Original Article

# Frequency of Depression Among Medical Students of Medical Colleges

Depression Among Medical Students

Adil Afridi[1], Zainab Nawaz[2] and Shakeel Asif[3]

## ABSTRACT

**Objective:** To determine the frequency of depression in under graduate students of Medical Colleges.
**Study Design:** Descriptive cross-sectional study.
**Place and Duration of Study:** This study was conducted at the Department of Psychiatry, Gajju Khan Medical College Swabi Pakistan from May 2018 to November 2018.
**Materials and Methods:** Two hundred and fifty medical students, 50 from each class were randomly selected for this descriptive cross section study. The students were first assessed for the presence of depression using the International Classification of Diseases 10 criteria. Those who were found to have symptoms of depression were then evaluated for the severity of depression using Beck's Depression Inventory.
**Results**: The mean age was 20.97±1.58 years. The mean Beck's Depression Inventory score was 19.60±11.37. The lowest score on Beck's Depression Inventory was 2 while the highest Beck's Depression Inventory score was 52. There were 67 (26.80%) males and 183 (73.20%) females. Depression was found in 93 (37.20%) study participants. When depression was cross-tabulated against history of substance abuse and residence of study participants, P value was found <0.05.
**Conclusion:** There is a high prevalence of depression among medical students and it is significantly associated with history of substance abuse and residence.
**Key Words:** Anxiety, Depression, Illness, Morbidity, Stress, Medical school

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## INTRODUCTION

Education especially related with medical is a stressful phenomenon all over the world. Study overload is a main reason where medical students are not able to relax and recreational activities are also less in numbers. These are factors may lead to early exhaustion, over stressed, anxiety, depression, decreased attention and concentration. Medical students seem to be more stressed as compared to students of any other program.[1]

Depression may lead to overall deterioration in medical training and education. These factors may lead to high risk behaviors, suicidal attempts, burn out , poor quality of life as compare to general population.[2,3]

[1.] Department of Psychiatry, Lady Reading Hospital, Peshawar.
[1.] Department of Psychiatry, Gajju Khan Medical College, Swabi.
[1.] Department of Psychiatry, MBBS Medical College Mirpur, AJK.

Correspondence: Dr. Adil Afridi, Assistant Professor of Psychiatry, Lady Reading Hospital, Peshawar.
Contact No: 0334-9672979
Email: adilafridi007@gmail.com

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Medical education lead to high expectations, more pressure both physically and psychologically from the medical students leading to poor quality of life, less productivity, educational hurdles and compromised patients care.

In NMC, Multan a study[4] concluded that anxiety and depression frequency was 43.89% among medical students of first, second, third, fourth and final years have following ratios of prevalence (45.86%, 52.58%, 47.14%, 28.75% and 45.10% respectively) of depression and anxiety. Some studies report has high percentage of neurotic disorders among the females. Factors may be over-concern, over expectation and stress, low self esteem and self competence and exaggeration of symptoms.[3] A study conducted in Rawalpindi reported that anxiety& depression were present (47.7%, 35.1% respectively) among the students. This ratio was found to be higher in 2nd year medical students as compared to 3rd and 4th year students.[5]

An India study concluded that the depression frequency was 71.25% among the both male and female medical students (80% mild – moderate, severe 7.5%, profound 6.7%) where 46.3% were females and 53.7% were males. Grades of depression and sex association was insignificant.[6]

A study done in Nepal has revealed the depression prevalence was 29.78 %. The prevalence of depression in first and third year medical students were 36.74 and 22.22% respectively, with female have more prevalence as compared to males (32.43% vs. 28.07%).[7]

Depression among clinical understudies speaks to a dismissed general medical issue in Pakistan. It is critical to forestall the evil impacts of gloom on one's instructive fulfillment and profession through early discovery and legitimate interventional measures. In Pakistan there have been constrained investigations on predominance of despondency in clinical understudies. This examination will assist with thinking about the recurrence of sorrow among clinical understudies of various years. By recognizing sadness among clinical understudies at a beginning period, we can forestall mental grimness among the clinical understudies and the ones in bleak state can benefit from outside assistance to look for the expert.

# MATERIALS AND METHODS

This descriptive cross sectional study was carried out at Department of Psychiatry, Gajju Khan Medical College Swabi Pakistan from 10th May 2018 to 9th November 2018. 250 medical students, 50 from each class were randomly selected for this descriptive cross section study. Medical students who have spent more than 6 months in medical college, no co-morbid physical and psychiatric illness and students who have given consent were included. Students with previous history of depression were excluded. A pre-designed proforma was given to the study participants and all the relevant details such as age, gender, year of study, marital status, family income, and residence were noted. Among the participants 34 (36.56%) study participants had mild depression, 17 (18.28%) study participants had moderate depression and 23 (24.73%) study participants had severe depression according to Beck's Depression Inventory. When depression was cross-tabulated against history of substance abuse and residence of study participants' p value was found to less than 0.05. Depression was not found to be associated with age, gender, marital status, socioeconomic status, and year of study. 250 medical students were randomly selected and were assessed for depression using the ICD-10 criteria after obtaining an informed consent. The study participants found to have been depressed based on the criteria laid down in the ICD-10 criteria, were given a proforma containing questions from the Beck's Depression inventory for assessment of the severity of their depressive illness.

# RESULTS

The mean age of study participants was 20.97±1.58 years. The age of the youngest study participant was 17 years and the age of the oldest study participant was 25 years. Among the study participants with depressive illness, the mean BDI score was 19.60±11.37. The lowest score on BDI was 2 while the highest BDI score was 52. There were 67 (26.80%) males and 183 (73.20%) females. Majority of the study participants were single (230; 92%). 19 (7.60%) were married while 1(0.4%) was a divorcee. Most of the study participants had a better socio-economic background with 118 (47.20%) study participants reported that the monthly income of their family was more than 80,000 rupees. 87(34.80%) study participants reported a family income between Rs. 40,000 and Rs. 80,000. Thirty-nine (15.60%) study participants had a monthly income between Rs. 21,000 and Rs. 40,000. Only six (2.40%) study participants reported that their monthly income was less than Rs. 20,000. Only 20 (8%) study participants reported a history of substance abuse. Most of the study participants (184; 73.60%) were day scholars (Table 1).

Depression was found in 93 (37.20%) study participants; 19 (20.43%) study participants had minimal depression, 34 (36.56%) study participants had mild depression, 17 (18.28%) study participants had moderate depression and 23 (24.73%) study participants had severe depression according to Beck's Depression Inventory. When depression was cross-tabulated against history of substance abuse and residence of study participants p value was found to less than 0.05. Depression was not found to be associated with age, gender, marital status, socioeconomic status, and year of study (Tables 2-3).

**Table No.1: Demographics of all the study participants**

| Variable | No. | % |
|---|---|---|
| Age (years) | 20.97±1.58 | |
| **Gender** | | |
| Male | 67 | 26.8 |
| Female | 183 | 73.2 |
| **Marital Status** | | |
| Single | 230 | 92 |
| Married | 19 | 7.6 |
| Divorced | 1 | 0.4 |
| **Family Income (PKR)** | | |
| >80000 | 118 | 47.2 |
| 40 to 80K | 87 | 34.8 |
| 21k to 40k | 39 | 15.6 |
| <20k | 6 | 2.4 |
| **History of substance abuse** | | |
| Yes | 20 | 8.0 |
| No | 230 | 92.0 |

**Table No.2: Severity of depression among study participants (n=250)**

| Severity of depression | No. | % |
|---|---|---|
| No Depression | 176 | 63.4 |
| Mild Depression | 34 | 13.60 |
| Moderate Depression | 17 | 6.80 |
| Severe Depression | 23 | 9.20 |

**Table No.3: Cross tabulation of depression and history of substance abuse among study participants**

| Depression | History of substance | | Total | P value |
|---|---|---|---|---|
| | Yes | No | | |
| Present | 15 | 78 | 93 | 0.00 |
| Absent | 5 | 152 | 157 | |
| Total | 20 | 230 | 250 | |

*p*-value ≤ 0.05

# DISCUSSION

Around the globe medical education is considered as main source of stressful life cycle. Over emphasis and over load of medical knowledge, information may lead to less chances of relaxation and entertainment, serious consequences could be insomnia, lack of judgment, disturbed attention and concentration, low self-esteem, poor judgment and neurotic disorders. Medical students are reported to be more stressed as compared to students of any other specialty.[1]

Medical students experience more stress, often have financial burden, leads to suicidal ideations and over burdened studies and immense family expectations, tough academic routines, courses, long hours workings, assignments, trainings, duty hours, presence of illnesses and increased death rates.[2]

Tough medical education definitely has impact on physical and mental health of students with tough routines, difficult studies and narrow employment chances. These generations of medical students are valuable for the society but negative impact of studies may lead to less production, impaired quality of life, also patients care suffers more.

In Nishtar Medical College, Multan Pakistan, a research study found out that prevalence of anxiety and depression was 43.89% among medical students. High prevalence of depression noted in female medical graduates.[3] An Indian study found that the overall prevalence of depression was found to be 71.25% with predominant mild to moderate cases and again females showed more percentage as compared to males.[6]

A medical college study in Nepal found out the overall prevalence of depression among the students was 29.78% with females have more prevalence as compared to males.[7]

In this study depression was found to be present in 93 (37.20%) respondents. These results are comparable with comparable studies from near-by countries[8,9] and some local studies.[10] However, there is a difference in the prevalence of depression among medical students in different parts of the world. A study done in UK reported lower rates of depression (10.6%-18.2%) among medical students.[10]

An India study used PHQ-9 and revealed that depression and major depressive illness were 21.5% and 7.6%, respectively. Year of study, academic performance, substance misuse; residential areas have significant impact on depression prevalence.[11] A Malaysian study reports 1.9% prevalence rate for depression among medical students. The study concluded that depression was associated with academic performance in class ($p < 0.001$) and race ($p=0.004$).[12] A study done by Iqbal and colleagues[13] revealed the percentage of depression, anxiety and stress among medical students using the Depression Anxiety Stress Scale (DASS 42) with 51.3% depression prevalence. More stress, depression was observed in final years as compare to initial classes, where females were more affected with depression as compared to males.

In Saudi ArabiaDASS-21 questionnaire was applied in a medical college study for a Pre-Exam and Post-Exam fashion with n=575. Pre- exam levels were (43%, 63%, and 41%, respectively) were compare to post-exam (to 30%, 47%, and 30%, respectively) of depression, anxiety and stress which are astonishingly less, where females and smokers have high prevalence as compared tom others.[14]

A comparative study[15] was done in Middle East, China, USA medical schools to reveal exact percentages of depression, anxiety and stress by using the scale PHQ-2. Middle Eastern medical students have (41.1%) percentage of depression, followed by China (14.1 %), and then the US (3.8%). Unmet mental health services noted in Middle Eastern school (50.8%) where as in China (34.8%) and in USA (32.8%). Depression prevalence internationally may be changed by race, cultural effects, prevailing circumstances and unmet needs of mental health services and medical help may have good impact on overall prevalence of depression in every part of the world and response rate differences might have influenced the outcomes, our results suggest that continued efforts toward identifying site-specific prevention and intervention strategies in medical student mental health are warranted, and that additional socio-cultural variable should be studied.

# CONCLUSION

Undergraduate medical students have been the most distressed group of students compared to undergraduates from any other course or specialty. Depression is associated with a stigma of its own and many depressed patients fail to seek treatment because of the stigma associated with the treatment or visiting the psychiatrist.

**Author's Contribution:**

| | |
|---|---|
| Concept & Design of Study: | Adil Afridi |
| Drafting: | Zainab Nawaz |
| Data Analysis: | Shakeel Asif |
| Revisiting Critically: | Adil Afridi, Zainab Nawaz |
| Final Approval of version: | Adil Afridi |

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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