

Research Article

**Mental health and depression among medical students
and its relationship to gender**

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ABSTRACT

Background: Depression is a state of low mood and aversion to activity that can affect person's thoughts, behavior, feeling and sense of wellbeing. Stress in medical students can affect physical and psychological wellbeing. A significant number of medical students suffer depressive disorder because stress has long relationship to emotional and behavioral symptomatology. Academically less successful students reported somewhat higher levels of depressive ideation.

Objective: To determine frequency of depression among medical students and its gender correlation.

Material and Methods: Study Design: Cross sectional study

Study Setting and duration: Allama Iqbal Medical College, April – June 2014.

Inclusion criteria: All professional medical students of either gender.

Data Collection and analysis: A cross-sectional study was conducted and the total of 300 Medical students from 18 to 25 years to age participated in this study. Students in this study were undergraduate students. Duke health profile were given to the students and mental health and depression was analyzed. Chi square test was used to assess statistical significance with $p < .05$ as statistical significance.

Results: Mean mental health score for male was 70.66 ± 9.60 . Mean depression score was 69.73 ± 8.97 . Mean mental health score for female was 74.133 ± 11.48 . Mean depression score was 71.93 ± 10.5 . Among 300 students 63.0% had a score of 50-75 and 35.0% scored between 75 – 100. Among 150 male 76.0 % scored between 25-50 and 22.0% scored between 75-100. In 150 female 50.0% scored between 50-75 and 48% scored between 75-100. ($P < .000$). Among 300 students 59.7% had a score of 50-75 and 37.0% scored between 75 – 100. Out of 150 male 71.3% scored between 50-75 and 25.3% scored between 75-100. Out of 150 female 48.0% scored between 50-75 and 48.7% scored between 75-100 ($P < .000$).

Conclusions: Depression was more among female male students than male students and there was high mental health score depicting a good mental health status.

Keywords: Depression, Mental health, Medical students, Dukes profile.

INTRODUCTION:

Depression affects almost one-third of medical students globally but treatment rates are relatively low. The current findings suggest that medical schools and health authorities should offer early detection and prevention programmes, and interventions for depression amongst medical students before graduation. Studies have suggested that medical students experience high rates of depression and suicidal ideation.¹

However, estimates of the prevalence of depression or depressive symptoms among students vary across studies from 1.4% to 73.5%,^{2,3} and those of suicidal ideation vary from 4.9% to 35.6%.^{4,5} Studies also report conflicting findings about whether student depression and suicidality vary by undergraduate year, sex, or other characteristics.⁶⁻¹¹ Reliable estimates of depression and suicidal ideation prevalence during

medical training are important for informing efforts to prevent, treat, and identify causes of emotional distress among medical students,¹² especially in light of recent work revealing a high prevalence of depression in resident physicians.¹³ A systematic review and meta-analysis of published studies of depression, depressive symptoms, and suicidal ideation in undergraduate medical trainees.

Medical schools are known to be stressful environments for students and hence medical students have been believed to experience greater incidences of depression than others. We evaluated the global prevalence of depression amongst medical students, as well as epidemiological, psychological, educational and social factors in order to identify high-risk groups that may require targeted interventions.).

Objectives:The objective of this study was to compare the prevalence of anxiety and depression

among male and female students of Allama Iqbal Medical College.

MATERIAL AND METHODS:A Cross sectional study was conducted among medical students of Allama Iqbal Medical College from April – June 2015. 300 medical students of either gender from fourth and final year were included in the study through a non-probability / purposive sampling Duke health profile inventory was given to students and scoring for anxiety depression among students was evaluated. Data was entered and analyzed in SPSS Ver:17.0. Mean and standard deviation was calculated for numerical variables e.g. physical, mental, social health score, general health score, perceived health score and self-esteem score. Frequency and percentages was calculated for nominal variables like anxiety, depression, pain and disability score. Chi-square test was used to assess any statistical significance with $p < .05$ as statistical significant.

RESULTS AND MAIN FINDINGS:

Table no 1: Mental health and Depression score among medical students and gender distribution.

Gender of Respondents		MENTAL HEALTH SCORE	DEPRESSION SCORE
Male	N	150	150
	Mean	70.6667	69.7333
	Std. Deviation	9.60052	8.97025
	Minimum	50.00	50.00
	Maximum	100.00	100.00
Female	N	150	150
	Mean	75.2000	74.1333
	Std. Deviation	11.91243	11.48016
	Minimum	50.00	50.00
	Maximum	100.00	100.00
Total	N	300	300
	Mean	72.9333	71.9333
	Std. Deviation	11.03637	10.51813
	Minimum	50.00	50.00
	Maximum	100.00	100.00
		For this column: 100 indicate the best health status 0 indicates the worst health status	For this column: 100 indicate the worst health status 0 indicates the best health status

Table no: 2 Mental health and Depression score and Gender Cross tabulation.

MENTAL HEALTH SCORE	Gender of Respondents		Total	Chi-square
	Male	Female		P value
Score 25 - 50	3	3	6	$X^2 = 22.533$
	2.0%	2.0%	2.0%	P = .000

Score 50 -75	114	75	189	X ² =18.880 P =.000
	76.0%	50.0%	63.0%	
Score 75 -100	33	72	105	
	22.0%	48.0%	35.0%	
DEPRESSION SCORE				
Score 25 - 50	5	5	10	
	3.3%	3.3%	3.3%	
Score 50 -75	107	72	179	
	71.3%	48.0%	59.7%	
Score 75 -100	38	73	111	
	25.3%	48.7%	37.0%	
Total	150	150	300	
	100%	100%	100%	

scored between 50-75 and 48.7% scored between 75-100 (P< .000).

RESULTS:

300 students were included in the study. Mean mental health score was 72.93 ± 11.03 with minimum score of 50 and maximum score of 100. Mean depression score was 71.93 ± 10.5 with minimum score of 50 and maximum score of 100. Mean mental health score for male was 70.66 ± 9.60 with minimum score of 50 and maximum score of 100. Mean depression score was 69.73 ± 8.97 with minimum score of 50 and maximum score of 100. Mean mental health score for female was 74.133 ± 11.48 with minimum score of 50 and maximum score of 100. Mean depression score was 71.93 ± 10.5 with minimum score of 50 and maximum score of 100.

Scores were categorized into four categories:

Score 0-25

Score 25-50

Score 50-75

Score 75-100

Mental health score*gender of respondents:

Among 300 students 63.0% had a score of 50-75 and 35.0% scored between 75 – 100. Among 150 male 76.0 % scored between 25-50 and 22.0% scored between 75-100. In 150 female 50.0% scored between 50-75 and 48% scored between 75-100.(P < .000).

Depression score*gender of respondents:

Among 300 students 59.7% had a score of 50-75 and 37.0% scored between 75 – 100. Out of 150 male 71.3% scored between 50-75 and 25.3% scored between 75-100. Out of 150 female 48.0%

DISCUSSION:

Depression is more common among medical students, residents, and physicians than in the general population, though estimates of its prevalence vary. About 14% of medical students have symptoms of moderate to severe depression, according to a study published last September in *JAMA*.¹⁴ In addition, roughly 5% of the 505 students surveyed revealed that they had suicidal thoughts at some point during training. A survey published in *Epidemiology and Health* last November found that 40% of 120 medical students in Seoul, Korea, appeared to have depression.¹⁵

Medical schools are known to be stressful environments for students and hence medical students have been believed to experience greater incidences of depression than others. We evaluated the global prevalence of depression amongst medical students, as well as epidemiological, psychological, educational and social factors in order to identify high-risk groups that may require targeted interventions.¹⁴ In a study by Puthran et al showed a global prevalence of depression amongst medical students of 28.0% (95% confidence interval [CI] 24.2-32.1%). Female, Year 1, postgraduate and Middle Eastern medical students were more likely to be depressed, but the differences were not statistically significant. By year of study, Year 1 students had the highest rates of depression at

33.5% (95% CI 25.2-43.1%); rates of depression then gradually decreased to reach 20.5% (95% CI 13.2-30.5%) at Year 5. This trend represented a significant decline ($B = -0.324$, $p = 0.005$). There was no significant difference in prevalences of depression between medical and non-medical students. The overall mean frequency of suicide ideation was 5.8% (95% CI 4.0-8.3%), but the mean proportion of depressed medical students who sought treatment was only 12.9% (95% CI 8.1-19.8%).¹⁶

Dahin assessed the exposure to different stressors and the prevalence of depression among medical students at different levels of education, taking gender differences into account. Students were asked to complete a new stress inventory called the Higher Education Stress Inventory (HESI), the Major Depression Inventory (MDI), slightly modified, and questions on suicidal ideation developed by Meehan. The prevalence of depressive symptoms among students was 12.9%, significantly higher than in the general population, and was 16.1% among female students versus 8.1% among males. A total of 2.7% of students had made suicide attempts, but none during the previous year.¹⁷

These studies concluded a gender difference regarding stress levels was also seen, where women reported higher levels of stress than men. Medical students had higher depression rates than the general population, and women students had higher rates than men.^{14,15} In my study overall 59.7% had a score of 50-75 and 37.0% scored between 75 – 100. Out of 150 male 71.3% scored between 50-75 and 25.3% scored between 75-100. Out of 150 female 48.0% scored between 50-75 and 48.7% scored between 75-100 ($P < .000$), indicating a high score for depression among females.

CONCLUSIONS:

Our study concluded that depression was more among female male students than male students and there was high mental health score depicting a good mental health status.

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