

# Depression Among Medical Students

## Abstract

**Objective:** To determine the prevalence of depression in medical students in Karachi, Sindh.

**Methodology:** A cross sectional study was carried out on medical students of Karachi. The province of Sindh has 21 Medical Schools out of which 14 are in Karachi. Data was gathered from medical students of 10 medical schools of Karachi who were willing to participate in the study. A self administered questionnaire was given to each student. The Quick Inventory of Depression Symptoms (QID-SR16) scale was used as an instrument to assess the students for depression. For data analysis Statistical Package of Social Sciences (SPSS v.21) software was used.

**Result:** There are approximately 10,000 students currently studying medicine in Karachi from 1st year to 5th year MBBS. Approximately 4000 questionnaires were distributed among the students. 2270 students filled and returned the questionnaires either by hand or email with a response rate of 56.75%. Prevalence of Depression in 1st, 2nd, 3rd, 4th and 5th year MBBS students were found to be 45.5%, 50.1%, 76.5%, 38.1% and 31.6% respectively. The total percentage of depression among the medical students was found to be 48.9%. Significance with gender was seen but no change with age was seen.

**Conclusion:** The study suggests that a lot of medical students feel depression; the finding is consistent with a few western and local studies [1]. The study finding stresses a need for psychiatric counseling and support services for vulnerable students. Furthermore a longitudinal study should be carried out to pinpoint the stressors so that appropriate steps could be taken for students and help them improve their productivity.

## Review Article

Volume 6 Issue 5 - 2016

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**Received:** November 02, 2016 | **Published:** September 20, 2016

## Introduction

In an eastern society depression is thought of as a western idea. On the contrary depression is a common health problem faced all across the globe. The world health organization has recognized Depression and it's Related Diseases (MDD- Major Depressive Disorders) as the fourth leading cause of disability and premature death in the world. In Us Alone 15 million adults that are around 8% of Americans over the age of 18 are identified as being depressed [2]. In Pakistan the values tend to be much higher around 44%, almost half of Pakistan's population is Depressed. In a developing nation like Pakistan a lot of psychiatric/mental illnesses are undermined and almost always left untreated. Prevalence of depression in our society could be due to stress associated to different social-economical factors. In a developing Country like Pakistan mental (Psychiatric) illnesses are under recognized and not treated properly.

Why should medical students be so stressed that half feel burned out and so many have contemplated suicide? Medical Studies are recognized as one of the most difficult studies around the world [3,4]. Medical students are expected to master an enormous volume of knowledge, more than can possibly be achieved [5]. The mental deterioration starts way before medical school. The reason for that is the competition of getting into a medical school which is so competitive and stressful that almost every future doctor has to start prepping for it from the middle school. The scenery doesn't change much in the medical

school. Students experience great anxiety in anticipating the moment when they just can't recall something of enormous importance and, as a result, commit some life threatening errors, potentially harming a patient [6]. Faculty and the residents who do a substantial amount of clinical teaching press students hard, leaving them with feelings of incompetence and uselessness. When students move from the classroom to clinical rotations, they shift through different medical specialties. Just when they have a sense of having acquired a basic knowledge base of pediatrics or psychiatry or orthopedics, they're transferred to a new rotation, again starting at ground zero. As this is happening, opportunities for recreational breaks are limited while long hours of work and study leads to a complete exhaustion [7-9]. Medical students are also frequently exposed to human suffering and death which is an experience most have never encountered before. They feel abused, taken advantage of by institution or superiors and overworked with not just study, work but also with inappropriate assignments ("run down to the cafeteria and pick up our lunch").

## Methodology

This is a cross sectional study conducted on medical students in Karachi. The study participants were from broad array of school distributed all around Karachi. The data was collected from 10 Universities out of 14 Universities in Karachi. Data collection was spanned in the months from August 2012 till February 2013. A self Administered questionnaire was distributed to students who were willing to take part in the study after they were explained

the purpose of the study. Convenient type of sampling was used. The questionnaire was distributed to students and they were advised to return it at their convenient time. The inclusion criteria were all the students of DIMC from 1st to 4th year regardless of age. The data collected ranges from students less than 19 to more than 22 years of age and without any gender bias. Males were not given preference over females and vice versa. The exclusion criteria were those students who did not give consent and those who were physically not present during the time the data was collected. In ethical review, we ensured that full confidentiality was maintained and students were reassured of their privacy by keeping them anonymous. Informed consent was taken verbally.

Out of students 10000 students 8000 questionnaires were distributed and 4270 students filled and returned the questionnaire. A response rate of 56.75% was achieved. The Quick Inventory of Depression Symptoms (QID-SR16) scale was used as an instrument to access the students for depression and for data analysis, Statistical Package of Social Sciences (SPSS v.21) software was used. QID-SR16 is a scale with high sensitivity (approx. 76.5%), specificity (approx. 81.8%) and is a reliable instrument for multiple races. The scale also can differentiate a person with mild, moderate and severe depression but the scale was only used to see if depression was present or not. According to the scoring criteria any score over 4 points is characterized as depression (Figure 1).

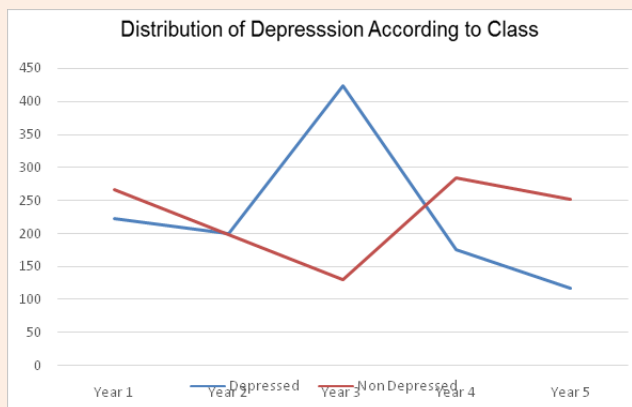


Figure 1: Distribution of depression according to class.

It was seen that students over 22 were more prone to being depressed as compare to younger student.

## Results

With a response rate of 56.75%, 2270 students participated in the study. Among 2270 students 1235(54.4%) were females and 1035(45.6%) were males. Using the Depression Scale it was found that 1137(50.1%) medical students have depression. Among the students depressed, 666(58.6%) were female students and 471(41.4%) were males. Prevalence of Depression in 1st, 2nd, 3rd, 4th and 5th year MBBS students were found to be 45.5%, 50.1%, 76.5%, 38.1% and 31.6% respectively. Depression was significantly higher in third year students compared to 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> year (Table 1.1, 1.2, 1.3).

Table 1.1: Depression Distribution According to Gender in Medical Schools.

	Depressed	Non-depressed	%age depressed
Male	471	564	45.50%
Female	666	569	53.93%

Table 1.2: Depression Distribution According to Year of Study.

Year Of Study	Depressed	Non-Depressed	%age Depressed
1st Year	222	267	45.40%
2nd Year	199	198	50.10%
3rd Year	423	130	76.50%
4Th Year	176	285	38.10%
5th Year	117	253	31.60%

Table 1.3: Association of Age with Depression.

Age in years	Depressed	Non-depressed	%age depressed
< 19	5	6	45.50%
20-22	15	16	48.40%
22 >	9	6	60.00%

## Discussion

In this study as the results indicate 51% of the students were suffering from depression. These results correlate with a recent study done on anxiety and depression among medical students at Nishtar Medical college (JPMA Vol. 60, No. 8), August 2010. The rate of anxiety and depression was found to be 43.89% similar to our results. However that study shows their highest peak of 52.58% found in their second year students which differs significantly from our peak results of 76.9% found in third year students. Another similar cross-sectional study was carried out on Ziauddin Medical University students on the Prevalence of Anxiety and Depression amongst Medical Students of a Private University [10]. Again it shows a strikingly high proportion of depressed, 60%, with a majority of females being affected, which is almost consistent with our study where 53.9% of females were affected.

A cross sectional survey carried out on stress and depression Dahlin M (2005) showed that Medical students had higher depression rates than the general population, and female students being more depressed than males. The peak year in their case was amongst their final year students, 6<sup>th</sup> year students. The result of our study can't be compared to this because in Pakistan the medical school is 5 years in length and students don't need to do a pre-med degree before applying for a medical school. The high third year depression rates found in our survey could correlate to the sudden shift of subjects from basic sciences to applied sciences. In addition to this the increased workload and pressure of exhausting clinical hours with very little recreational time left afterwards could also be a contributing factor. Females were more affected than males in our survey and that could be as a result of increased pressure on them to break the stereotype in a male

dominant society and perform well [10,11]. In addition to this females also tend to worry more as compared to males and this build up of stress affects negatively on their mental health [12]. Strikingly high rates of depression were also seen amongst older medical students. This could be due to the additional stress of graduating early and getting settled.

Medical students are suffering from this unremarkably debilitating mental disorder that affects not only their personal lives but their professional and academic lives as well [13]. Despite this fact a lot of depressed students fail to seek treatment. Preventive screening programs should be taken up by the mentors of these students where they not only assess their academic, physical health but mental health as well [14,15]. This should be integrated throughout medical schools in Pakistan. Proper counseling, effective treatment and management should be carried out. By providing a healthy environment and encouraging extracurricular activities we can prevent serious consequences to the future providers of health. A proper assessment before medical school admission can help set up a treatment and counselling plan for the future doctors. This can also in turn not only affect the young students but also their potential future patients and population in general.

Limitations of this study are the absence of students and a few schools didn't give permission for their students to participate in the study. A few medical schools which took part in the study didn't have all the students present at the time of data collection. It was a convenience type of sampling so there were no set criteria for participant inclusion and this could have led to bias in the results, also a response rate of 56% is not so high and may have resulted in the high prevalence rate found. Depression is also a symptom for many other diseases which were not excluded in the study and thus may have resulted in bias. We weren't able to separate students with depression prior to entering medical college from those who recently developed depression. This is a result of inadequate mental state assessment upon admission to medical school.

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