

## Assessment of Stress, Anxiety and Depression among PG Aspirants of Medical Colleges of Indore City

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### Abstract

**Background:** It is well known that Medical education is highly challenging and mind exhausting field which affect the mental health of Medical students. Stress is an external constraint which upsets an individual both mentally and physically and Medical education is perceived as stressful. The postgraduate students of Medical field suffer from higher stress that definitely affects the mental wellbeing of these students.

**Methods:** This cross-sectional study was conducted in January 2014 on 300 Medical students to assess the level of stress, anxiety and depression in Postgraduate Medical aspirants, belonging to different Medical Colleges of Indore with the help of Pre-designed semi-structured questionnaire schedule. Graded using Mental Health Inventory Scale.

**Results:** It was found in present study that out of randomly selected 300 students, 24% students had depression, 42% had anxiety, 27% experienced change in behaviour, only 35% had general positive effect & life satisfaction and 49% had emotional ties.

**Conclusion:** The present study concluded that depression, stress and anxiety are the major growing mental problems among the medical post graduate aspirants students. Student counselling services need to be made available and accessible to come out from this morbidity.

**Keywords:** Depression, Stress, Anxiety, Postgraduate Medical Students, MHI 38

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### Introduction

Globalization and rising competition leads to stress and stress has become an increasingly important occupational health problem.<sup>(1)</sup> Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings and sense of well-being.<sup>(2)</sup> People with depressed mood can feel sad, anxious, empty, hopeless, helpless, worthless, guilty, irritable or restless. They may lose interest in activities that were once pleasurable, experience loss of appetite or overeating, have problems Concentrating, remembering details or making decisions may contemplate, attempt or commit suicide. Insomnia, excessive sleeping, fatigue, aches, pains, digestive problems or reduced energy may also be present.<sup>(3)</sup>

Anxiety is an emotion characterized by feeling of tension, worried thoughts and physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They

may also have physical symptoms such as sweating, trembling, dizziness or a rapid heartbeat.<sup>(4)</sup>

In present study mental health inventory as a questionnaire and mental health scale used for observing level of stress in PG aspirants.<sup>(5)</sup>

Medical education can contribute to development of stress in medical students which may have possible negative academic and professional consequences. Medical education is perceived as stressful. High level of stress is documented in medical students in various studies. Among medical students, stress has been reported to be due to academic demands, exams, inability to cope excess of clinical work, helplessness and lack of communication.<sup>(6)</sup> This prompted us to take the study and find a way out to stop such a menace.

Main objective of this study was to assess the level of depression and behavior changes in Postgraduate Medical aspirants.

### Materials and Methods

A cross sectional study was conducted on 300 medical post graduate aspirants students randomly selected from all three medical colleges in Indore city. Data was collected with the help of Pre designed semi-structured questionnaire schedule. Graded using Mental Health Inventory scale. The subscales are scored in two steps: (1) item scoring; and (2) the subscales themselves. Of the 38 items, 35 are used to score the six mental health subscales (items 2, 22 and 38 are omitted from the subscales). Each item appears in only one subscale.

300 students from all three medical colleges have been surveyed for the purpose of data collection and written informed consent was obtained from students. The data was collected based on convenience sampling method. The data collected were analyzed through percentages and frequencies in which the data were presented in table formats, pie charts and histograms which were obtained using Excel and some using SPSS (Statistical Package for Social Science). The study was conducted during January 2014 to March 2014.

## Results

In present study total 300 participants were interviewed out of which 189 were male and 111 were female of age group 25-30 yrs at the time of study all were residing in Indore city.

Findings of present study were as follows:

**Table 1: Level of depression in Post Graduate Medical Students**

Name of Medical College	>50% Score (Depressed)	
	No. of students (n=300)	Percentage
MGMMC	36	12%
SAIMS	18	6%
Index Medical College	18	6%
Total	72	24%
	<50% Score (Not Depressed)	
	228	76%

Students under depression in MGMMC were 12%, in SAIMS 6% and in Index Medical College 6%. Total 24% students were under depression.

**Table 2: Level of Anxiety in Post Graduate Medical Students**

Name of Medical College	>50% Score (Anxiety)	
	No. of students (n=300)	Percentage
MGMMC	63	21%
SAIMS	33	11%
Index Medical College	30	10%
Total	126	42%
	<50% Score (No Anxiety)	
	174	58%

Students under anxiety in MGMMC were 21%, SAIMS 11% and in Index Medical College 10%. Total 42% students were under anxiety.

**Table 3: Change in Behaviour & Emotional Control in Post Graduate Medical Students**

Name of Medical College	>50% Score (Change)	
	No. of students (n=300)	Percentage
MGMMC	39	13%
SAIMS	18	6%
INDEX MEDICAL COLLEGE	24	8%
Total	81	27%
	<50% Score (No Change)	
	219	73%

13% MGMMC students had change in behaviour as compared to 6% and 8% students in SAIMS and Index medical college respectively. Total 27% students had change in behaviour.

**Table 4: General Positive Effect**

Name of Medical College	>50% Score (Positive Effect)	
	No. of students (n=300)	Percentage
MGMMC	60	20%
SAIMS	123	41%
INDEX MEDICAL COLLEGE	114	38%
Total	297	99%
	<50% Score (No effect)	
	3	1%

20% of students of MGMMC feel POSITIVE about their future 41% from SAIMS and 38% from Index medical college (38%). Majority of students feel POSITIVE about their future

**Table 5: Status of Emotional Ties in Students**

Name of Medical College	>50% Score (Emotionally unstable)	
	No. of students (n=300)	Percentage
MGMMC	75	25%
SAIMS	33	11%
Index Medical College	36	12%
Total	144	48%
	<50% Score (Emotionally stable)	
	156	52%

Around 25% of emotionally disturbed students are from MGMMC 11% from SAIMS and 12% from Index Medical College. 52% of students are Emotionally Stable.

**Table 6: Status of Life Satisfaction of Students**

Name of Medical College	>50% Score (Satisfied)	
	No. of students (n=300)	Percentage
MGMMC	96	32%
SAIMS	51	17%
INDEX MEDICAL COLLEGE	48	16%
Total	195	65%
	<50% Score (Not Satisfied)	
	105	35%

## Discussion

Anxiety and depression can be taken as reliable indicator for assessment of mental illness in a community. The emotional status of the students during medical school training has been a concern reported as early. As it may affect the overall performance of student and lead to a cascade of consequences at both personal professional level.

In present study, 24% of the medical students had moderate to severe depression, in which 12% were Government Medical College students and 6% each from Private Medical College. Similarly, a large scale study was undertaken in Nepal by Basnet B et al.<sup>(7)</sup> which concluded that the overall prevalence of depression among the medical postgraduate aspirants students was 29.78 percent, similarly In the study by Shete and Garkal<sup>(8)</sup> showed that among total of 50 participants; 40 reported no evidence of depression. Six cases showed mild depression, one moderate depression; three were having severe depression and one case showed extreme depression. The mean depression score was found to be 6.26±6.00. In another study on depression by Kelly Chi published in September 2014, reported that about 14% of medical students have symptoms of moderate to severe depression.<sup>(9)</sup>

Present study showed that 42% students suffered from anxiety out of which 21% were from Government Medical College and 10% from Private Medical College. Similarly, according to another study by Motaz B et al.<sup>(10)</sup> published in Alexandria Journal of Medicine, 56% of medical students suffered from mild anxiety, 33% moderate anxiety and 11% students had severe anxiety. It was also observed in the study by Shete and Garkal<sup>(8)</sup> that out of 50 students, 24 normal cases for stress scale. 15 were having mild stress, 10 were having moderate stress and one case reported severe stress score. No case showed extreme severe stress level. The mean stress score was 15.30±3.93.

In the study by Kulsoom and Afsar<sup>(11)</sup> found that the scores for depression, anxiety, and stress were significantly higher in the Pre-Exam group. Students in year 4 had the highest level of depression, anxiety, and stress. Author concluded that the medical students had high levels of traits of depression, anxiety, and stress.

Another Study by Iqbal et al.<sup>(12)</sup> showed that 62 (17.5%) students had severe or extremely severe depression. This percentage was 33.4 per cent for anxiety and 13.1 per cent for stress. The mean scores of depression and stress for all students were found to be at mild level and the scores of anxiety at moderate level.

Present study showed that 27% students suffered a change in behavior out of which 13% were from Government Medical College and 6% from private Medical Colleges. Similarly, according to another study by Sarah M<sup>(13)</sup> published in International Journal of Adolescent Medicine and Health, showed a change of behaviour in 26% of participants(14%-positive change & 12%- negative change) due to changes during internship.

35% medical students in present study, reported to be dissatisfied with their lives. Similarly, in another study by Chinthaka B Samaranayake published in The New Zealand Medical Journal, which compared the satisfaction with life among medical and other students. In the sampled University of Auckland Population, 15.4% of medical and 19.5% of other students reported dissatisfaction with life.<sup>(14)</sup>

## Conclusion

Present study found that out of randomly selected 300 students, 24% students have depression, 42% have anxiety, 27% experienced change in behavior, only 35% have general positive effect & life satisfaction and 49% have emotional ties. Anxiety and depression has a very high cost to individual and society, including medical school dropout, suicide, degeneration of relationship, marital problems and impaired ability to work effectively.

The study finding highlights the need of psychiatric counseling and support services available to vulnerable students.

## References

1. Tripodi D, Roedlich C, Laheux MA, Longuenesse C, Roquelaure Y, Lombrail P, Geraut C. Stress perception among employees in a French University Hospital Occup Med (Lond). 2012 Apr; 62(3):216-9. doi:10.1093/occmed/kqr196. Epub 2011 Dec 21 available at <http://www.ncbi.nlm.nih.gov/pubmed/22190108>.
2. Diagnostic and Statistical Manual of Mental Disorders, fifth edition(DSM-5) American Psychiatric association 2013 available at: <http://dx.doi.org/10.1176/appi.books.9780890425596>.
3. Depression, available at: <https://www.nimh.nih.gov/health/topics/depression/index.shtml>. assessed on 10 January 2014.
4. Encyclopedia of Psychology: 8 Volume Set Alan E. Kazdin, American Psychological Association March 2000. Available at: <http://www.apa.org/topics/anxiety/>.
5. Davies AR, Sherbourne CD, Peterson JR and Ware JE (1998) Scoring manual: Adult health status and patient satisfaction measures used in RAND's Health Insurance Experiment. Santa Monica: RAND Corporation.

6. S. N. B. Inam, A. Saqib, E. Alam Prevalence of Anxiety and Depression among Medical Students of Private University Journal of Pakistan Medical Association (JPMA Feb2003). Available at: [http://jpma.org.pk/full\\_article\\_text.php?article\\_id=2064](http://jpma.org.pk/full_article_text.php?article_id=2064).
7. Basnet B, Jaiswal M, Adhikari B, Shyangwa PM Department of Psychiatry, B.P. Koirala Institute of Health Sciences, Dharan, Nepal "Depression among undergraduates".
8. Anjali N. Shete, K. D. Garkal A study of stress, anxiety, and depression among postgraduate medical students CHRISMED Journal of Health and Research/Vol 2/Issue 2/Apr-Jun 2015.
9. Kelly Chi Depression in Med School: You're Not Alone. Medscape. Mar 29, 2011 <http://www.medscape.com/viewarticle/739527>.
10. M.B. Ibrahim, M.H. Abdelreheem, Prevalence of anxiety and depression among medical and pharmaceutical students in Alexandria University Alexandria Journal of Medicine (2015) 51, 167–173 <http://www.sciencedirect.com/science/article/pii/S2090506814000591>.
11. Bibi Kulsoom, Nasir Ali Afsar Stress, anxiety, and depression among medical students in a multiethnic setting Neuropsychiatric Disease and Treatment 2015;11:1713–1722.
12. Shawaz Iqbal, Sandhya Gupta & E. Venkatarao stress, anxiety & depression among medical undergraduate students & their socio-demographic correlates Indian J Med Res 141, March 2015, pp 354-357.
13. Sarah M. Ketelaar, Monique H.W. Frings-Dresen, Judith K. Sluiter is change in health behavior of Dutch medical students related to change in their ideas on how a physician's lifestyle influences their patient's lifestyle? International Journal of Adolescent Medicine and Health. Volume 26, Issue 4, Pages 511–516, ISSN (Online) 2191-0278, ISSN (Print) 0334-0139, DOI: 10.1515/ijamh-2013-0328, March 2014 <http://www.degruyter.com/view/j/ijamh.2014.26.issue-4/ijamh-2013-0328/ijamh-2013-0328.xml>.
14. Chinthaka B Samaranyake, Antonio T Fernando, Satisfaction with life and depression among medical students in Auckland, New Zealand. The New Zealand Medical Journal vol.124 no.1341:26 Aug 2011. <https://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2011/vol-124-no-1341/article-samaranyake>.