

Depression, anxiety & stress among first year medical students: A cross sectional study.

Kiran Kumar Patnaik¹, C Moses Samuel², Gandhi Bhaskar Pathrudu³,
YVA RamLakshmi⁴, Farah Bahmed⁵, Ashutosh VP Bodhe⁶.

(1,2,4) - Assistant Professor, Department of Physiology, Maharajah's institute of Medical Sciences, Nellimarla, Vizianagaram, Andhra Pradesh.

(3) - Assistant Professor, Department of Physiology, Andhra Medical college, Visakhapatnam

(5) - Assistant Professor, Department of Physiology, Deccan college of Medical sciences, Hyderabad.

(6) - Professor & HOD, , Department of Physiology, Maharajah's institute of Medical Sciences, Nellimarla, Vizianagaram, Andhra Pradesh

Abstract:

Background: Medical education is highly stressful. Stepping into a new environment, huge course syllabus which has to be mastered in a short period of time besides continuous assessments, examinations and other social and personal issues makes a newly joined medical student prone to develop negative emotional symptoms.

Objective: This study is an attempt to assess the level of depression, anxiety and stress among first year medical students.

Materials and Methods: A cross sectional study was conducted on 143 first year medical students of MIMS, Vizianagaram, Andhra Pradesh, India. Depression, anxiety and stress was assessed by administering a self reporting DASS-42 questionnaire.

Statistical analysis- SPSS version 16 was used for statistical analysis and Pearson Chi-square was applied for statistical significance.

Results: There was significant level of depression, anxiety and stress among first year medical students. The mean depression, anxiety and stress score was 1.79 ± 0.97 , 2.67 ± 1.32 and 1.94 ± 1.01 respectively. The prevalence of depression was 46.85%, anxiety was 74.12% and stress was 52.44%. The incident of anxiety was highest which showed statistical significance ($p < 0.05$) and females were affected more than males.

Conclusion: A significant proportion of first year medical students are affected with depression, anxiety and stress. The impact of negative emotional symptoms and the relevant contributing factors have to be understood. Early and timely intervention should be done addressing the negative psychological states.

Key-words: Stress, Anxiety, Depression

I. Background

The medical curriculum course is vast and highly stressful.^[1-4] After joining MBBS course, a first year student has to undergo rigorous training. There is a sudden transition from intermediate (10+2) to MBBS, where in there is a huge difference in syllabus which makes a student prone to stress.

In first year MBBS, there are three subjects to be covered namely Anatomy, Biochemistry and Physiology. A student has to undergo training from morning 8 a.m to 4 p.m in the evening covering all three subjects including both theory and practical. Because of huge course and long hours of lectures students are constantly under stress.^[5] Apart from this it takes time for the students to adapt to the new environment.^[6-8] The students who are not from English background have to put an extra effort to understand the classes which are exclusively taught and discussed in English.^[9]

To master the medical subjects is a huge task which is a time consuming process. In due course there is continuous assessment of the students via frequent examinations (theory, practical & viva).^[10] After returning to hostel/home they have to prepare for the assignments given for the next day. So they hardly get any time to relax. This may lead to fluctuation in their diet and sleeping patterns.^[11] Those students who can't cope up with this kind of lifestyle may undergo depression or anxiety. Underperformers are more prone to develop stress. Even academically good students show anxiety due to peer competition to constantly deliver good results. Besides students residing in hostels have to remain away from their families which puts an extra psychological pressure which is another contributing factor in development of stress/depression.

The potential consequences of stress, anxiety and depression in the long run may result in social consequences in the form of substance abuse, suicidal tendencies, inter-personal relation difficulties.^[12,13]

Very few studies have assessed the negative emotional symptoms in newly joined medical students in India. So we have conducted this study to assess the level of psychological morbidity and their contributing factors among first year medical students in a private medical college in Andhra Pradesh, India.

II. Materials And Methods

A cross sectional study was conducted among 143 first year medical students in a private medical college. It was a questionnaire based study. A total of 34 boys and 109 girls between 17 to 20 years age group participated in this study. It was completely based on voluntary participation and they were also free to withdraw from the study at any point or stage. Before administering the questionnaire the nature of the study was explained to the students in detail. Verbal consent was taken from all the participants and complete confidentiality was assured. Ethical committee approval was taken prior to the study.

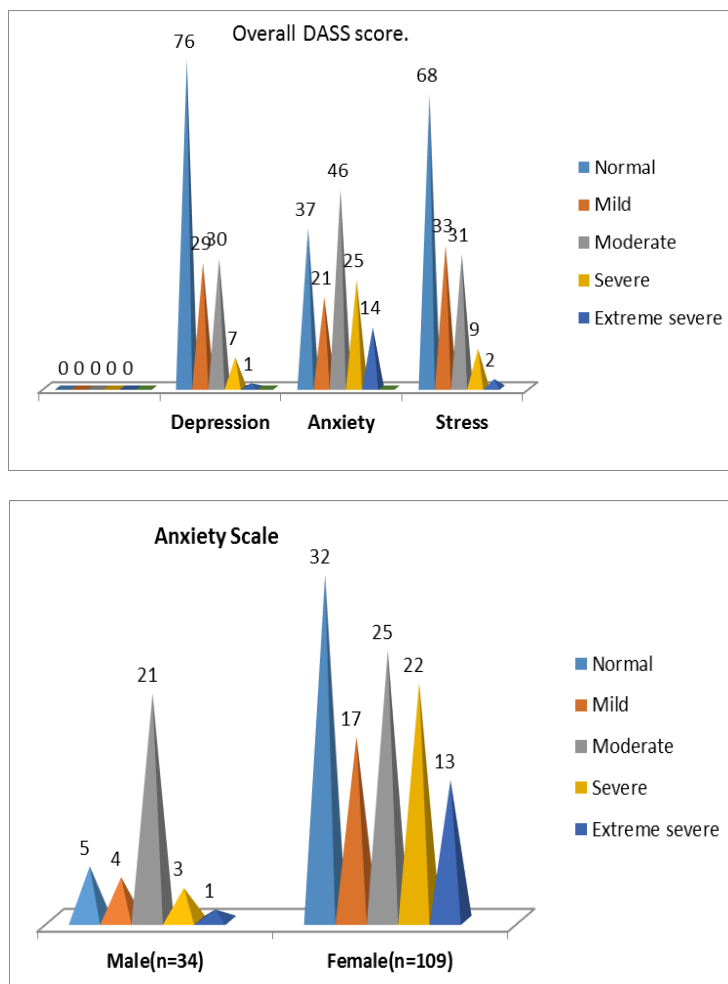
We administered DASS in its original version. Any difficult terminology was duly clarified. The DASS is a 42-item questionnaire which includes three self-report scales designed to measure the negative emotional states of depression, anxiety and stress.^[14] Each of the three scales contains 14 items, divided into subscales of 2-5 items with similar content. The Depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia and inertia. The Anxiety scale assesses skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The Stress scale (items) is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient. Respondents are asked to use 4-point severity/frequency scales to rate the extent to which they have experienced each state over the past week. Scores of Depression, Anxiety and Stress are calculated by summing the scores for the relevant items. The depression scale items are 3, 5, 10, 13, 16, 17, 21, 24, 26, 31, 34, 37, 38, 42. The anxiety scale items are 2, 4, 7, 9, 15, 19, 20, 23, 25, 28, 30, 36, 40, 41. The stress scale items are 1, 6, 8, 11, 12, 14, 18, 22, 27, 29, 32, 33, 35, 39. To use the Scoring Template (below) print on to a plastic overhead. The score for each of the respondents over each of the sub-scales, are then evaluated as per the severity-rating index of DASS scoring

III. Statistical Analysis

Statistical tool SPSS version 16 was used for data analysis and Pearson Chi-Square test was applied for statistical significance.

Overall DASS Score (n=143)						
	Normal	Mild	Moderate	Severe	very severe	Mean±SD
Depression	76	29	30	7	1	1.79±0.97
Anxiety	37	21	46	25	14	2.67±1.32
Stress	68	33	31	9	2	1.94±1.01

Anxiety Score	Normal	Mild	Moderate	Severe	Extreme severe
Male(n=34)	5	4	21	3	1
Female(n=109)	32	17	25	22	13
	Depression		Anxiety		Stress
Mean ± SD	1.79±0.97		2.67±1.32		1.94±1.01
p-value	0.765		0.02		0.772



IV. Results

In depression scale, out of 143 students 76 showed no evidence of depression, 29 showed mild depression, 30 had moderate, 7 had severe and one had very severe depression. The mean depression score was 1.79 ± 0.97 . In the anxiety scale 37 were normal, 21 suffered mild, 46 had moderate, 25 had severe and 14 students had very severe depression. The mean anxiety score was 2.67 ± 1.32 . In stress scale 68 were normal, 33 students had mild stress. 31 students suffered from moderate stress, 9 students had severe and 2 of them suffered from very severe stress, The mean stress score was 1.94 ± 1.01 .

The prevalence of anxiety was highest ($p < 0.05$) among first year medical students. The prevalence of anxiety was more among females. The incidence of depression and stress was not statistically significant.

V. Discussion

In our study an attempt has been made to assess the level of depression, anxiety and stress among first year medical students. Medical curriculum is highly stressful.^[15] Huge amount of course has to be mastered in a short period of time. Various studies have shown that high incidence of stress, anxiety and depression among first year medical students.^[16-19] In this study 46.85% of the students showed depression and 52.44% showed stress of different grades (mild, moderate & severe). The mean anxiety score was highest (74.12%), which was statistically significant ($p < 0.05$). The incidence of anxiety was more among females than males. Similar result was seen in previous studies.^[20,21] The cause of increased anxiety in females may be due to enthusiasm for academic excellence, competitiveness or may be due to lack of physical exercise.

VI. Conclusion

- We have to understand the impact of the negative emotional symptoms and the relevant contributing factors.
- This study showed high prevalence of anxiety and considerable amount of stress & depression among first year medical students.
- Early and timely interventions should be done addressing these negative emotional symptoms in the form of – relaxation techniques, workshop on stress management, yoga, counselling of students.

VII. Limitations

As it is a questionnaire based study, reporting bias can't be eliminated. This study was restricted to only one medical college. The sample size was small and unequal. Further studies taking large and proportionate sample size would minimize bias.

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