

Prevalence And Factors Associated With Depression Among Medical Students

Huda Abbas,¹ Sundas Hamna²

ABSTRACT

BACKGROUND & OBJECTIVE: Depression is a mental disorder in which low mood usually accompanies the low self-esteem, loss of interest, low energy or insomnia. Among medical students it is a growing problem worldwide and has far reaching effects upon the students and the healthcare system. Higher suicide rates are associated with depression among medical students than in the general population, more common among females. The study aims to determine to determine prevalence of depression and associated factors among the medical students of Quaid-e-Azam Medical College, Bahawalpur.

Methodology: It was a descriptive cross-sectional study conducted Quaid-e-Azam medical college, Bahawalpur during April 2024 to September 2024. The sample Size was 280 calculated by Raosoft calculator. After obtaining informed consent data was collected using a preformed online questionnaire using Phq 9 scale. Data was analyzed using SPSS software version 26. The frequencies were calculated and tables and figures were made. Chi square test of significance was applied.

Results: Among 280 students, 35.7% had mild depression, 30.7% minimal depression. Moderate depression was 25%, while moderately severe and severe depression were 10% and 7% respectively. Females had higher levels of moderate and severe depression. The final year students suffered the highest levels of depression and significant associations between depression and gender, family history, higher use of social media were found ($p < 0.05$).

Conclusion: Most of the students had mild depression, more prevalent among females and final year students. Depression was significantly related to gender, family history, higher use of social media.

KEY WORDS: Depression, Academic Stress, Family History.

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INTRODUCTION

Depression is a mental disorder in which low mood usually accompanies the low self-esteem, loss of interest, low energy or insomnia.¹ Among medical students it is a growing problem worldwide and has far reaching effects upon the students and the healthcare system as a whole medical school is a battleground, and students are the warriors on the front lines. But the enemy isn't just disease, it's the crushing pressure to perform, the relentless pace, and the weight of responsibility for human lives that can lead to depression among them.²

Despite the importance of mental wellbeing in the medical profession, depression is a more common problem among medical students especially in females.³ Medical students suffered from depression as a result of work load, burnout, huge academic pressure and fear of future. The potential negative effects of depression on medical students include disturbed social life, impairment of functioning and performance in classroom and in their professional exams.⁴ Mental health of medical students has always been given prime focus, as medical school is

considered to be a time of significant stress for physician in training. Several studies suggest high frequency rate of depression and anxiety among medical students, with level of psychological distress. In a study, 335 undergraduate medical students were assessed for depressive symptoms and half of them were found to be suffering from depression.⁵ Depression is more common among students of medical field compared to other academic fields. A study was conducted, that showed prevalence of depression among medical students in the North America, South America and Europe as low compared to students of other academic fields.⁶ Higher suicide rates are associated with depression among medical students than in the general population, more common among females. Attention is needed, otherwise students cannot cope with personal and professional challenges.⁷ A high frequency rate of depression has been reported in Latin American countries, including Peru. The reported contributing factors are female sex, academic overload, socio-economic level and protective factors are spirituality, motivation, resilience, and coping strategies.⁸ Moreover, students with a family history of depression are more likely to experience depression and anxiety. Studies also showed that countries where there was no curriculum innovation the prevalence of depression among medical students was high.⁹

Data regarding depression among medical students in Pakistan is limited. Therefore, it is crucial to determine the magnitude and factors associated with depression, as it adversely not only affect mental health

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and wellbeing of the students but also the academic performance and overall functioning, and may result in serious consequences like suicide. This study aimed to find out the prevalence of depression and its associated factors among undergraduates of Quaid-e-Azam Medical College, Bahawalpur and to raise awareness regarding depression among the students as well as highlight the magnitude of problem to the authorities, emphasizing on the need for timely preventive and therapeutic interventions, including psychotherapy and other supportive measures.

METHODOLOGY

It was a descriptive cross sectional study conducted in Quaid-e-Azam Medical College Bahawalpur during April 2024 to September 2024 including male and female Undergraduate Medical students from 1st year to Final year MBBS aged 19 to 25 years were willing to participate. The study received approval from the Institutional Review Board (IRB) of the Quaid e Azam Medical College Bahawalpur (Ref No:2696/24/11).The sample size was 280 calculated by using Raosoft sample size calculator. (p=24.4% z= 1.96 e= 5%) The study participants were selected by non - probability convenient sampling. After taking informed consent data was collected through a preformed online questionnaire. Depression was defined according to PHQ-9 (Patient Health Questionnaire-9). Each item was rated on a scale from 0(not at all) to 3(nearly every day).The sum score was used to define the severity of depression: 0-4 (minimal depression), 5-9 (mild depression), 10-14 (moderate depression), 15-19 (moderately severe), 20-27 (severe depression). The data was analyzed using SPSS software 26. The frequency was calculated. Tables and figures were made. Chi square test of significance was applied. P ≤ 0.05 was taken as significant.

RESULTS

Among 280 medical students 62.5% were males and 37.5% were females. Mean age was 21.32 years with SD ± 1.658. About 40% had more than three siblings while 30% had two siblings. Regarding the distribution of living arrangements 1.7% lived alone while 25.4% lived with family and 72.9% resided in hostel.

In relation to the distribution of monthly income 17.9% of the students had family income of Rs.≤60,000, 41.4% had Rs.60,000-125,000 while 23.6% had Rs.125,00-250,000 and 17.1% had Rs.≥250,000 family's monthly income. Regarding the distribution of parent's occupation, 37.9% were self employed while 13.9% were having private jobs and only 3.9% were unemployed.

It was found that 32.9% of the students had mild depression, 26.4% had minimal depression and 23.9% had moderate depression. Moderately severe depression and severe depression was found among 10.4% and 6.4% respectively.

Regarding depression in various classes it was found that 44.4% of severe depression was found among final year students and 4.3% mild depression was found among first year students. Fig.1

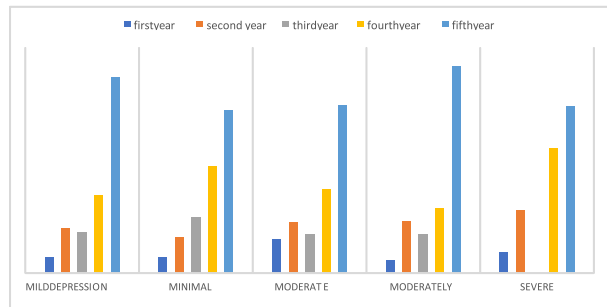


Figure 1: Depression Severity among medical students from First to Final year MBBS

Table I: Relationship of depression with gender

Gender	Mild Depression	Minimal Depression	Moderate Depression	Moderately severe Depression	Severe Depression	Total
Female	58	42	44	18	13	175
Male	34	32	23	11	5	105
Total	92	74	67	29	18	280

X² = 8.1

df=4

Pvalue=0.004

Table II: Relationship of Depression and family history

Family history of Depression	Mild Depression	Minimal Depression	Moderate Depression	Moderately severe Depression	Severe Depression	Total
No	73	64	46	20	10	213
Yes	19	10	21	9	8	67
Total	92	74	67	29	18	280

X² = 4.4

df=4

Pvalue=0.03

It was also found that 76.1% of the students had a family history of depression while 64% of the students spent >6 hours/day on social media.

A statistically significant relationship ($p = 0.004$) was found between depression and gender (Table I)

Similarly, a significant relationship ($p = 0.03$) between family history, and depression was found. (Table II)

The students who spent more time on social media showed higher prevalence of depression ($p < 0.05$). However, the association between depression and living arrangements of students was not significant (p value=5.4).

DISCUSSION

A total of 280 students participated, representing various age groups, genders and academic years. According to our study 35.7% of students had mild depression, 30.7% had minimal depression, 25% had moderate depression, 10% had moderately severe while only 7% had severe depression. The frequency of mild depression is comparable to a study conducted in India which revealed 30% mild depression but the frequency of severe depression was quite different (30%).² Another study conducted in Brazil showed that 20% students had mild depression while 25% had moderate to severe depression.¹ The high Frequency of depression among medical students may be attributed to the intense academic pressure and emotional demands of medical training, which can lead to burnout and deterioration of mental well-being.

Further the year wise distribution of depression in our study showed depression to be more common in final year as compared to other years. Another study conducted in Pakistan revealed same results with depression to be higher (80%) among final year students.¹⁰ The reason might be the pressure of the toughest exams and intensive clinical rotations. The sense of uncertainty about future career also worries the final year students. Our results were in contrast with another study conducted in Iraq which showed higher frequency of depression among 1st year (30.8%),¹¹ the reason behind must be pressure of new competitive environment and anxiety of adjustment in the new place. Another study conducted in Karachi reported that the depression scores peaked in the end of the second year but remained higher than baseline among fourth-year students.¹²

In our study females suffered from depression more than male students. Our study revealed higher moderate depression among female students (25%) as compared to males (21%). Similarly a study in Saudia Arabia showed that females (15%) had severe depression as compared to males (10.2%).¹³ Similar results were also found in a study conducted in India.² A research conducted in Karachi, Pakistan also showed that 19.5% of female were depressed.¹² Further a study in Tikrit university showed that depression was higher (58.5%)

among females than males (41.8%).¹¹ Gender roles and societal expectations contribute to increased depression vulnerability among female students. Female students face greater pressure to balance academic and domestic responsibilities.

The study conducted by Peruvian medical students revealed that 91.1% of the students who were living alone suffered from depression while in our study 18% of the of such students had depression. This substantial difference in depression rates may stem from cultural differences in family dynamics and social support. Methodological discrepancies, such as varying definitions of 'living alone,' could also contribute to the disparity.⁶

Our study showed a significant relationship of family history with depression ($p=0.03$). This is in parallel to a study conducted in Saudia Arabia which showed that family history of depression and family issues have significant bearing on the likelihood that medical students will experience depression.¹³

Our Study revealed that living in hostels leads to more depression (72.9%) as compared to living with family (25.4%). The results are comparable to another study conducted in Ethiopia which shows that low social support and living away from family is associated with higher depression rates. The presence of sadness among solo dwellers may stem from feelings of isolation and increased responsibility, as students navigate adulthood without familial support.¹⁴

Our study showed a significant relationship between the number of hours spent on social media and the prevalence of depression among medical students. The students who spent 5-6 hours a day on social media have more depression (33.5%) than those who spend less than 2 hours (7.4%). A study of Tikrit University revealed that spending excessive time on social media (over 4 hours/day) was linked to higher depression rates (44.3%).¹¹ This finding also aligns with the results of a study conducted in Singapore which showed that students spending over 4 hours/day on social media and TV (50.7%) or avoiding peer interactions outside class were more likely to experience depression. This correlation may stem from the disparity between curate online lives and reality, leading to user frustration.¹⁵

The small sample size of our study limits the generalizability of our results. Moreover, it was a single centered study limited to one medical college so there can be potential for institutional bias or unique factors influencing the results.

CONCLUSION

Our study concluded that most of the students were suffering from mild depression and depression was more among females and among final year students. Gender, family history of depression, living in hostels and alone and spending more hours on social media was associated with higher prevalence of depression. Implementing

mental health programs and stress management workshops for the students in the institutes can help reducing the psychological strain. Establishing peer support networks or mentorship programs can also help reduce the academic and emotional burden.

Ethical approval:

Ethical approval was taken from institutional review board of Quaid-e Azam Medical College, with the IRB number 2696/DME/QAMC Bahawalpur Dated 06-11-2024.

Conflict of Interest:

Authors declare no conflict of interest.

Financial Disclosure:

None

REFERENCES

- Mayer FB, Santos IS, Temoski P. Factors associated to depression and anxiety in medical students: a multicenter study. *BMC Med Educ.* 2016;16:1-9. doi:10.1186/s12909-016-0791-1.
- Dutta G, Rajendran N, Kumar T, Varthya SB, Rajendran V. Prevalence of depression among undergraduate medical students in India: a systematic review and meta-analysis. *Cureus.* 2023;15(1). doi:10.7759/cureus.33590.
- Shawahna R, Hattab S, Al-Shafei R, Tab'ouni M. Prevalence and factors associated with depressive and anxiety symptoms among Palestinian medical students. *BMC Psychiatry.* 2020;20:244. doi:10.1186/s12888-020-02658-1.
- Mao Y, Zhang N, Liu J, Zhu B, He R, Wang X. A systematic review of depression and anxiety in medical students in China. *BMC Med Educ.* 2019;19:1-3. doi:10.1186/s12909-019-1744-2.
- Alvi T, Assad F, Ramzan M, Khan FA. Depression, anxiety and their associated factors among medical students. *J Coll Physicians Surg Pak.* 2010;20(2):122-6.
- Gbessemehlan A, Taffa RR, Galera C, Guerchet M, Adoukonou T. Prevalence and correlates of depressive symptoms among undergraduate health science students at the University of Parakou, Benin. *J Epidemiol Popul Health.* 2024;72(4):202525. doi:10.1016/j.jep.2024.202525.
- Azim SR, Baig M. Frequency and perceived causes of depression, anxiety and stress among medical students of a private medical institute in Karachi: a mixed method study. *J Pak Med Assoc.* 2019;69(6):840-5.
- Piscoya-Tenorio JL, Heredia-Rioja WV, Morocho-Alburqueque N, Zeña-Nañez S, Hernández-Yépez PJ, Díaz-Vélez C, et al. Prevalence and factors associated with anxiety and depression in Peruvian medical students. *Int J Environ Res Public Health.* 2023;20(4):2907. doi:10.3390/ijerph20042907.
- Ngasa SN, Sama CB, Dzekem BS, Nforchu KN, Tindong M, Aroke D, et al. Prevalence and factors associated with depression among medical students in Cameroon: a cross-sectional study. *BMC Psychiatry.* 2017;17:1-7. doi:10.1186/s12888-017-1382-3.
- Asif S, Mudassar A, Shahzad TZ, Raouf M, Pervaiz T. Frequency of depression, anxiety and stress among university students. *Pak J Med Sci.* 2020;36(5):971. doi:10.12669/pjms.36.5.1873.
- Saleh BT, Abdullah AH, Shnawa RM, Hussein HA, Majeed ZN. Frequency of depression among medical students in Tikrit University College of Medicine. *Clin Schizophr Relat Psychoses.* 2023;17(1):1-5. doi:10.3371/CSRP.SBAA.010623.
- Shafique S, Tahir A, Bakhat S, Naz AS, Khursheed H, Ghaznavi SB et al. Frequency and risk factors of depression among medical students: a cross-sectional study in Karachi. *J Gandhara Med Dent Sci.* 2023;10(4):76-9. doi:10.37762/jgmds.10-4.454.
- Mirza AA, Baig M, Beyari GM, Halawani MA, Mirza AA. Depression and anxiety among medical students: a brief overview. *Adv Med Educ Pract.* 2021;12:393-8. doi:10.2147/AMEP.S302897.
- Kebede MA, Anbessie B, Ayano G. Prevalence and predictors of depression and anxiety among medical students in Addis Ababa, Ethiopia. *Int J Ment Health Syst.* 2019;13:30-8. doi:10.1186/s13033-019-0287-6.
- Zatt WB, Lo K, Tam W. Pooled prevalence of depressive symptoms among medical students: an individual participant data meta-analysis. *BMC Psychiatry.* 2023;23:251. doi:10.1186/s12888-023-04745-5.

Authors' Contributions:

HA & SH: Conceptualization & study design.

SH: Data Collection and manuscript drafting.

HA: Data Analysis and critical review.

HA, SH: Supervision & Manuscript drafting & proof reading.

All authors have read and approved the final version of the manuscript and are responsible and accountable for the accuracy and integrity of the work.

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