**Original article**

# Point Prevalence of anxiety and depression in 1st Year Medical Students

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**Abstract**

**Introduction:** Anxiety and depression are emotional changes occurring in response to intense or prolonged stress disturbing homeostasis. This study was done to assess prevalence of anxiety, depression and to know the stressors perceived significant by this group at this time of their life.

**Materials and Methods:** Hamilton anxiety rating scale questionnaire and Beck depression inventory were used to assess. Personal information format which included the variables that are commonly perceived as stressors in this phase of life was used to analyze stressors.

**Observation & Results:** Prevalence of anxiety in these students was more than three times compared to general public. Out of 141 students 32 students were anxious and 15 of 32 had associated depression. No female sex preponderance was found. The only statistically significant variable among anxious subjects was self decision on career.

**Conclusion:** This study indicates very high prevalence of anxiety and depression, signifies self decision on career; Suggests influence of environmental / social factors on female preponderance of psychiatric disorders and the need for psychological care to students.

Key **words**: Anxiety, Depression, Stress, Stressors.

## Introduction

The terms 'stress' and 'stressors' were coined by Hans Selye the pioneer of stress research in 1936. He defined stress as non specific response of the body to any demand for change and the demands or stimuli as stressors. Bruce Mcween and Jaap Koolhaas opined that the term stress should be restricted to disturbed homeostatic conditions due to an environmental demand, internal or external that had been so powerful to overpower the natural regulatory capacity of the organism. Generally it is considered as distress - a negative or unpleasant experience though it can be helpful by improving the efficiency in life risked environment and in achieving goals in short term. When it is thrilling and pleasant it is known as Eustress. Chronic stress is always harmful

Stress is inevitable in one's life. It may be of mental / emotional (Processive Stress) or physical strain (Systemic Stress)[(1)]. It spares not even intrauterine life period and results in Intra Uterine Growth Retardation. It activates Hypothalamic - Sympathetic - Adrenal Medullary System instantly and Hypothalamic - Pituitary - Adrenal cortical Axis in a few minutes. When the stress is prolonged in other words is chronic it overrides circadian rhythm of Hypothalamus affecting secretion of hypothalamic releasing hormones and



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the endocrine axes they control. This results in release of stress hormones in excess and at odd hours of day due to disrupted circadian rhythm. The stress hormones released are Corticotrophin Releasing Hormone, Growth Hormone Releasing Hormone, Thyrotrophin Releasing Hormone & Prolactin Releasing Factor from Hypothalamus, Corticotrophin, Growth Hormone, Thyrotrophin & Prolactin [(1)] from anterior Pituitary and in turn Cortisol & Aldosterone from Adrenal cortex, Thyroxine from Thyroid. Thus homeostasis is destabilized and the condition is known as distress manifesting as anxiety with its psychosomatic components.

**Anxiety**

In anxiety the changes occur in physical conditions, cognitive skills, emotions & behaviour based on which the questionnaire to evaluate has been evolved. The physical symptoms include dizziness, acne, grinding teeth, jaw clenching, Insomnia, palpitation, ringing ears, tremors, loss of appetite, shortness of breath, loss of libido or excessive sexual interest and others like changes in micturition and defecation. The changes in cognition are racing thoughts, forgetfulness, poor judgement, loss of humour sense and lack of concentration and creativity. Emotional upsets are anger, crying, depression, mood swings, irritability, fear, apprehension and uncertainty without apparent cause or out of proportion to the cause, negative thinking and constant worry. Compulsive eating, over drinking and smoking, social withdrawal are the behavioural changes.

**Depression**

Depressed mood is one of the psychological symptoms of anxiety (co-morbid)[(2-4)] but presence of it has to be viewed seriously as it affects quality of life more and by fostering suicidal thoughts may lead to loss of life. The reported life time prevalence of both anxiety and depression in general population in India varies from 1.5% - 30% and point prevalence is 2-6% [(5)]. The prevalence rate of both conditions varies widely depending on age and exposure to stimuli or stressors and so varies in different groups of people. Their preponderance in females is high by 1.5-3 times throughout world suggesting genetic predisposition.

In the phase of entry into college one has to face many stressors acting together in a short time and generally we observe that the performance of students falls drastically in I year compared to their higher secondary scores. Hence this study was planned.

**Aims & objectives**

The study aimed to assess point prevalence of anxiety and depression in I year undergraduate medical students and to identify significant stressors with the objective of helping them out with psychological counselling if required.

**Materials & methods**

This is a cross sectional study conducted in the department of Physiology, Coimbatore Medical College after obtaining approval from ethical committee. The sample included a total of 141 1st year undergraduate students of 2008- 2009 batch comprising of 74 females and 67 males in the age group 18-20 years.

**Exclusion criteria:**

No student had past history of psychiatric disorders and psychological problems, endocrine disorders, any other major illnesses and drug intake

Within a month of entry into college the students were assembled and written consent was obtained in the language they knew well. Confidentiality and anonymity were assured and maintained. Hamilton anxiety scale questionnaire and personal information format were given. The questions were explained in both English and Tamil. The subjects were requested to answer guided by their own



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thoughts and cognition. No clue of the results or purpose of the study was let known to the subjects. The personal information data had questions on probable stressors [6,7] i.e. family income, parents literacy, fluency in English, stay in hostel, duration of previous separation from parents, distance from home, presence of close relatives locally, friends as classmates, decision on carrier made by whom. Out of the141 subjects those who self reported with a scale of 11-14, 15-30 and >30 were categorized as suffering from mild, moderate and severe anxiety respectively. They were called upon within a few days and were requested to answer Beck depression assessment questionnaire after explaining the terms of symptoms in it.

**Observations & results**

32subjects had anxiety accounting for 22.7% that is 8.7 times higher prevalence compared to general population and for depression it is 4 times (Table 1). There was no sexual preponderance too (Table 2). Out of 32 anxious subjects 15 (47%) had moderate and severe depression. Of the stressors studied in anxious subjects the variable career decision/ decision on profession showed 5.4 times intra group variation which was the highest. Analysis of data using paired T test, Pearson chi-square test and Z test the following results were ascertained by statistical significance of $p < 0.05$.

- At the time of entry into medical college students have higher prevalence of anxiety & depression ($p < 0.05$) (table 1)
- No statistically significant female sex preponderance (table 2)
- Career decision by others was the single statistically significant stressor (table 3) ( $p < 0.001$)

TABLE 1

**Prevalence of Anxiety and Depression in Students Vs General Population**

| | Number of affected Students extent wise out of 141 | | | | Prevalence in students | Prevalence in general population |
|---|---|---|---|---|---|---|
| Disorder | Mild | Moderate | Severe | Total | | |
| Anxiety | 26 | 04 | 02 | 32 | 22.7% | 2.6% |
| Depression | 08 | 06 | 01 | 15 | 10.6% | 2.6% |

$P < 0.05$

TABLE 2

**Analysis of variables- Sex**

| Female | Male | F:M subjects | F:M in General Population |
|---|---|---|---|
| 20.3 | 25.4 | 1:1.25 | 2-3:1 |

$p < 0.001$



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TABLE III

**Analysis of other variables / Stressors**

| Stressor in anxious subjects | | No out of 32 | % | Statistical Significance |
|---|---|---|---|---|
| Decision on profession | Self | 06 | 19 | Significant $P < 0.001$ |
| | Parents | 26 | 81 | |

**Discussion & conclusion**

The results indicate need for psychological support and counselling for students. The authors organized a lecture on Adolescent Psychology and counselling. Larger studies in different institutions and various groups will help in focussing the resources to the most needed group. Absence of female preponderance in prevalence may be due to improving gender equality, women education and empowerment and this signifies review by larger studies of socioeconomic and cultural factors in place of role of X gene. This study also points out positive impact of self decision on career on individual's health and happiness and is in accordance with results of previous studies [8,9].

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I, S Nalini solemnly assure that the information given above is true to my knowledge, the study is original work of the authors and the same was not published in any other journal.

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