

A Comparative Study of Anxiety, Depression and Stress Among Medical and Engineering Students



Healthcare

KEYWORDS : Anxiety, Depression, Stress, Medical and Engineering students

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ABSTRACT

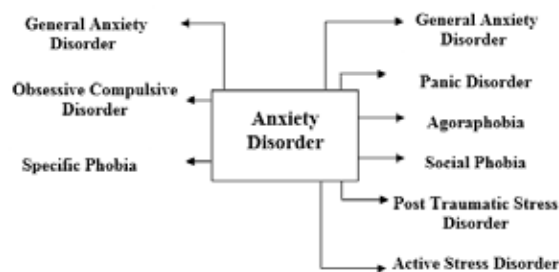
The aim of this study is to investigate the effects of anxiety, depression and stress among medical and engineering students. Physiological stress among medical and engineering students is common as compared to other professional courses. There has been much research to suggest that depression anxiety and stress among students but nobody had researched about the anxiety and depression among medical students and engineering students comparatively. The present study is carried out to find if there is any significant difference in the level of the perceived stress anxiety and depression among the students of medical and engineering.

Introduction

It is of utmost importance to identify the emotional challenges students face today in higher education. Depression and Anxiety are prevalent problems in colleges today. Studies have found that graduate school is not a particularly health place. "There is no question that all the national survey's we have at our fingertips show a district rise in the number of mental health problems. Accordingly to the National Institute of Mental Health mean while, nearly a quarter mental health services on the campus. Jerald Kay M.D. Professor and chairman of the Department of Psychiatry at the Wright State University School of Medicine described that in the past fifteen years depression has double and suicide tripled among students.

According to the survey from the **Anxiety Disorders Association of America (ADAA)** universities and colleges also have seen an increase in students seeking services for anxiety disorders "Recent study found that graduate students were become increasingly disillusioned with carriers in academic and did not view large research institutions as family workplaces. Knowles said During college "students deal with a unique amount of stressors specifically college calls for a significant transition where students experience many firsts including new life style, friends, roommates exposure to new cultures and alternate way of thinking. When student cannot manage these firsts they are more likely to struggle. If students do not feel adequate or prepared to cope with new environment of a college, they could easily become susceptible to Anxiety and depression. Feeling of inadequacy can stem from academic stressors. In college competition is much more significant there is the palpable pressure to do well, whether the demands come from parents or the students. There has been much research to suggest the anxiety, depression, and stress exist among college students. The results of this study also suggest that medical students and engineering students are at extremely high risk for experiencing increased levels of stress and anxiety.

Anxiety is defined as a general mood conditions that occurs conditions that occurs without a certain triggering motivation. Anxiety is related with unavoidable and uncontrolled situations. It is regarded as a displeasing feeling of concern and fear. Anxiety also referred as worry or angst is defined as a physiological or psychological state described by emotional, somatic behavioral and cognitive components. Anxiety disorder is when a person experience excessive anxiety, it is known as anxiety disorder. An anxiety disorder may take anxious most of the time without any apparent reason or the anxious feeling may be so uncomfortable that to avoid them or may stop it. Category of Anxiety Disorder is the most common of all mental health disorders considering in all category of anxiety disorder are



Stress is our body way to responding to any kind of demand. It can be caused by both good and bad experiences. Stress is an agitated physiological state in which the electrical transmission of information along neurons system may collapse or bodily functions may perform poorly. Many different things can cause stress from physical to emotional. Some of the most common sources of stress are: Survival stress: "Fight or Flight" a common response to danger in all people and animals. Internal stress: Internal stress in when people make them stressed. Environmental stress: This is a response to things around that cause stress such as 'noise' 'crowding' and pressure. Fatigue and over work: stress builds up over a long time and can take a hard toll our body it can be caused by working too much.

justification of the study

Physiological stress among medical and engineering students is common as compared to other professional courses. There has been much research to suggest that depression anxiety and stress among students but nobody had researched about the anxiety and depression among medical students and engineering students comparatively. The present study is carried out to find if there is any significant difference in the level of the perceived stress anxiety among the students of medical and engineering.

The perceived stress among medical and engineering students affects not only their academic performances but also to some extent of their health. It is usually observed that these students undergo tremendous stress during various stages of their courses and there is a high rate of suicide among them. Academic stressors or a factor was the top stressor among medical and engineer graduate school stressors come from academic learning, experimental research and time management. Social factors like family and friend support was also responsible among medico and engineer students. Emotional factors such as Raging were responsible for the first year students of both courses. Stress was not found to differ significantly on the basis of sex, stay at hotel, mode of travel, time spent in travel place of school education. Psychological factors associate with anxiety and de-

pression, interpersonal conflict, sleep disturbance and poor academic and clinical performance. Engineering students devoted most of the time in their projects, research and their field work they got less time and energy to spent in stress relief activities. Workload was time consuming and entailed both completing and thinking continually their work, thereby limiting time for interacting with others. Obstacles in medical students that stress found to decrease attention, reduce concentrations, impinge on decision making to establish good relationships with patients, as a consequence students have reported feeling of inadequacy and dissatisfaction with clinical practice in the future stress has also been linked to medical student suicide, drug abuse and alcohol use over one third of medical students suffered from emotional disturbance.

Obstacles in engineering students were financial stress, peer relations stress of time job s, limited course options, poor time management, poor relations with professional, isolation and frustration and lack of intimate partner for sharing generally the stressors of engineering graduate students come from academic learning, experimental research, financial conditions and time management therefore the study is justified on the ground as it earns to investigate whether Stress Anxiety and Depression has any effect on academic performance of medical and engineer students. The study also become pertinent as is being carried out with a view to know the opinion of students towards the problems and difficulties being faced in medico and engineering.

Objectives of the study

To compare the **anxiety**, **depression** and **stress** among medical and engineering students.

hypothesis

There is no significant difference between anxiety, depression and stress among medical and engineering students.

method of the study

Keeping in view of the nature of the problem, the research carried out this study on the lines of survey method. George J. Mouly has explained it as "No category of educational research is more widely used than the type known variously as the survey the normative survey, status and descriptive research".

selection of the sample

Sample for the present study systematically consisted of 200 students out of which 100 students are of medical college and 100 students are of engineering college of Mathura, Agra and Kanpur.

Variables

Dependent variable	-	Stress, Anxiety and Depression
Independent Variable	-	Medical and engineering students

selection and description of the tool

Tool profile

Anxiety, depression and stress scale (ADSS) ADSS is developed by Pallavi Bhatnagar. This scale comprises of 48 items divided into 3 subscale

- Anxiety sub scale – comprises of 19 items.
- Depression subscale – comprises of 15 items.
- Stress subscale – having 14 items

Reliability of the tool

Reliability of the total scale in terms of internal consistency as measured by Conbach's Alpha and Spearman Brown coefficient is 0.81 and 0.89.

interpretation of data

Exhibiting the frequency distribution of scores of Anxiety, Depression and Stress of medical students

Summary of results smooth frequency score of anxiety depression and stress of medical students

C.I.	Anxiety		Depression		Stress	
	Fre-quency	Smooth Fre-quency	Fre-quency	Smooth Fre-quency	Fre-quency	Smooth Fre-quency
12-13	2	1.67	2	1.67	2	2.33
10-11	3	7.33	3	7.33	5	8.67
8-9	17	20.67	17	20.67	19	16.67
6-7	42	24.67	42	24.67	26	22.67
4-5	15	22.67	15	23.00	23	22.67
2-3	11	8.67	12	12.00	19	16.00
0-1	10	7.00	9	7.00	6	8.33
Total	100		100		100	

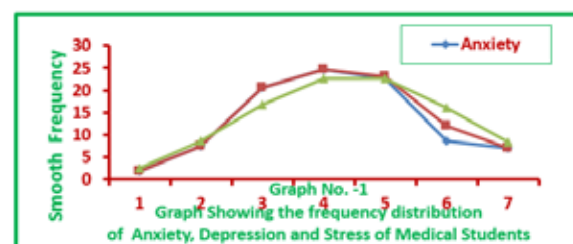
On the basis of obtained score skewness value and Kurtosis value were calculated for further analysis.

Summary of result of skewness and kurtosis

Vari-ables	N	Mean	SD	Skewness	Kurtosis
Anxiety	100	6.39	2.77	0.12	0.03
Depres-sion	100	5.73	2.77	0.83	0.44
Stress	100	5.56	2.78	0.18	0.001

From the above table it shows that mean of Anxiety score of Medical students was found to be higher than of Depression and stress scores which were **5.73** and **5.56** respectively.

The standard deviation of Anxiety, depression and stress scores of Medical Students were calculated, **2.77**, **2.77** and **2.78** respectively which indicates heterogeneity among the scores of Medical Students.



Further it can be interpreted from table -2 that medical student Anxiety, Depression and Stress scores found negatively skewed and distribution was platykurtic in nature as shown in Graph.

Exhibiting the frequency distribution of scores of Anxiety Depression and stress of Engineering Students.

Summary of results smooth frequency score of anxiety depression and stress of engineering students

C.I.	Anxiety		Depression		Stress	
	Fre-quency	Smooth Fre-quency	Fre-quency	Smooth Fre-quency	Fre-quency	Smooth Fre-quency
15-17	6	4.00	0	1.00	0	1.33
12-14	6	9.33	3	5.00	4	5.67
9-11	16	18.00	12	17.33	13	18.00

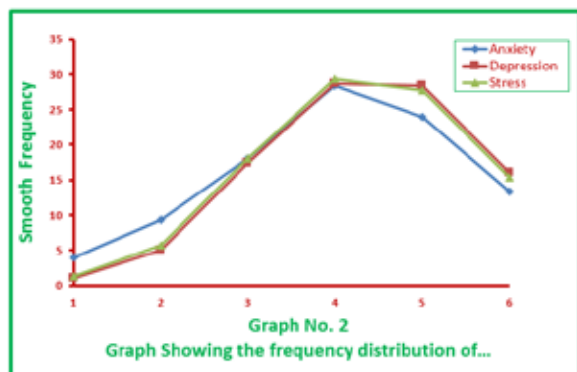
6-8	32	28.33	37	28.67	37	29.33
3-5	37	24.00	37	28.33	38	27.67
0-2	3	13.33	11	16.00	8	15.33
Total	100		100		100	

On the basis of obtained score skewness value and Kurtosis value were calculated for further analysis.

Summary of scores of skewness and kurtosis

Vari-ables	N	Mean	SD	Skewness	Kurtosis
Anxiety	100	7.22	3.5	0.87	0.18
Depres-sion	100	5.67	1.8	0.05	0.30
Stress	100	6.01	2.7	0.21	0.004

The mean of Anxiety scores of Engineering students was found of higher than of Depression and stress scores which were **5.67** and **6.01** respectively. The standard deviation of Anxiety, Depression and stress scores of Engineering students were calculated **3.5**, **1.8** and **2.7** respectively which indicates heterogeneity among the scores of Anxiety, Depression and stress of engineering students.

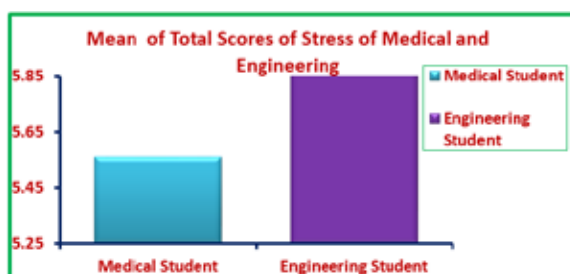
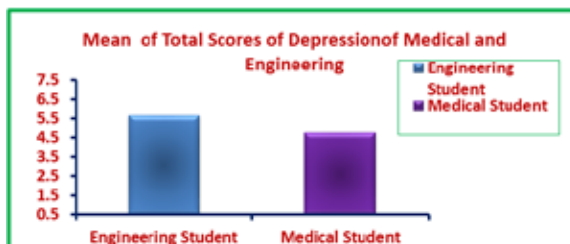
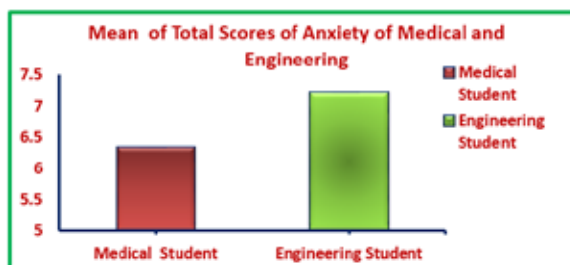


Further it can be interpreted from above table that engineering student students stress score is positive skewed and children found negatively skewed for Anxiety and stress and distribution was leptokurtic in nature as shown in Graph.

Summary of the result of scores of anxiety depression and stress of medical and engineering students

Streams	Category	Mean	SD	t- Value	Table Value Level
Anxiety	Medical Student	6.34	2.9	4.25	0.01 Significant
	Engineering Students	7.22	3.5		
Depres-sion	Medical Student	5.73	2.77	0.18	0.01 Not Significant
	Engineering Students	5.67	1.8		
Stress	Medical Student	5.6	2.78	1.18	0.01 Not Significant
	Engineering Students	6.01	2.77		

On the basis of above interpretation it can be concluded so that the null hypothesis is rejected and there is no significant difference between Anxiety, Depression and stress of Medical and Engineering Students.



findings

Findings related to statement- 1

- The mean value of Anxiety, Depression and stress in two groups understudy i.e. Medical students **6.39**, **5.73**, **5.56**, and engineering students **7.22**, **5.67** and **6.01** respectively.
- The standard deviation of both groups was found **2.77**, **2.7** and **2.78** respectively which indicated high deviation in engineering students **3.5**, **1.8**, **2.78** in compare to medical students.
- The graph of medical student is negatively skewed platykurtic in nature and the graph of engineering students is positively skewed leptokurtic in nature.

educational implications

Suggestions for Medical Students

- In order to prevent additional problems of medical students it is very important for medical educations to help students to manage their stress and anxiety.
- Medical students are influenced by the various hospital stressors agents in addition to the stress caused by theoretical training environment.
- Implications of stress including anxiety and depression are of serious concern resulting in inability to cope with curricular demands.
- In order to coping stress more appropriate methods are used. Cognitive-behavioral coping strategies are the most effective method to reduce the stress.
- In order to coping challenges to all medical colleges are to promote student well being and provide students with the coping tools to deal with stress throughout their medical depression.
- In order to facilitate better interaction between the students and the faculty, have advisory services peer group counseling at campus, instigate rehabilitation programs for victims of anxiety and depression.
- Students on their part should address and maintain their mental health as well being, making it a life long focus.

Suggestions for Engineering Students

- In order to improve the physical and mental health of engineering students must having a proactive attitude in learning and cooperate with their lab them to cultivate their professional abilities.
- In order to reduce anxiety word load should be reduced and stress relief activities should be enhanced.
- In order to reduce stressors ample time should be given for interacting with others.
- In order to reduce emotional depression and anxiety ragging should be completely banned in peer group.
- In order to reduce anxiety of project and experimental work. Team work and cooperation of faculty should be enhanced.
- Students on their part should care well for their mental and physical health.

suggestions for further researches

- This study is conducted on a small sample. It can be widely conducted on a bigger sample for more authentic result.
- This study has been conducted on Medical and Engineering students. It can be also being conducted on the students of other professional courses.
- This study has been conducted of Agra, Mathura and Kanpur Medical and Engineering students. It can also be conducted on student of other cities.
- This study can be conducted to know the level of Anxiety, depression and stress among faculty of Medical and Engineering colleges.
- This study can be used for comparing anxiety level of male students and female students individually.
- This study can be used on the impact of training on stress, anxiety and academic-performance of Medical and Engineering students. It will help medical and engineering educators to better understand the long term efficacy of training program.
- This study can be done with the other variables like suicide, Medical school dropout engineering school drop out and deterioration in relationships.

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