.⁹ Stress in medical college can lead to problems later in professional life and may compromise patient care.¹⁰ The general observation is that anxiety and depression arise during period of undergraduate medical education and this rise is more prevalent among women.¹¹⁻¹³ Retrieving knowledge about psychiatric morbidity among medical students is important as it will help in devising and implementing programs which decrease mental health problems.

The aim of this study was to determine the prevalence of anxiety and depression among medical students and to observe any possible association between anxiety and depression and (a) gender (b) academic

year. This study may help in designing appropriate intervention strategies.

SUBJECTS AND METHODS

This cross-sectional study was carried out on students of Combined Military Hospital (CMH) Lahore Medical College, Lahore in 2015. The approval was obtained from ethical review committee of the college before conducting study. Verbal consent was obtained from the students before distributing questionnaire and confidentiality was ensured. To ensure anonymity, the respondents were asked not to put their names on the questionnaire.

Students who had spent more than six months in college were included in the study. Students who reported presence of physical illness at the time of survey were excluded. Data was collected via self-administered questionnaire from 250 (125 male and 125 female) medical students of first, second, third, fourth and final year MBBS students including both genders. The sample was selected using quota sampling technique. The sample was calculated by using WHO sample size calculator. The parameters for calculating sample were: confidence level of 95% ($\alpha = 5\%$), relative error of 5% and unknown prevalence of studied phenomena ($P = 50\%$). The prevalence of anxiety and depression was assessed using Hospital Anxiety and Depression Scale (HAD Scale). This scale has good internal consistency with Cornbrash's Alpha of 0.80. This questionnaire has 7 questions related to anxiety and 7 questions related to depression rated on 4 points scale from 0 to 3 and total score being 21 each for anxiety and depression. The cut off score was 7. The score of 0 – 7 was considered normal; a score of 8-10 considered borderline abnormal and score of 11 – 21 was considered case of anxiety and depression. Additional questions regarding gender, year of study, overburdened with test schedule and dissatisfaction with examination criteria were also included in the survey instrument.

The collected data was analyzed using IBM SPSS version 20 program. For analysis purpose, gender, year of study, overburdened with test schedule and dissatisfaction with examination criteria and anxiety and depression score were coded. Descriptive statistics in the form of frequencies and percentages were calculated. Chi-square test of significance was used for determining the association between gender, year of study, overburdened with test schedule and dissatisfaction with examination criteria and presence of anxiety and depression. A p value of < 0.05 was considered statistically significant.

RESULTS

A total of 250 students returned the fully answered questionnaire. Of these, 125 (50%) were males and 125 (50%) were females. Using Hospital Anxiety and Dep-

ression Scale, it was found that among 250 students, 89 (35.6%) were normal, 67 (26.8%) borderline abnormal and 94 (37.60%) had symptoms of anxiety (Figure 1). Out of 94 cases of anxiety, 38 (40.4%) were males and 56 (59.6%) were females. This shows prevalence of anxiety of was more in females (59.6%) as compared to males (40.4%), and this difference was significant statistically ($p = 0.014$) (table 1).

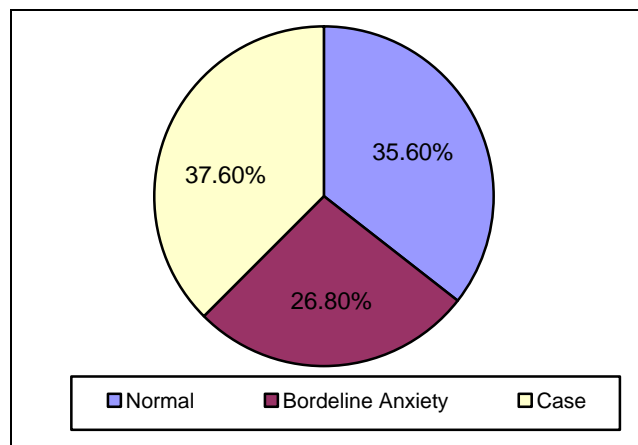


Fig. 1: Prevalence of Anxiety amongst Medical Students Total Score Anxiety Category.

Prevalence of anxiety in students of first year, second year, third year, fourth year and final year was 14.9%, 19.1%, 26.6%, 25.5% and 13.8% respectively. Prevalence of anxiety was highest amongst 3rd and 4th year students but this difference was not significant ($P = 0.152$).

Similarly, out of 250 students, 157 (62.80%) were normal, 53 (21.20%) borderline abnormal and 38 (15.20%) had depression. Out of 38 cases of depression, 18 (47.4%) were males and 20 (52.6%) were females. Although cases of depression are more among females as compared to males, but this difference was not significant ($p = 0.300$). Prevalence of depression in first year, second year, third year, fourth year and final year was 23.7%, 21.1%, 31.1% and 5.3% respectively. Although prevalence of depression was highest amongst 3rd year students, but this difference was not significant ($P = 0.239$). Similarly, when association of overburdening with test schedules and anxiety and depression was checked it was found borderline significant ($P = 0.070$ and 0.068 respectively). Association between dissatisfaction with examination criteria and anxiety was highly significant ($P = 0.001$) (table 2). However, association between dissatisfaction with examination criteria and depression was not significant ($P = 0.188$).

Discussion

Anxiety and depression is more common amongst medical students due to their stressful study schedule,

overburdening of exams and dissatisfaction with examination system. Medical college has long been recognized as inducer of various stressors that may affect the mental well-being of the students.¹⁴ Several studies have reported significant distress among medical students.¹⁵⁻¹⁹ This may lead to compromised performance of medical students.

In this research, among the 250 medical students, 36.8% were suffering from anxiety and 15.2% were suffering from depression. The results of this differ from the study conducted earlier in Karachi which reported prevalence rates of 60% and 70% respectively.^{14,17} This may be due to the difference in teaching and assessment methodologies including introduction of problem-based learning and objective structured performance evaluation in the recent years. Different sociopolitical situation of the cities and socio-demographic background of participants can also be a contributor in this regard. However, prevalence of anxiety in our study is closer to study conducted in Nishtar Medical College students Multan, which reported prevalence of 46.07% of anxiety.²⁰ Overall prevalence of anxiety in our study is also similar to studies conducted in Malaysia: 41.9%,²¹ and British study; 31.2%²² and Egyptian study 43%.²³ However prevalence of depression in our study (15.20%) is much lower than study conducted in India where prevalence of depression was reported 49.1%.²⁴ However, prevalence of depression in our study is similar to studies from Western World, which reported depression rates in the range of 14 – 24%.^{25,16}

Our study revealed that there are differences in anxiety and depression prevalence between genders. The prevalence of anxiety and depression was higher among females. Different studies show similarity with our study in reporting higher levels of anxiety and depression among females.²⁶⁻²⁹ This is possibility due to the fact that females complain more about the high load of curriculum; they are more likely to report stress; and females are also more likely to over complaint about physical and psychological symptoms. In our study, anxiety and depression increased as the year of study increased and it was highest in third year and 4th year. This is contradictory to the study conducted in Saudi Arabia where the level of stress decreased as the year of study progressed.³⁰ Results of other studies in North America also suggest that mental health worsens after the students join a medical school and remains poor throughout the course,³¹ especially in the transition from the basic science teaching to clinical teaching.

Table 1: Association of Anxiety with Gender.

Gender	Normal	Borderline Anxiety	Case of Anxiety	Total	P-value
Male	55 (61.8%)	32 (47.8%)	38 (40.4%)	125	0.014
Female	34 (38.2%)	35 (52.2%)	56 (59.6%)	125	
Total	89 (100%)	67 (100%)	94 (100%)	250	

Table 2: Association of Anxiety and Dissatisfaction with Examination Criteria.

Dissatisfaction with Examination Criteria	Normal	Borderline Anxiety	Case of Anxiety	Total	P-value
Yes	50	48	78	176	0.001
No	39	19	16	74	
Total	89	67	94	250	

The present study showed borderline significant association of anxiety and depression with overburden with test schedules. However, anxiety was highly significantly associated with dissatisfaction with examination system.

Medical colleges should encourage students to spend adequate time on their social and personal development and emphasize the importance of health promoting coping strategies to reduce stress. Recreational and sports facilities should be available at the campus.

The generalizability of study results is limited by the characteristic of the sample, which was recruited from a single private medical college. Other limitations include lack of baseline information concerning mental status of medical students at the times of entrance in the medical college and lack of population based data to support our results and compare our findings with the general population. Furthermore, the findings of this study are based on self-reported information provided by students and some potential for reporting bias may have occurred.

It is **concluded** the findings of this study suggest that level of anxiety and depression was higher among female students as compared to male students. The anxiety prevalence was higher than depression and anxiety level in the third year of course was higher than other classes. The dissatisfaction with examination systems was important stressor for medical students. Therefore, examination system should be revised in consultation with student representatives and medical education experts. There is also a dire need for establishing counseling and preventive mental health services early in medical education.

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Author's Contribution

MAC: Principal Author, Conceived the idea and write-up. IAK: Literature search and acquisition of data. MIJ: Literature search and acquisition of data. MZA Revised article critically. AM: Data collection and data entry. AZ: Data collection and data entry.

Conflict of Interest: None.

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