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Assessment of Stress and Anxiety among Medical Students

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Abstract

Objectives: To assess the levels of stress among first and second year medical students and to assess the levels of anxiety among first and second year medical students.

Design: All first year and second year students were given a pretested, semi structured questionnaire to fill up. The questionnaire was divided into two parts A and B: Section A has questions on demographic details of the study participants. Section B has questions to assess Stress and anxiety using Depression Anxiety Stress Scale - 21 (DASS21) questionnaire. Data was entered and analyzed using Statistical Package for the Social Sciences Version 17 (SPSS version 17).

Setting: Kasturba medical college, Mangalore (a constituent of MAHE, Manipal).

Participants: All first year and second year medical students of Kasturba medical college.

Results: A total of 210 students were surveyed out of which 105 (50%) were of 1st year MBBS and 105 (50%) were from 2nd year MBBS. 95(45%) students were males and 115(55%) were females. 188 (89.5%) study individually, 22 (10.5%) study in group. 69 (33%) are satisfied with their academic performance, 141 (67%) are not satisfied with their academic performance. The prevalence of stress is more among females (18.6%) as compared to males (12.8%). The prevalence of anxiety is more among females (33.7%) as compared to males (25.7%). 31.4% of the students showed stress of varying levels (mild, moderate, severe, extremely severe). The second year MBBS students (18.1%) were found to have more stress than first year MBBS students (13.3%). 59.4% of the study participants showed Anxiety of varying levels (mild, moderate, severe, extremely severe). The second year MBBS students (30.3%) were found to have more anxiety than first year MBBS students (29%).

Conclusions: According to our study, 31.4% of the study participants showed stress of varying levels (mild, moderate, severe, extremely severe). The second year MBBS students (18.1%) were found to have more stress than first year MBBS students (13.3%). 59.4% of the study participants showed Anxiety of varying levels (mild, moderate, severe, extremely severe). The second year MBBS students (30.3%) were found to have more anxiety than first year MBBS students (29%).

Abbreviations: DASS21: Depression Anxiety Stress Scale - 21; SPSS version 17: Statistical Package for the Social Sciences Version 17.

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Introduction

Stress anxiety and depression are the body's reactions to changes that require physical, mental, or physiological adjustment [1]. The environment of medical training is regarded as intense and demanding to students [2].

Majority of students feel that, first year brings change of environment along with realization that it is impossible to master all subjects to perfection as there is heavy information load. This challenges most student's previous self-image as they were successful in their pre medical school days and instills self-doubt [3]. As they enter second and third year, students are busy with preclinical courses, which are very vast in content. Transition from preclinical to clinical training, students learn how to approach and handle patients, which slowly makes their knowledge more practical and reduces tension [4].

Stress has also been found to be associated with sleep problems and lower academic performances [5]. Furthermore, it has also been linked to substance abuse and drug addiction [6]. A previous study reported that approximately 14% having suicidal thoughts and 6% had planned to commit suicide during medical training [7]. In another recent longitudinal study reported that approximately 10% of medical student's experience suicidal ideation during medical training [8]. Studies from other parts of world have shown a high prevalence of depression in medical students [7-10]. 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 [11, 12]. Medical students are an important human asset for our future, depression in them leads to reduced productivity, decreased quality of life, increased learning difficulties and may detrimentally affect patient care [8, 13].

There are very few studies available regarding the level of stress, anxiety and depression among Indian medical students. The present study was undertaken to determine the prevalence of stress and anxiety among the first and second year medical students belonging to a private medical college in India and to look for related demographic characteristics and contributing factors.

Objectives

- To assess the levels of stress among first and second year medical students.
- To assess the levels of anxiety among first and second year medical students.

Materials and Methods

This is a cross sectional study conducted in Kasturba medical college, Mangalore. The study participants were 1st and 2nd year MBBS students of KMC Mangalore. Institutional ethical committee clearance was taken before starting the study. After obtaining the institutional ethics committee clearance, data was collected using questionnaire. The study subjects were approached in their respective class rooms. The nature and objective of the study was explained to them in a language they understood. A written informed consent was obtained from them. Each student was considered as an individual participant in the study. A pretested, semi structured questionnaire was administered to them. The questionnaire was divided into two parts A and B: Section A has questions on demographic details of the study participants. Section B has questions to assess Stress and anxiety using DASS21 questionnaire.

The DASS21 questionnaire has 21 questions out of which 7 questions belong to depression, 7 to anxiety and 7 to stress. Each of the questions have a rating scale next to them where the participant had to mark/circle their response. The rating scale is ;- 0 – did not apply to me at all; 1 – applied to me to some degree, or some of the time; 2 – applied to me to a considerable degree or good part of time; 3 – applied to me very much or most of the time.

The scores for depression, anxiety and stress were calculated by adding the scores for the appropriate items and were multiplied by 2 as DASS has 42 items in total. Then this score for each item was compared to the recommended cut off scores. The recommended cut off scores were:

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely severe	28+	20+	34+

Table 1: *The cut off scores*

Since our study concentrates on only anxiety and stress, score of only those two items were taken into consideration for inference. For data entry and analysis SPSS version 17 software was used.

Results

A total of 210 students were surveyed out of which 105 (50%) were of 1st year MBBS and 105 (50%) were from 2nd year MBBS. 95(45%) students were males and 115(55%) were females. 188 (89.5%) study individually, 22 (10.5%) study in group. 69 (33%) are satisfied with their academic performance, 141 (67%) are not satisfied with their academic performance. The other demographic details are mentioned in Table 2. The year wise distribution of stress and anxiety are given in table 3 and 4 respectively.

According to our study, 31.4% of the study participants showed stress of varying levels (mild, moderate, severe, extremely severe) the prevalence of which is more among females (18.6%) as compared to males (12.8%). The second year MBBS students (18.1%) were found to have more stress than first year MBBS students (13.3%) and 59.4% of the study participants showed Anxiety of varying levels (mild, moderate, severe, extremely severe) the prevalence of which is more among females (33.7%)as compared to males (25.7%). The second year MBBS students (30.3%) were found to have more anxiety than first year MBBS students (29%).

Demographic Details of the Study Participants		
Age distribution of the study participants (n = 210)	Variable	Number (percent)
	Age in years	Number (percent)
	17-18	27 (12.9%)
	19-20	155 (73.8%)
	>21	28 (13.3%)
School board of the study participants (n = 210)	CBSE	140 (66.7%)
	ICSE	33 (15.7%)
	State Board	33 (15.7%)
	Others	4 (1.9%)
Father's education of the study participants (n = 210)	Education	Number (percent)
	Postgraduate	96 (45.7%)
	B tech	37 (17.6%)
	M.B.B.S	26 (12.4%)
	B.A	9 (4.3%)
	High school	6 (2.9%)
	Intermediate	3 (1.4%)
	B.A.M.S	2 (1.0%)
	B.Sc.	2 (1.0%)

	LLB	2 (1.0%)
	Not specified	19 (9.0%)
Father's occupation of the study participants (n=210)	Occupation	Number (percent)
	Doctor	50 (23.8%)
	Engineer	47 (22.4%)
	Business	45 (21.4%)
	Government Servant	26 (12.4%)
	Professor	5 (2.4%)
	Teacher	5 (2.4%)
	Manager	4 (1.9%)
	Not specified	18 (8.5%)
Mother's education of the study participants (n =210)	Education	Number (percent)
	Postgraduate	96 (45.7%)
	High school	23 (11.0%)
	M.B.B.S and allied health sciences	23 (10.9%)
	B.A	12 (5.7%)
	B.Sc.	12 (5.7%)
	B.Tech	5 (2.4%)
	B.Com	4 (1.9%)
	Not mentioned	32 (15.2%)
Mother's occupation of the study participants (n =210)	Occupation	Number (percent)
	House Wife	102 (48.6%)
	Medical field	36 (17.1%)
	Government Servant	16 (7.6%)
	Teacher	14 (6.7%)
	Business	7 (4.8%)
	Engineer	5 (2.4%)
	retired	3 (1.4%)
	Not specified	11 (5.2%)
Pressure from parents about performing well in academics on study population (n=210)	Pressure	Number (percent)
	Extremely pressurized	13 (6%)
	Pressurized but can handle pressure	85 (41%)
	Not pressurized	112 (53%)

Table 2: *Demographic details of the study participants*

Stress level						
Year	Normal	Mild	Moderate	Severe	Extremely severe	Total
1st MBBS	77 (36.6%)	16 (7.6%)	3 (1.4%)	5 (2.4%)	4 (1.9%)	105
2nd MBBS	67 (32%)	20 (9.5%)	5 (2.4%)	5 (2.4%)	8 (3.8%)	105
						210 (100%)

Table 3: *Distribution of Stress levels among study participants in relation to year (n= 210)*

Anxiety level						
Year	Normal	Mild	Moderate	Severe	Extremely severe	Total
1st MBBS	44 (21%)	9 (4.3%)	34 (16.2%)	11 (5.2%)	7 (3.3%)	105
2nd MBBS	41(19.5%)	7 (3.3%)	35 (16.6%)	5 (2.4%)	17 (8%)	105
						210 (100%)

Table 4: *Distribution of Anxiety levels among study participants in relation to year (n= 210)*

Discussion

In our study an attempt has been made to assess the level of stress and anxiety among first and second MBBS students. The environment of medical training is regarded as intense and demanding to students [2]. Vast amount of course information has to be learnt in a short period of time. Various studies have shown that high incidence of stress and anxiety among medical students. In this study 31% of the students showed stress and 60% showed anxiety of different grades (mild, moderate, severe and extremely severe). In this study we found that second MBBS students are experiencing more stress and anxiety when compared to when compared to those of first MBBS students. This may be attributed to greater fear of not attaining their goal of being a doctor or may be due to excessive load of both para clinical and clinical subjects as compared to only basic science subjects in the first MBBS. The incidence of stress and anxiety was more among females than males. Similar results was seen in previous studies.

Conclusion

This study showed high prevalence of anxiety and considerable amount of stress among medical students. According to our study, 31.4% of the study participants showed stress of varying levels (mild, moderate, severe, extremely severe) the prevalence of which is more among females (18.6%) as compared to males (12.8%). The second year MBBS students (18.1%) were found to have more stress than first year MBBS students (13.3%). 59.4% of the study participants showed Anxiety of varying levels (mild, moderate, severe, extremely severe) the prevalence of which is more among females (33.7%)as compared to males (25.7%). The second year MBBS students (30.3%) were found to have more anxiety than first year MBBS students (29%).

Limitations

1. As it is a questionnaire based study, reporting bias can't be eliminated.
2. This study was restricted to only one medical college.

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References

1. Mannapur B., *et al*. "A study of Psychological stress in undergraduate Medical students at S N Medical College, Bagalkot, Karnataka". *Journal of Clinical and Diagnostic Research* 4.1 (2010): 2869-2874.
2. Adams J. "Straining to describe and tackle stress in medical students". *Medical Education* 38.5 (2004): 463-4.
3. Rosenthal JM, Okie S. "White coat, mood indigo-depression in medical school". *New England Journal of Medicine* 353.11 (2005): 1085-1088.
4. Tchen G., *et al*. "What is the relationship between indicators of stress and academic performance in first year university students? A prospective study". *Journal of Institutional Research* 10.2 (2001): 1-2.
5. Kaufman DM., *et al*. "Stressors in 1st-Year Medical School: Comparison of a Conventional and Problem-Based Curriculum". *Teaching and Learning in Medicine* 8.4 (1996): 188-194.
6. Yousafzai AW., *et al*. "Well-being of medical students and their awareness on substance misuse: a cross-sectional survey in Pakistan". *Annals of General Psychiatry* 8.1 (2009): 8.
7. Hem E., *et al*. "The prevalence of suicidal ideation and suicidal attempts among Norwegian physicians. Results from a cross-sectional survey of a nationwide sample". *European Psychiatry* 15.3 (2000): 183-189.
8. Dyrbye LN., *et al*. "Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students". *Academic Medicine* 81.4 (2006): 354-373.
9. Goebert D., *et al*. "Depressive symptoms in medical students and residents: a multischool study". *Academic Medicine* 84.2 (2009): 236-241.
10. Khan MS., *et al*. "Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan". *Journal of Pakistan Medical Association* 56.12 (2006): 583-586.
11. Vaz RF., *et al*. "A preliminary study of stress levels among first year medical students at the University of Zimbabwe". *The Central African journal of medicine* 44.9 (1998): 214-219.
12. Mancevska S., *et al*. "Depression, anxiety and substance use in medical students in the Republic of Macedonia". *Bratislavské lekárske listy* 109.12 (2007): 568-572.
13. Rosvold EO and Bjertness E. "Physicians who do not take sick leave: hazardous heroes?". *Scandinavian Journal of Public Health* 29.1 (2001): 71-75.
14. TheDASS21Scaleavailableat:http://www.gppaustralia.org.au/sites/default/files/services/mh/DASS%2021%20with%20Scoring%20Sheet.pdf. (Accessed on 10thMay 2017).