

Assessment of Depression, Anxiety & Stress among Medical Students of a Rural Medical College

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Abstract : The cause for stress and the consequent depression and anxiety is multifactorial. The objective of our study was to determine the level of stress among students in our medical colleges. In the study of 350 students (216 males, 134 females) it is found that majority of them (51.42%) came from urban area and majority of their family income is between 26000-50000Rs. As many as 22% medical students are going through mild stress, 26% are in moderate stress, 14.85% are in severe stress. Only 42.85% students have a normal anxiety score while 34.28% have mild anxiety score, 15.42% have moderate anxiety score, 6.28% have severe anxiety score and 1.14% have extreme anxiety score. 42.85% students show normal levels of depression while 34.28% are in mid depression and 6.28% are in severe depression. As a result, 49% students think that they could have performed better in some other courses of study and 15% of them regret coming to medical education.

Keywords: Anxiety, Depression, Medical Student, Stress

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I. Introduction

Stress is a very common psychological phenomenon which medical students face. Research related to stress especially among undergraduate medical students is essential considering their role and responsibilities as a future physician. Studies based on documentation of stress varying according to gender, family background and other parameters have shown that medical students experience high level of stress that have a negative effect on the physical health and psychosocial well beings.[1] Stress can be defined as human's response resulting from interaction between and their environment that are perceived straining or exceeding their adaptive capacities and threatening their wellbeing. Anxiety is a multisystem response to a perceived threat or danger reflecting a combination of biochemical changes in the body, the patient's personal history and the social situation. Depression is a mental disorder characterized by extreme gloom, general emotional dejection and withdrawal, feeling of inadequacy and inability to concentrate. The pressure of rigorous academic curriculum coupled with frequent examination schedule that encourages competition rather than cooperative and fruitful learning is an obvious factor.[2] Other perceived sources of stress include family problem, parental expectations, adjustment to hostel conditions away from home especially in case of rural medical colleges, peer pressure, life challenges such as transition from school to university and physical illness. Stress may foster anxiety, substance abuse, burnouts leading to abandonment of studies, depression, and even suicidal ideation. [3],[4],[5] Untreated depression and anxiety are likely leading to student's poor scholastic performance and suicidal behavior. Epidemiological studies in this class of population have revealed about 75% of disease from which they suffer are related to stress. Though the scenario is such, still mental health is treated almost like an afterthought. Moreover in rural medical colleges, it is almost taboo to discuss mental health issues, therefore, actions should be taken to encourage medical students to seek help for psychological problems and to provide adequate facilities.² DASS scale will provide an easy way out to measure conventionally the degree of severity (normal, moderate & severe) of stress, anxiety and depression. The DASS is a set of three self report scale designed to measure the negative emotional states of depression, anxiety and stress. The DASS was constructed not merely as another set of scales to measure conventionally defining emotional states, but to further the process of defining, understanding and measuring the ubiquitous and clinically significant emotional states usually described as depression, anxiety. [6]

OBJECTIVES

To assess the prevalence of Stress, Anxiety and Depression amongst the students of Malda Medical College and Hospital, West Bengal, India.

II. Materials And Methods

- **Type of study:** Observational Descriptive Study
- **Study design:** Cross sectional in nature
- **Place of Study:** Malda Medical College and Hospital, Malda, West Bengal, India
- **Period of Study:** 2 month
- **Study Population:** Medical students from 1st-9th semester
 - Inclusion criteria - the eligible students who were willing to participate in the study were included
 - Exclusion criteria – students among the eligible students, who did not submit completed questionnaires, incorrectly filled questionnaires, withdrew from the study midway etc.
- **Sample size:** 350
- **Data collection and interpretation, outcome definition and parameters:**
 - A Predesigned and pre-tested questionnaire was given to the particular study population and data was collected.
 - Outcome definitions:

DEPRESSION- Depression is a common mental disorder characterized by sadness, loss of interest or pleasure, feelings of guilt or low self - worth, disturbed sleep or appetite, feelings of tiredness and poor concentration.

ANXIETY - Anxiety is an emotion characterized by feelings of tension, worried thoughts and certain physical changes.

STRESS - Stress is a state of mental or emotional strain or tension resulting from adverse or demanding circumstances.

- Scoring system:

The DASS (depression anxiety stress scale) 42 system of scoring was used:

D= depression

A= anxiety

S= stress

- ✓ The DASS is composed of three 14-item subscales of total 42 questions. The questions are scored on a 4 point Likert scale.

Corresponding answers for each item are scored 0-3 as follows:

- 0 indicates " Did not apply to me at all"

- 1 indicates " Applied to me to some degree or some of the time"

- 2 indicates " Applied to me to a considerable degree or a good part of time"

- 3 indicates " Applied to me very much or most of the time"

- ✓ DASS score can be 0 to 42 on each subscale.

- ✓ Total score is calculated by summing the scores for each subscale.

Depression scale items: 3,5,10,13,16,17,21,24,26,31,34,37,38,42.

Anxiety scale items: 2,4,7,9,15,19,20,23,25,28,30,36,40,41.

Stress scale items: 1,6,8,11,12,14,18,22,27,29,32,33,35,39.

- ✓ Interpretation:

Depression subscales score and interpretation :

- 0 to 9: No evidence of depression

- 10 to 13: Mild depression

- 14 to 20: Moderate depression

- 21 to 27: Severe depression

- >28: Extremely severe depression

Anxiety subscales score and interpretation :

- 0 to 7: No evidence of anxiety

- 8 to 9: Mild anxiety

- 10 to 14: Moderate anxiety

- 15 to 19: Severe anxiety

- >20: Extremely severe anxiety

Stress subscale score and interpretation :

- 0 to 14: No evidence of stress

- 15 to 18: Mild stress

- 19 to 25: Moderate stress

- 26 to 33: Severe stress

- >34: Extremely severe stress

- **Statistical analysis:** All data are collected, summarized, presented and analyzed by using appropriate statistical method.
- Proper ethical clearance was taken from appropriate authority.

III. Discussion

When compared to an international study involving medical students of a Brazilian medical school, with 34.6% students reporting depressive symptomatology, 37.2% showing anxiety symptoms, and 47.1% stress symptoms, the tested population showed higher overall incidence of all parameters; stress, anxiety and depression. (Moutinho, 2017) Another study conducted among medical students in M.L.B. Medical College, Jhansi, Uttar Pradesh, India, found overall prevalence of depression and anxiety was found to be 64% which is similar of the test subjects (63%).¹⁰(Yadav R, 2016;3) A similar study conducted in the Institute of Medical Sciences at Bhubaneswar, Odisha, India concluded that more than half of the respondents were affected by depression (51.3%), anxiety (66.9%) and stress (53%). While anxiety (63%) was lower in the studied population, stress (63%) and depression (58%) were both higher in comparison. (Iqbal, 2015) A study which estimated the prevalence of depression, anxiety and stress symptoms among medical students who were enrolled in a public university in Upper Egypt reported high frequencies of depression (65%), anxiety (73%) and stress (59.9%). When compared, the values for anxiety (63%) and depression (58%) were found to be lesser in the studied population but stress (63%) was found to be greater.⁶(Fawzy) Another study of Depression, Anxiety and Stress among the Medical Students in two Medical Colleges of Nepal found the overall prevalence of depression was 29.9%, anxiety was 41.1% and stress was 27% among all participated medical students which is much lesser compared to the students in question, across all three parameters; stress, anxiety and depression.⁸(Kunwar, 2016)

IV. Results

TABLE NO- 1: DISTRIBUTION OF MEDICAL STUDENTS IN BASIS OF GENDER

GENDER	NO	PERCENTAGE (%)
MALE	216	61.71
FEMALE	134	38.28

INFERENCE: There are 61.71% male and 38.28% female.

TABLE NO- 2: DISTRIBUTION OF MEDICAL STUDENTS IN BASIS OF RESIDENCE

RESIDENCE	NO	PERCENTAGE (%)
PERMANENT ADDRESS		
URBAN AREA	180	51.42
RURAL AREA	170	48.57

INFERENCE: From the survey it is found that 51.42% people live in urban area, 48.57% people live in rural area.

TABLE NO- 3: Distribution of medical students according to monthly income of their family(n=350)

Range	Number	%
<25000	74	21.14
26000-50000	130	37.14
51000-75000	49	14
76000-1 Lakh	56	16
>1 Lakh	41	11.71

INFERENCE: -From the above discussion it is clear that, there are 21.14% students whose family monthly income are < 25,000, 37.14% have in between 26,000-50,000; 14% have in between 51,000-75,000; 16% have in between 76,000-1lakh; and 11.71% have >1lakh.

TABLE NO- 4: Distribution of medical students according to their stress level

Range	Number	%
Normal (0-14)	130	37.14
Mild (15-18)	77	22
Moderate (19-25)	91	26
Severe (26-33)	52	14.85
Extreme Severe (>34)	00	00

INFERENCE: Analysing the data it is clear that 37.14% students are going through normal stress, 22% are going through mild stress; 26% are in moderate stress; 14.85% students are in severe stress; but fortunately there is no student going through extreme severe stress

TABLE NO. 5: DISTRIBUTION OF MEDICAL STUDENTS ACCORDING TO THEIR DEPRESSION LEVEL

DEPRESSION LEVEL	NUMBER	PERCENTAGE(%)
NORMAL (0-9)	150	42.85
MILD (10-13)	120	34.28
MODERATE (14-20)	54	15.42
SEVERE (21-27)	22	6.28
EXTREME SEVERE (28+)	4	1.14

INFERENCE: Analysing the survey it is clear that 42.85% students are in normal depression level; 34.28% are in mild stress; and 1.14% are in extreme severe depression level.

TABLE NO. 6: DISTRIBUTION OF MEDICAL STUDENTS ACCORDING TO THEIR ANXIETY SCORE

ANXIETY SCORE	NO. OF STUDENTS	PERCENTAGE(%)
NORMAL (0-7)	126	36
MILD (8-9)	67	19.14
MODERATE (10-14)	100	28.57
SEVERE (15-19)	42	12
EXTREME SEVERE (20+)	15	4.2

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