

Pervasiveness of Depression among Students in Medical Colleges of Majmaah University, KSA

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ABSTRACT

Background: Depression is a mental condition that is defined by chronic melancholy and a loss of interest in things that a person generally enjoys, as well as an inability to carry out everyday tasks for at least two weeks. "Students cope with a multitude of difficulties at college, including new lifestyle, friends, roommates, exposure to different cultures and alternate ways of thinking, and, at times, financial troubles. Students who do not feel capable or equipped to cope with the unfamiliar atmosphere of a college campus are more likely to develop depression.

Objectives: This study aimed to determine the prevalence of depression among students in medical colleges of Majmaah University, Al Majmaah Saudi Arabia and to measure the rates of depression among students.

Material and methods: This was a cross-sectional, observational study done on the medical students of Majmaah University in year 2019-2020. Depression, Anxiety and Stress Scale-21 (DASS-21), along with a pretested pre-coded Socio demographic, questionnaire was used. Prior ethical approval was taken from the institutional review board. Participants' anonymity was ensured. Sample Type used was Multi stage Stratified sampling and sample size was 369 students. The data was analyzed using SPSS version 20.

Results: A total of 369 students took part in the study out of which 185 (51%) were females and 184(49%) were males. After analysis it was found that only 14.9% of students were free from depression, 49.6% students had symptoms of mild depression, 21.7% had symptoms correlating with moderate depression and 13.8% students had severe depression symptoms. Moreover female students were found to have more percentage of moderate and severe depressive symptoms than the male students.

Conclusion: Depression is quite prevalent among students in medical colleges of Majmaah University with more students falling under the category of mild to moderate depression. Females have more symptoms of depression than male students. There is need for proper mental health screening programs at community level to help the students to cope up with depression.

Keywords: Depression, prevalence, university students, medical college

INTRODUCTION

Depression is defined by persistent sorrow and a loss of interest in things that a person ordinarily enjoys, as well as an inability to carry out everyday activities for at least two weeks.¹ Moreover, it produces feelings such as hopelessness, despair, and rage; also, energy levels are generally quite low in depression.² Depressions, symptoms can range from mild to severe. It is estimated that 4.4% (32 million) of the global population suffer from depressive disorder, and the number of people living with depression increased by 18.4% between the year 2005 and 2015.^{3,4}

Young adulthood is defined as an identity-forming era in which individuals go through social and physical transformations, as well as emotional, behavioral, economic, intellectual, financial and social difficulties.⁵

In college, competition is much more significant, so, there is the palpable pressure to do well, whether the demands come from parents or the student. When students can't manage to cope up with such burdens and stresses, they could easily become susceptible to depression. Therefore the average age of many mental health problems is college age (18-24 years).⁶

Nearly all university students sporadically suffer from feeling gloomy and fearful, but such feelings generally wave off speedily in few days or so. However untreated depression lasts longer and interferes with day-to-day activities and it is way more than being "a little depressed" or "feeling blue," and it interferes with day-to-day activities. Depression is a medical condition with viable therapies.⁷

A Web-based survey at a large public university found that the estimated prevalence of depression was 15.6% for undergraduates and 13.0% for graduate students. The students who faced monetary difficulties were more likely to have mental

health issues. These findings highlight the urge to consider the mental health issues in young adult populations.⁸

An analysis on a national scale was done in 2009 in college students by American College Health Association-National College Health Assessment (ACHA-NCHA). The study revealed that more than 30% of students experienced depressive emotions and symptoms that it made them unable to cope up with daily life activities at some point in a year.⁹

One more study was done in Fayoum University Egypt on 442 students to determine the tendency of psychosomatic mood disorders using a short version Depression, Anxiety and Stress Scale-21 (DASS-21). The results showed that 60.8% students were having depressive symptoms. Increased age, low socioeconomic status, and students from different governorates were all linked to higher depression scores.¹⁰

Another cross-sectional study which intended to determine the occurrence of mental health issues in college students was done at King Faisal University, Saudi Arabia. The study showed that the frequency of depressive symptoms among the students was 21.9%. that of major depression were present in 9.9%, other depression in 19.4% and any depression among 24.4%.¹¹

Medical education is designed to educate students for a job that is both individually fulfilling and socially significant. Long working and study hours, unsuitable learning surroundings, sleep loss, and other problems interfering with normal personal life are all typical at this time.¹² These difficulties, along with a lack of variables that promote quality of life, can lead to high levels of stress, which can have a severe influence on students' physical, mental, and emotional health, jeopardizing their academic success.¹³

Also the data reveal that physicians-in-training are experiencing a tremendous deal of personal hardship during this

time. It has long been documented that plentiful stressors can affect the welfare of the students.¹⁴

Medical students are affected by depression and anxiety symptoms, which can lead to poor academic performance, dropout, drug addiction, and suicide.¹⁵

Keeping in account the results of all studies and data about the significant depression occurrence in medical students and residents; and in order to guide efforts to uncover, prevent and treat the causes of emotional distress in them reliable estimates of depression prevalence during medical school are indispensable.¹⁶

These entire findings draw attention to the need of assessing mental health problems in our medical students too. The aim of this study was to determine the prevalence of depression among the students of Majmaah University, Al-Majmaah, Saudi Arabia and to measure the rates of depression among students.

METHODS AND MATERIALS

This Cross-sectional observational study was conducted upon the students (males and females) from Medical, Dental and applied medical colleges of Majmaah University, Al Majmaah, Kingdom of Saudi Arabia in the academic year 2019-2020. The study population was Saudi medical students of Majmaah University. The total duration of study was one year. Total number of students in all colleges was about 400 out of which 369 took part in our study. Sample Type used was Multi stage Stratified sampling and sample size was calculated by using Equation for cross section:

$$n = Z^2 p (1-p) / d^2$$

Where, $z = 1.96$, $p = 0.60$, $1 - p = 0.40$, $d = 0.05$, $n = 400$

- 1 Inclusion criteria: Saudi student from Majmaah University
- 2 Exclusion criteria: Not student in Majmaah University

Consents were obtained from the male and female students who were enrolled in the study; Permission from the head of the female colleges was taken. Confidentiality and respect was maintained throughout the research.

Depression, Anxiety and Stress Scale-21 (DASS-21) questionnaire was used to collect data along with a pretested pre-coded Socio demographic details section. The questionnaire was self-administered and was filled by the students during break time to avoid any loss of their studies. Those who were selected were given a proper and detailed explanation about the study objectives and its possible outcomes. They were specifically informed about their due right to be volunteer and to withdraw from the study at any time if they want. Moreover the anonymity of students was strictly ensured at all stages.

For depression 7 items were assessed from DASS-21 questionnaire. DASS score for depression was calculated on a standard scale of 0 to 3, where 0 means Did not apply to me at all, 1 means Applied to me to some degree, or some of the time, 2 means Applied to me to a considerable degree or a good part of time and 3 means Applied to me very much or most of the time. Scores on the DASS-21 were multiplied by 2 to calculate the final score. After calculation of score; 0-9 score means normal , 10-13 score means mild depression, 14-20 score means moderate depression, 21-28 score means severe depression and more than 28 score means extremely severe depression.

After collection all the data was entered in SPSS ver. 20. The data was analyzed for results by using SPSS 20. Frequencies and percentages were found and plotted on pi chart. Student's t-test was applied to find out the comparisons among genders and different fields of medical colleges, p value <0.05 was taken as statistically significant.

Prior Ethical approval was taken from Institutional Research Board (IRB) of Majmaah University for the conduction of research. (Approval No: MUREC- Mar.26l COM-2019 122)

RESULTS

A total of 369 students took part in the study out of which 185 (51%) were females and 184(49%) were males. Moreover there were 218 students from college of medicine, 80 from college of dentistry while 71 from applied medical college.

On the basis of DASS scoring only 14.9% (55) students from 369 were found to be depression free. A total of almost 49.6% (183) students were having symptoms of mild depression, 21% (80) students were found out to be having moderate depressive symptoms while 13.8% (55) students were having symptoms of severe depression. (Figure No. 1)

Regarding the gender difference it was found out that on average females students had significantly more symptoms of moderate (24.3%) and severe depression (17.8%) than male students (with 19 and 9% respectively) and the p value was 0.006. (Table No. 2)

No statistically significant results were found out when comparison was done among the students of different colleges with p value 0.074. (Table No. 2)

From the DASS-21 form seven questions specific to depression were asked and the response from each individual was noted. This showed that most of the students felt lack of positive feelings, enthusiasm, and meaning of life. The majority stated that they had nothing to look forward to and they felt blue. (Table No. 3)

Result of one-sample Z test showed a significant difference in the categories $p < 0.001$, "No" was taken as the reference category. The Agresti-Coull 95% CI was [0.116 – 0.189]. (Table 04)

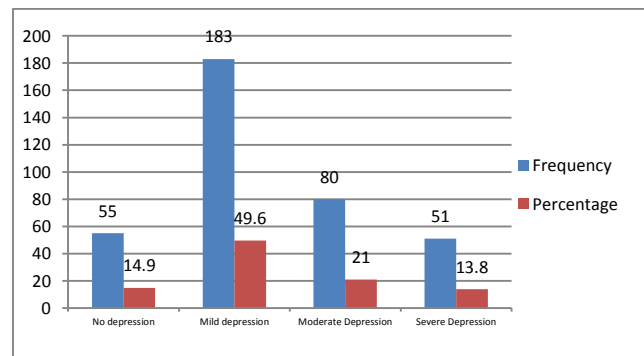


Figure 1: Prevalence of Depression among Medical Students of Majmaah University, N=369

Table 2: Depression percentage among students on the basis of gender and colleges

Depression	Gender		Total	P value	
	Female No. (%)	Male No. (%)			
No	18(9.7%)	37(20.1%)		0.006	
Mild	89(48.1%)	94(51.1%)			
Moderate	45(24.3%)	35(19.0%)			
Severe	33 (17.8%)	18(9.8%)			
Total	185(100%)	184(100%)	369(100%)		
Depression	College			Total	P value
	College of Medicine	College of Dentistry	Applied Medical Sciences		
No	31(14.2%)	14(17.5%)	10(14.1%)		0.074
Mild	95(43.6%)	45(56.3%)	43(60.6%)		
Moderate	55(25.2%)	13(16.3%)	12(16.9%)		
Severe	37(17.0%)	8(10.0%)	6(8.5%)		
Total	218(100%)	80(100%)	71(100%)	369(100%)	

Table 3: Response of the students to Depression specific questions from DASS questionnaire.

DASS questions for depression	Not applied No. (%)	To Some degree No. (%)	To Considerable degree No. (%)	Very much No. (%)
I couldn't seem to experience any positive feeling at all	150(42)	102(27.6)	64(17.3)	48(13)
I found it difficult to work up the initiative to do things	135(36.6)	119(32)	67(32.2)	48(13)
I felt that I had nothing to look forward to	199(54.2)	88(24)	34(9.3)	46(12.5)
I felt down hearted and blue	135(36.9)	96(26.2)	64(17.5)	71(19.4)
I was unable to become enthusiastic about anything	198(53.8)	73(19.8)	43(11.7)	54(14.7)
I felt I wasn't worth much as a person	226(61.2)	61(16.5)	42(11.4)	39(10.6)
I felt that life was meaningless	224(60.9)	75(15.5)	24(6.5)	63(17.1)

Table 4: Depression among students in Majmaah University, Saudi Arabia, 2019-2020 (N = 369)

Depression	n (%)
No	55 (14.9)
Mild	183 (49.6)
Moderate	80 (21.7)
Severe	51 (13.8)

DISCUSSION

Depression is one of the most common mental illnesses today with more than 264 million affected people. It is the third most prevalent debilitating condition, according to the World Health Organization (WHO).¹⁷

Depression in university students, especially the medical students is likely to occur due to high selection criteria, attraction towards medical profession and hence increased competition before and even after entering the medical college. This finding is evident from our study that among the three colleges of Majmaah University, the medical students were highest percentage of moderate (25%) to severe (17%) depressive symptoms. A methodical checking and meta-analysis done in 47 countries in more than 195 studies which included about one hundred and twenty nine thousand students from different medical colleges established that 27.2% (range, 9.3%-55.9%) of students screened positive for depression and 11.1% (range, 7.4%-24.2%) reported suicidal ideation during medical school.¹⁸

The prevalence of depression or depressive symptoms among students varies across studies from 1.4% to 73.5%.¹⁹ In our study 95 students (43.6%) from college of medicine (both genders) were having mild depression, 55 students (25.2%) were having moderate depression and 37 students (17%) were severely depressed.

Brazilian medical students had a higher prevalence of depression (41.3%) as compared to the worldwide standard (28.0%), in relation to a meta-analysis of 62 728 medical students and 1,845 non-medical students in more than 77 studies.²⁰

A study conducted on medical students established the results that a substantial number of their enrolled students were having moderate to severe depressive symptoms. These results are synonymous with the findings of our study.

Moreover, the same study showed a significantly raised proportion of depression among female students which again matches with the findings of our study in which female to male proportion of moderate to severe depression is significantly higher.⁶

As students are under great stress so, many studies reported significant distress among students.

The incidence and prevalence of depression was studied in the university students of Iran for a complete 17 years (from 1995 to 2012) on a sample size of 9743 students. The studies revealed that a total of 33% students were having depressive symptoms with 5% more depression in males than in female students.⁹

One similar study also fortifies our findings in which they found out that the prevalence of depressive disorders was twofold higher in females than in male students. This high percentage can be due to several socioeconomic and emotional factors during the lifetime of females. Also the female sexual hormonal cycles are also one of the factors for them being emotionally fragile and hence at higher risk of depressive symptoms.^{7, 8}

One of the medical universities of KSA, reported 37% depression among students, while female medical students at

another university reported 39.7% depression among students. Studies conducted in Pakistan and India reported a higher prevalence of perceived stress as compared to Saudi Arabia.²

Study done in King Faisal University showed that one in ten and one in five students were screened positive for major or any depression respectively. The prevalence of depressive symptoms was detected to be 24.4%²¹ this also matches with the findings of our study.

In Taibah University KSA prevalence of depression was 37%, while 63% was non-depressed.²² Similar to our finding which showed almost same percentage of depression among medical students.

Women are twice as likely as males to be diagnosed with depression. In practically every scenario, including Western and most non-Western community studies, this sex ratio is present. Because typical depressive symptoms (such as sorrow and sobbing) are at variance with social masculine standards, men may be hesitant to admit them. Second, men's depression can show with symptoms that aren't currently covered by standard diagnostic criteria.²³

In the 1970s, Myrna Weissman noted the gender difference in depression among adults for the first time (with females reporting depression two times higher than males). Gender differences emerge during adolescence, and females suffer from depression more than their counterpart males during their university years.²⁴

CONCLUSION

In conclusion depression is quite prevalent among undergraduate medical thus it is strongly recommended that community-based mental health preventive initiatives be established, as well as the introduction of a student mentorship program. Universities with counselling programs should regularly assess and aim to eradicate depression and stress-related issues. We can pay good attention to extracurricular activities by giving them time in their schedule will help students relieve some of their stress.

Students often find it more difficult to graduate with the required GPA for postgraduate programs, which makes them more prone to stress.

We can focus more on the reasons or etiology in consequent studies like presence of family members' diseases, financial problems, fear from exams, private jobs of fathers and/or mothers, commuting to the college by own car, and problems with family, peers, or teachers

Limitations of study: The findings of the study could not be applied to other situations. Furthermore, we utilized a cross-sectional study design, which may aid in determining the degree of negative emotions can be used to infer causation, but they can't be used to prove it. Finally, we used the DASS-21 questionnaire, which can be used for screening but should not be used in place of a clinical evaluation.

REFERENCES

1. Mental Health At: <https://www.cdc.gov/mentalhealth/learn/index.htm>. doi:15/3/2018.
2. Relation between depression and anxiety (Healthy place), At: <https://www.healthyplace.com/depression-information/what-is-depression-definition-and-checklist>. doi: 16/3/2018.
3. Depression and Other Common Mental Disorders - Global Health Estimates (World Health Organization). At:

- <https://apps.who.int/iris/bitstream/10665/254610/1/WHO-MSD-MER-2017.2.eng.pdf?ua=1>. doi: 16/3/2018.
4. Mirzaei M, Yasini ASM, Mirzaei M, Dehghani A. Prevalence of Depression, Anxiety and Stress among Adult Population: Results of Yazd Health Study. *Iran J Psychiatry*. 2019;14: 137-146.
 5. Alvi T, Asad F, Ramzan M, Khan FM. Depression, Anxiety and Their Associated Factors Among Medical Students. *Journal of the College of Physicians and Surgeons Pakistan*. 2010; 20 (2): 122-126.
 6. Depression and Anxiety among College Students. At: <https://www.jedfoundation.org/depression-and-anxiety-among-college-students>. doi: 18/3/2018.
 7. Depression (major depressive disorder) care at Mayo Clinic, Fact sheet USA, 2021.
 8. Eisenberg D, Sarah EG, Golbersteinand E, Hefner JL. Prevalence and Correlates of Depression, Anxiety and Suicidality among University Students in University of Michigan. *American Journal of Orthopsychiatry*. 2007;77(4):534–542.
 9. Depression and College Students Answers to college students' frequently asked questions about depression (National Institute of mental health). At:<http://www.csus.edu/aba/police/documents/depression-college-students.pdf> .On: 15/3/2018.
 10. Yousif W, Wahed SA, Hassan K. Prevalence and associated factors of stress, anxiety and depression among medical Fayoum University students. *Alexandria Journal of Medicine*.2017;53(1):77-84.
 11. Amr M, Amin TT, Saddichha S, Malki SA, Samail MA, Qahtani NA, Abdulhadi A, Shoaibi AA. Depression and anxiety among Saudi University students: prevalence and correlates. *The Arab Journal of Psychiatry*.2013;24(1):1-7.
 12. Ghodasara SL, Davidson MA, Reich MS, Savoie CV, Rodgers SM. Assessing student mental health at the Vanderbilt University School of Medicine. *Acad Med. Journal*.2011; 86(1):116-21.
 13. Mounthino ILD, Maddalina NCP, Roland RK, Lucchetti ALG, Tibirica SHC, Ezequiel ODS, Lucchetti G. Depression, stress and anxiety in medical students: A cross-sectional comparison between students from different semesters. *Rev Assoc Med Bras*. 2017; 63(1):21-28.
 14. Iqbal S, Gupta S, Venkatarao E. Stress, anxiety & depression among medical undergraduate students & their socio-demographic correlates. *Indian J Med Res*. 2015 March;141:354-357.
 15. Mayer FB, Santos IS, Silveira PSP, Lopes MHI, Desouza ARND, Campos EP, Abreu BAL, Hoffman I, Magalhaes CR, Lima MCP, Almeida R, Spinardi M, Tempski P. Factors associated to depression and anxiety in medical students: a multinuclear study. *BMC Medical Education*. 2016;16:282-91.
 16. Mata, D. A., Ramos, M. A., Bansal, N., Khan, R., Guille, C., Di Angelantonio, E., & Sen, S. (2015). Prevalence of Depression and Depressive Symptoms Among Resident Physicians: A Systematic Review and Meta-analysis. *JAMA*, 314(22), 2373–2383.
 17. Ibrahim N, Al-Kharboush D, El-Khatib L, Al-Habib A, Asali D. Prevalence and Predictors of Anxiety and Depression among Female Medical Students in King Abdulaziz University, Jeddah, Saudi Arabia. *Iran J Public Health*.2013Dec;42(7):726–36.
 18. Rotenstein LS, Romas MA, Torre M, Segal JB, Peluso MJ, Guille C, Sen S, Mata DA. Prevalence of depression, depressive symptoms and suicidal ideation among medical students. *JAMA*.2016 Dec 6;316(21):2214-36.
 19. Yang F, Meng H, Chen H, Xu XH, Liu Z, Luo A, Feng ZC. Influencing factors of mental health of medical students in China. *J Huazhong Univ Sci Technolog Med Sci*. 2014 Jun;34(3):443-449.
 20. Puthran R, Zhang MW, Tam WW, Ho RC. Prevalence of depression amongst medical students: a meta-analysis. *Med Educ*. 2016;50(4):456–68.
 21. *The Arab Journal of Psychiatry*. 2013; 24(1):1 – 7. (doi: 10.12816/0000092)
 22. *International Journal of Academic Scientific Research* ISSN: 2272-6446. 2017 March; 5(1):72-80.
 23. Martin LA, Neighbors HW, Griffith DM. Experience of symptoms of depression in men vs women. *JAMA Psychiatry*. 2012 Oct;70(10):1100-06.
 24. Salk RH, Peterson JI, Abramson LY, Hyde JS. The contemporary face of gender differences and similarities in depression throughout adolescence: Development and chronicity. *Journal of Affective Disorders*.2016;20(5):28–35.