

STUDY OF EXAMINATION RELATED ANXIETY LEVELS IN FIRST YEAR MEDICAL STUDENTS

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ABSTRACT

Study of examination related anxiety levels in first year medical students during university examination

Background & objective: Undergraduate medical education comprises strenuous study and training for a period of 5–6 years, which might adversely affect students' mental health. Medical school is recognized as a stressful environment that often has a negative effect on students' academic performance, physical health, and psychosocial well-being. Hence the current study was designed to assess examination related anxiety among first year medical students during university examination.

Materials & methods: Ninety healthy first year medical students of both the sex in the age group of 17-19 years were included for the study. Informed consent & IEC was obtained. Anxiety levels were measured by administering the Hamilton Anxiety Rating Scale (HAM-A) questionnaire.

Results: The anxiety scores were significantly higher in female students (12.49 ± 6.42) than in male students (9.49 ± 5.06) ($p < 0.05$). Results of our study showed 86.7% of students with mild, 8.9% of students with moderate and 4.4% of students with severe degree anxiety during examinations.

Conclusion: The results suggest that there was significant increase in anxiety level among the first year medical students, especially females during university examination. Effective lifestyle modifications, stress management and counseling should be implemented as the students enter the profession schools.

Keywords: Anxiety levels, Medical students, Medical Education, HAM-A, Stress.

Introduction:

Mental health is an essential component of health defined by the World Health Organization. Undergraduate medical education comprises strenuous study and training for a period of 5–6 years, which might adversely affect students' mental health. Medical school is recognized as a stressful environment that often has a negative effect on students' academic performance, physical health, and psychosocial well-being. The curricular objectives are dynamic due to expanding knowledge and evolving therapies. Medical students experience higher levels of depression and anxiety compared to the general population and to their same age peers (1, 2).

Anxiety and depression are worldwide problems which reflect the mental health of the population. The American Psychological Association characterizes anxiety and stress by feelings of tension, worried thoughts, and physical changes(3, 4). Anxiety is more related to autonomic arousal, skeletal muscle tension, and situational aspects, whereas stress is more related to irritability, impatience, and difficulty in relaxing. Stress has been found to correlate with depression and anxiety (5).

Anxiety is defined as an abnormal and overwhelming sense of apprehension and fear often marked by physiological signs (as sweating, tension, and increased pulse), by doubt concerning the reality and nature of the threat, and by self-doubt about one's capacity to cope with it (6). Increase in levels of anxiety and depression will have a negative impact on proficiency of academic study program, which ultimately affect the society economically. In addition patients care is affected by psychological distress among physicians such as poor communication, diminished quality of care and medical errors have been found to be associated with physical stress (7, 8).

The rapid increase in the number of medical schools makes interesting field for exploring a range of issues related to medical education. Evaluation is a part of academic curriculum. These are often tiresome and extremely stressful for students at any level of education. Stressful feelings can alter the ability to think during examinations. Hence the current study was designed to study examination related anxiety in first year medical students during university examinations.

Materials & methods:

This cross sectional study was conducted in the department of Physiology, Koppal Institute of Medical Sciences, Koppal, Karnataka, India. The study involved ninety healthy first year medical students in the age group of 18-19 years. Informed consent was taken from all the participants who volunteered for the study. The study was approved by Institutional Ethical Committee, Koppal Institute of Medical Sciences, Koppal, Karnataka, India.

Inclusion criteria:

1. Eighty healthy first year medical students of both sex between 17 and 19 years.

Exclusion criteria:

1. History of consumption of alcohol/smoking.
2. History of depressive disorders in the past.
3. History of sleep disorders.
4. History of any major medical illness.
5. History of consumption of drugs acting on CNS.

Experimental design: The subjects were selected by a detailed history & thorough physical examination. The students were asked to fill the questionnaire after the theory exams and before the practical exams. Anxiety levels of the students were determined by Hamilton Anxiety Rating Scale (HAM-A) questionnaire (9). HAM-A was one of the first rating scales developed to measure the severity of anxiety symptoms and is widely used both for clinical as well as research settings. Questionnaire consisted of 14 items measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). We administered the questionnaire as a hard copy. Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0-56, where <17 indicates mild, 18-24 mild to moderate, 25-30 moderate to severe.

Statistical analysis:

The results were expressed as mean \pm standard deviation (SD). A p value of <0.05 was considered statistically significant. Statistical analysis was performed using the statistical package for social & sciences. Chi square test was applied to compare between the parameters.

Results:

Anxiety levels of the students were determined by Hamilton Anxiety Rating Scale (HAM-A) questionnaire in forty five healthy male (18.58 ± 0.49) years & forty five female medical students (18.53 ± 0.50) years in the age group of 18-19 years. The anxiety scores were significantly higher in female students (12.49 ± 6.42) than in male students (9.49 ± 5.06) ($p < 0.05$) Table 1 & figure 1. Results of our study showed 86.7% of students with mild, 8.9% of students with moderate and 4.4% of students with severe degree anxiety during examinations. The results are shown in the table 2 & figure 2.

Discussion:

Anxiety is a normal reaction to stress. Stress is defined as any change in the environment those changes or threatens to change an existing optimal steady state (10). Anxiety and depression can be taken as a reliable indicator for assessment of mental illness in the community (11). In our study, 86.7% of subjects showed mild anxiety levels, 8.9% of subjects showed moderate anxiety levels and 4.4% of subjects showed severe anxiety levels. A significant relationship, however, was found in the present study between gender and anxiety where female students experienced anxiety than male students. The higher anxiety scores in female medical students could be due to hormonal changes.

Many Psychological factors contribute significantly to examination related anxiety. Various stressors, such as financial, workload, academic pressure, inadequate teacher and student relationships, parent and child relationships, family problems, peer relationships, physical illness, emotional problems, and worries about the future, contribute to poor mental health in some if not all medical students (12-14). Academic stress, inability to cope up difficulties, and lack of concentration are the major stressors found among medical students (5, 12). Lack of strategic studying, time management, inconsistent content coverage, inappropriate

learning styles, lack of review & revising the content studied are the major factors leading to examination related anxiety.

Medical students undergo psychological, hormonal, immunological and behavioral changes during the pre-examination time. The extents to which these changes take place in different students depend upon gender, physical activity, spiritual strength etc. (15). The reason that first year students undergo anxiety could be related to the transition from secondary school to university, academic overload, homesickness, unfamiliarity with academic procedures and demands, time management, the process of making new friends, and increased expectations from family and faculty.

The previous literature reveals that medical students attending private medical schools exhibit more depression than students attending public medical schools. This trend may be due to additional pressures placed on students due to high expectations from parents who have made a financial investment on their child's private medical education.

Conclusion:

Our study concludes mild anxiety due to examination among the first year medical students which overall deteriorates the performance of the students. Anxiety scores were higher in female students as compared to male students. Effective lifestyle modifications, stress management and counseling should be implemented as the students enter the profession schools.

Scope of the study: Further study can be extended in all the phases of medical education.

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Conflict of Interest: The authors declare no conflict of interests.

Scope for the study: The study can be further extended with the estimation of hormones.

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Table:1 Percentage of anxiety scores in first year medical students.

Anxiety scores	Frequency	Percentage
Mild	78	86.7
Moderate	8	8.9
Severe	4	4.4

Table:2 Percentage & Gender based Hamilton Anxiety Rating Score of the students

Anxiety scores	Male n %	Female n/ %	Total n/ %
Mild	42 53.8%	36 46.2%	78 100%
Moderate	3 37.5%	5 62.5%	8 100%
Severe	0 0.0%	4 100.0%	4 100%

Figure:1 shows Percentage of anxiety scores in first year medical students

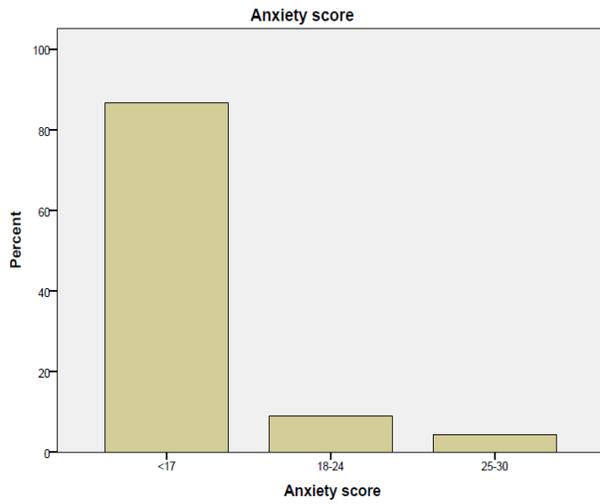


Figure:1 shows anxiety scores in male & female students

