



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**

SJIF Impact Factor: 7.187

<http://doi.org/10.5281/zenodo.4016873>Available online at: <http://www.iajps.com>

Research Article

**STUDY TO KNOW THE PREVALENCE OF DEPRESSION  
AMONG MALES AND FEMALES MEDICAL  
UNDERGRADUATES AND ITS RELATED FACTORS**<sup>1</sup>Dr Awais Hafeez, <sup>2</sup>Dr Sobia, <sup>3</sup>Dr Salman Zafar<sup>1</sup>Chandka Medical College Larkana<sup>2</sup>Fatima Jinnah Medical University, Lahore<sup>3</sup>Yusra Medical and Dental College Islamabad**Article Received:** June 2020**Accepted:** July 2020**Published:** August 2020**Abstract:**

**Introduction and purpose:** With high level of demands in academics and psychosocial pressure, medical students during their course of training tend to become depressed, leading to problems later in professional life and compromising patient care. This study was held to determine the prevalence of depression in male and female students and related factors amongst medical undergraduates.

**Study Design:** A Cross-sectional study.

**Place and Duration:** In the Department of Psychiatry in Mayo Hospital Lahore for Six months duration from September 2019 to February 2020.

**Material and method:** out of 330 students from 3<sup>rd</sup> year to 5<sup>th</sup> year, 285 students were selected using stratified random sampling method and were assessed by investigators using Beck Depression Inventory. Associations between class of studying and depression, social factors like family problems, substance use, family history of depression and residing away from family were scrutinized by univariate analysis.

**Results:** 78% was the overall depression prevalence among medical students. Most people had mild to moderate depression observed among 80%. This study revealed that among women depression was noted in 74.81% (101) and among males 48.6%. 30(10%) students were found normal (0-9), mild depression was noted in 86 (28.7%) (10-18), moderate in 86 (28.7%) (19-29), severe in 21 (7.0%) (30-40) according to cut-off scores) and very severe depression was noted in 19 (6.3%) with > 40 cut-off score. Among 3<sup>rd</sup> and 4<sup>th</sup> year medical students; the depression prevalence was relatively low and the variance between the year of study and grade of depression was significant ( $\chi^2 = 122, p < 0.001$ ). Its prevalence was much higher in people with a positive family history of depression and having family issues.

**Conclusion:** Depression is very common amongst medical students. Female students reported more cases of depression than their male counterparts. Our conclusions point to the significance of broad screening and psychiatric counseling of this susceptible population.

**Keywords:** Medical students, Depression, Beck Depression Inventory.

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Please cite this article in press Awais Hafeez et al, *Study To Know The Prevalence Of Depression Among Males And Females Medical Undergraduates And Its Related Factors*, Indo Am. J. P. Sci, 2020; 07(08).

## INTRODUCTION:

Depression in students and particularly among undergraduate medical students is becoming neglected and understated public health issue in Pakistan recently. It is ample significant to avoid the negative impact of depression on educational success and profession through prompt diagnosis and appropriate interjectory measures<sup>1-2</sup>. Not much research has been done around the world to measure the depression prevalence among medical undergraduates. Much of the research was done in Western states and other developed countries of the globe. In Pakistan, rare epidemiological analyses among medical students are conducted. Of course, the depression of medical students is extremely important and deserves serious research<sup>3-4</sup>.

Depression, which begins early amongst medical undergraduates, it will disrupts social, psychological and academic functioning and increasing the risk of problems such as poor academic performance, suicidal behavior and substance abuse. The increased proportion of depression among medical students is related with several features<sup>5</sup>. Social factors such as educational life, family problems, drug addiction, alcohol consumption, history of depression in the family and being away from family were related with depression amid medical undergraduates<sup>6-7</sup>. This type of research will be advantageous for depressed medical students to take appropriate steps, such as early recognition and reporting, seeking psychological help and counseling. Therefore, this analysis was conducted to investigate the depression prevalence and related factors among medical students and gender difference if any.

## MATERIALS AND METHODS:

This cross-sectional study was held In the Department of Psychiatry in Mayo Hospital Lahore for Six months duration from September 2019 to February 2020. The goal is to screen depression by using the Beck Depression Inventory Scale (BDI) and estimate depression related factors grounded on a cut-off value of ten or more.

The probable sample size was at 300, with a predominance of 20% and an accuracy of 20%. To increase representation in the sample of each year of study, we initially split the sample into years of study and medical students, and then students were selected randomly based on the proportional size to each stratum to select overall 300 students. Therefore, from every class 100 medical student were selected randomly from 3<sup>rd</sup> year to final year. Subsequently, gaining permission from the Head of the institution, undergraduates were allowed to assemble data. The study was approved by the ethical review committee of the institution. The participants were explained about the aim of the study. Privacy was ensured and the option of

refusing to contribute in the analysis is granted deprived of any further requests or questions. Subsequently, conversant, oral consent was taken from all designated contributors and requested to sign the list to authorize involvement in the study. A student who refuses to partake in the studying or is not present on the day of study and / or is unable to communicate even after 2 appointments, were considered non-respondents.

## Study tool

The Beck Depression Inventory Scale (BDI) was cast-off to detect depression among study populace which was validated and tested. This is a subjective scale and for screening it was used that require further evaluation to authorize the diagnosis. We use this scale to detect depression grounded on self-report.

The results are relative after filling the self-administered questionnaire and depend on how the respondent replies each question. This is a 21-item measure and is the most commonly applied tools for distinguishing depression symptoms. Normal adults, mentally challenged people and adolescents (13 years of age or above) can also be assessed by this tool. It is intended to record various symptoms of depression proficient by a person during the last week. Answers to 21 questions are given on a four-point scale from zero to three (total results can vary from 0 to 63).

A survey questionnaire was used that covered social factors such as class, alcohol consumption, drug addiction, family problems, depression in the family and being out of the home. For the purposes of this study, anyone who has consumed alcohol at least once in the last 12 months was considered an alcohol consumer. The family problem was assessed asking if there were any problems for family members worrying about this problem. Drug dependence is definite as the frequent usage of any psychoactive constituent, counting alcohol, if the user is chronically or periodically drunk, shows obligation to take the favored substance, and has a pronounced trouble in voluntarily modifying or ceasing use of drug substance. The depression in family history was determined grounded on early diagnosis in 1st- or 2<sup>nd</sup>-degree relatives. The data were analyzed and entered using SPSS 20.0 for Windows. A chi-square test was applied to assess the relationship between depression and variables and Univariate analysis was achieved. Data is articulated as a percentage or percentage.

## RESULTS:

Of the 300 medical undergraduates who contributed in the study, 165 (55%) are men and 135 (45%) are women. 78% was the overall depression prevalence among medical students.

Most of the students (85%) had mild to moderate depression. The incidence of profound and severe depression was 7.3% and 7.9%, correspondingly. This study revealed that among women depression was noted in 74.81% (101) and among males 48.6%; the relationship between the grade of depression and gender was not significant

statistically ( $p = 0.32$ ). 30(10%) students were found normal (0-9), mild depression was noted in 86 (28.7%) (10-18), moderate in 86 (28.7%) (19-29), severe in 21 (7.0%) (30-40) according to cut-off scores) and very severe depression was noted in 19 (6.3%) with > 40 cut-off score [Table 1].

**Table 1: Grades of depression according to sex**

Grades of depression (Score)	Male	(%)	Female	(%)	Total	(%)
Denial (0-4) 39	31	18.8%	27	20.0%	58	19.3%
Normal (5-9)	19	11.5%	11	8.1%	30	10.0%
Mild (10-18)	42	25.5%	44	32.6%	86	28.7%
Moderate (19-29)	48	29.1%	38	28.1%	86	28.7%
Severe (30-40)	12	7.3%	9	6.7%	21	7.0%
Very severe (>40)	13	7.9%	6	4.4%	19	6.3%
<b>Total</b>	<b>165</b>		<b>135</b>		<b>300</b>	

$P=0.29$

In the 3<sup>rd</sup> year and 4<sup>th</sup>, 26% of medical students were categorized as suffering from moderate depression. The incidence of moderate depression amongst third- and fourth-year students was 45% and 29%. Likewise, the grade of severe and very severe depression augmented from 8% in the first year to 19% in the fourth year of study. The difference between the year of the study and the grade of depression was statistically important ( $p < 0.001$ ) [Table 2].

**Table 2: Grades of depression according to classes**

Grades of depression	3 <sup>rd</sup> year	4 <sup>th</sup> year	Final year	Total
Denial (0-4)	33	40	6	79
Normal (5-9)	7	17	7	31
Mild (10-18)	38	25	36	99
Moderate (19-29)	15	7	38	60
Severe (30-40)	3	5	8	16
Very severe (>40)	4	6	5	15
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>300</b>

$P < 0.001$

It was found in univariate analysis that the incidence was high and significant amongst medical undergraduates with family issues ( $p = 0.04$ ). Correspondingly, people with family history of depression have advanced incidence than students with negative family history ( $P = 0.02$ ). There were no noteworthy differences in the depression prevalence amongst students with other factors related with depression [Table 3].

Table 3: Prevalence of depression according to associated factors				
Determinants	Number of students	Number of students with depression	Prevalence	P
			(%)	
<b>Sex</b>				
Male	165	115	69.7%	0.72
Female	135	105	77.8%	
<b>Year of studying</b>				
<sup>3</sup> rd year	150	102	68.0%	<0.001*
4 <sup>th</sup> and final year	150	118	78.7%	
<b>Alcohol use</b>				
Present	42	25	59.5%	0.07
Absent	258	195	75.6%	
<b>Drug addiction</b>				
Present	15	8	53.3%	0.735
Absent	285	212	74.4%	
<b>Family problems</b>				
Present	93	52	55.9%	0.04*
Absent	207	168	81.2%	
<b>Staying in hostel</b>				
Yes	110	100	90.9%	0.63
No	190	120	63.2%	
<b>Staying in apartments and rented house</b>				
Yes	55	43	78.2%	0.08
No	245	177	72.2%	
<b>Family h/o depression</b>				
Present	49	31	63.3%	0.02*
Absent	251	189	75.3%	

\*P value less than 0.05 is considered as significant

## DISCUSSION:

In line with economic fluctuations in Pakistan, the number of medical students is growing each year. During this period, competition increased the jeopardy of developing numerous mental conditions, such as depression. There are some well recognized training around the world to govern the incidence of depression and related aspects between medical undergraduates. As far as we know, there are no studies that would use the BDI to measure depression amid medical undergraduates in Pakistan, but few analyses were held among adolescents. There is a big variance between incidence proportions in these studies. Because the BDI is a subjective scale, it is not applied in any earlier studies<sup>8</sup>. Other causes comprise assessment methods, classification and cut-off methods used to evaluate depression, and the sample size variance designated for the study.

In this analysis, Beck Depression Inventory was used to determine the frequency of depression amongst medical undergraduates<sup>9</sup>. Though not intended for diagnostic determinations, its epidemiological benefits were assessed in several

studies that were considered to be a dependable and important tool for identifying depressive ailments in non-clinical inhabitants. Some studies confirm the use of Beck Depression Inventory in predicting and measuring depression in adolescents.

It is estimated that the prevalence rates of depression ranged from 15% to 66% in various studies. In Hong Kong, among Chinese medical undergraduates Chan noted that about 50% of the medical undergraduates were depressed. In compare, Pakistan study showed that the incidence ratio of depression among medical students ranged from 49% to 66%. Another study found that 40% of medical students suffer from depression using the Depression Stress Scale tool<sup>10</sup>. In India; one study amongst adolescents exhibited that pervasiveness among girls attending college is 30%. In a different study of high school and college students in Iran, 34% were depressed according to the final BDI score of 16. This study showed that the incidence of depression was advanced amongst medical undergraduates as

compared to earlier analysis<sup>11</sup>. This is mainly due to the inclusion of a mild degree of depression in the lower cut off for the BDI result in our study. Over 80% of students in our study have mild to moderate depression. Other prospects comprise alterations in the demographic structure of our students, and even increased competition in medicine.

Dissemination has increased significantly with the rise of the working class. Our study is dependable with the outcomes of other analysis<sup>12</sup>. In a different analysis, however, the incidence was significantly higher among first- and second-year medical students and not significant in another study. Although very few, students experienced severe and very severe depression in medical school, suggesting the need for group counseling.

It has been shown that mood disorders are more common among family members of people with depression than in the general people<sup>13</sup>. In our study, drug addiction, alcohol consumption and out of home had no effects on depression.

Depression-related variables such as sleep time, physical activity, and personal activity, conflict between work and reserved life, and phobia at work place were not studied in this study. In addition, personality traits that may predict depression have not been analyzed. Positive results were suggested and a group of psychologists and counselors conducted gatherings for contributors later to this analysis. Undergraduates were also refer to a psychiatrist, ask for help and ensure their privacy. In addition to the study, timely advisory services were also provided<sup>14</sup>. All participants have given helpline numbers for queries. The severe depression patients were referred to a psychiatric ward for additional examination and advice. Sociodemographic aspects such as occupation, family income and education have not been assessed due to feasibility constraints. This study provides information on the scale of depression among medical students and related factors that can be assessed through more detailed studies using quantitative and qualitative approaches. Because this is a cross-sectional study, it is difficult to evaluate the direction of the effect and prevents us from drawing conclusions based on the results of our research. However, sufficient sample size and the use of an appropriate scale to classify student's depressive symptoms upsurges the importance of research<sup>15</sup>. Depression is very common amongst medical undergraduates. The statistic that 7.5% and 6.7% of medical undergraduates suffer from severe and very severe depression indicates that a medical advice group should be taken at medical school.

Our findings emphasize the significance of detecting this susceptible populace and captivating suitable intervention measures to avert depressive complications.

#### REFERENCES:

1. Khan, Ameer Ullah, and Sajid Ali. "PREVALENCE OF DEPRESSION AND ITS ASSOCIATED FACTORS AMONG NURSING STUDENTS IN KARACHI, PAKISTAN." *Pakistan Journal of Public Health* 9, no. 1 (2019): 34-36.
2. Wickramasinghe, Dakshitha P., Isuru S. Almeida, and Dharmabandhu N. Samarasekera. "Depression and stressful life events among medical students during undergraduate career: Findings from a medical school in South Asia." *Asia Pacific Scholar* 4 (2019): 42-47.
3. Khaliq, Sheikh Abdul, Sofia Aslam, Sher Ali, Wasim Anwar Lone, Muhammad Din, and Sajjad Ahmed. "MAJOR DEPRESSIVE DISORDERS AND PERSISTENT DEPRESSIVE DISORDERS AMONGPHARM. D STUDENTS: A CROSS SECTIONAL STUDY." *Journal of University Medical & Dental College* 10, no. 1 (2019): 25-29.
4. Teshome Hambisa, Mitiku, Andualem Derese, and Tilahun Abdet. "Depressive symptoms among Haramaya University students in Ethiopia: a cross-sectional study." *Depression research and treatment* 2020 (2020).
5. Dagne, Baye, Henok Dagne, and Zewudu Andualem. "Depression and Its Determinant Factors Among University of Gondar Medical and Health Science Students, Northwest Ethiopia: Institution-Based Cross-Sectional Study." *Neuropsychiatric Disease and Treatment* 16 (2020): 839.
6. Vanitha, S. S., and Sandhya Rani Javalkar. "A Study on Prevalence and Factors Associated with the Depression among Medical Adolescent Students." (2020).
7. AlFaris, Eiad, Muhannad AlMughthim, Farhana Irfan, Nassr Al Maflehi, Gominda Ponnampuruma, Huda E. AlFaris, Abdullah MA Ahmed, and Cees van der Vleuten. "The relationship between study skills and depressive symptoms among medical residents." *BMC medical education* 19, no. 1 (2019): 435.
8. Owoola-Ajirotutu, Mutiat O., Alfred O. Okpanachi, Akeem G. Owoola, Godfrey Z. Rukundo, and Sadiq Yusuf. "Relationship between depressive symptoms and cumulative 24-hour urinary norepinephrine excretion level among undergraduate medical students in Uganda." *BioRxiv* (2019): 695825.

9. Javadi, Alireza Haji Seyed, and Ali Akbar Shafikhani. "Evaluation of Depression and Anxiety, and their Relationships with Insomnia, Nightmare and Demographic Variables in Medical Students." *Sleep and Hypnosis (Online)* 21, no. 1 (2019): 9-15.
10. Tayefi, Batool, Mehrdad Eftekhari, Maryam Tayefi, Susan Darroudi, Narjes Khalili, Azadeh Mottaghi, Zarrintaj Hosseinzadeh Shanjani, and Marzieh Nojomi. "Prevalence and Socio-Demographic Correlates of Mental Health Problems Among Iranian Health Sciences Students." *Academic Psychiatry* 44, no. 1 (2020): 73-77.
11. Sarwar, Naveeda, Saima Abid, Ghulam Sarwar, Adnan Sarwar, Bilqis Hassan, and Muhammad Abdullah. "Assessment of Suicidal Tendencies among Students in Peshawar: A Cross Sectional Study." *Journal of Saidu Medical College* 9, no. 1 (2019).
12. Al-Jumaili, Ali Azeez Ali, Sahar B. Aljuboori, Ammar A. Razzak Mahmood Kubba, Rawaa Fathel, and Haneen Talab. "Evaluate Factors Influencing Depression in Baghdad: Using Beck-Depression Inventory." *INNOVATIONS in pharmacy* 10, no. 3 (2019): 6-6.
13. Janatolmakan, Maryam, Bahare Andaieshgar, Amir Aryan, Faranak Jafari, and Alireza Khatony. "Comparison of Depression Rate Between the First-and Final-Year Nursing Students in Kermanshah, Iran." *Psychology Research and Behavior Management* 12 (2019): 1147.
14. Qureshi, Sidra, Huma Riaz, Malik Muhammad Ali Awan, Kiran Khushnood, and Rida Hussain. "Association of depression, physical activity levels and general psychological health among physical therapy students of Rawalpindi and Islamabad." *Journal of Shifa Tameer-e-Millat University* 2, no. 1 (2019): 26-30.
15. Moeini, Babak, Saeed Bashirian, Ali Reza Soltanian, Ali Ghaleiha, and Malihe Taheri. "Prevalence of depression and its associated sociodemographic factors among Iranian female adolescents in secondary schools." *BMC psychology* 7, no. 1 (2019): 25.