# Depression, anxiety and stress among first year undergraduate medical students

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## ABSTRACT :

We undertook this study to determine the presence of depression, anxiety and stress among first year medical undergraduates studying in a premier medical institution to suggest necessity of interventions to relief stress, anxiety and depression in college students. 200 First year MBBS students (100 females and 100 males) were recruited for the present study. Apparently healthy and willing participants were included in the present study. DASS 42 was used to record depression, anxiety and stress scores. we have observed significant increase in depression, anxiety and stress scores during pre examination period in both males and females. However we have observed higher depression scores in female students in both relaxed state as well as stressed state. Anxiety scores were not significantly different in male and female students in both relaxed and stressed states. Stress scores were significantly different in stressed state in male and female students. It is the need of the time to make medical teachers and medical students aware of negative consequences of high levels of stress, anxiety and depression faced during pre examination period. We recommend that educational institutes should adopt simple relaxation methods for highly stressed students and provide support for their well being and better academic performance.

**Key words:** Anxiety, Medical students, Depression, Stress.

## INTRODUCTION:

Medical school is recognized as a stressful environment that often has a negative effect on students' academic performance, physical health, and psychosocial well-being. [1] More than half of the medical undergraduate students were found to be affected by depression, anxiety and stress. [2] For any student, examination is a frightful. This may due to many reasons like to complete portions before exam, or due to how to face the exam & for some about the result. With less than a month for most examination, many students find themselves weighed down by expectations. Comparisons, parental expectation & peer pressure are major concerns for students attempting their examThe mental health of college students is becoming great concern throughout the world as the college students are more prone to depression, anxiety and stress. Depression is a serious and often under estimated, mental disease that affects both mind and body.[3] High levels of stress in college students not only effect their academic performance but also affect their health conditions.[4] Students experiencing test anxiety may do poorly on an exam even if they know the material better than a classmate.[5] We undertook this study to determine the presence of depression, anxiety and stress among first year medical undergraduates studying in a premier medical institution to suggest necessity of interventions to relief stress, anxiety and depression in college students.

## MATERIALS AND METHODS:

### Participants

200 apparently healthy college students (100 females and 100 males) studying at Krishna institute of Medical Sciences, Malkapur, Karad were recruited for the present study via advertisement on notice-boards. Apparently healthy and willing participants were included in the present study.

### Depression Anxiety and Stress Scale (DASS) [6]

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. 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 autonomic arousal, 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.

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**Conflict of interest:** Authors reported none

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**Procedure**

DASS baseline scores were collected during relaxed state when there is no exam two weeks before and two weeks after and in stressed state othat is one day before final practical viva voce.

**Ethical considerations**

The study was approved by Institutional Ethics Committee. A written, informed consent was obtained from all the participants. The study was carried out in accordance with the "Ethical Guidelines for Biomedical Research on Human Participants, 2006" by the Indian Council of Medical Research and the Declaration of Helsinki, 2008.

**Statistical analysis:** Data was analyzed by SPSS 20.0.

## RESULTS:

Results are presented in table no 1 to table no 6.

| Parameter | Male | Female |
|---|---|---|
| Age | 19.1±1.65 | 19±1.06 |

**Table no: 1** Age of male and female participants (data presented are Mean ± SD)

| | Relaxed state | Stressed state | P value |
|---|---|---|---|
| Depression | 12.52±8.33 | 18.08±8.23 | 0.0003* |
| Anxiety | 13.912±6.68 | 20.912±6.43 | <0.00001** |
| Stress | 16±7.64 | 19.2±7.55 | 0.01* |

**Table no: 2** DASS scores in male and female participants (data presented are Mean ± SD) (*P value <0.05 ** P value <0.001)

| | Relaxed state | Stressed state | P value |
|---|---|---|---|
| Depression | 8.1±5.97 | 15.1±7.26 | 0.0034* |
| Anxiety | 13.588±6.28 | 22.52±6.22 | 0.0007* |
| Stress | 16.1±8 | 19.2±7.02 | 0.01* |

**Table no: 3** DASS scores in male participants (data presented are Mean ± SD) (*P value <0.05 ** P value <0.001)

| | Relaxed state | Stressed state | P value |
|---|---|---|---|
| Depression | 15.9±8.46 | 20.38±8.45 | 0.037* |
| Anxiety | 14.235±7.24 | 21.765±7.02 | 0.0002* |
| Stress | 15.882±7.46 | 24±5.30 | <0.00001** |

**Table no: 4** DASS scores in female participants (data presented are Mean ± SD) (*P value <0.05 ** P value <0.001)

| | Females | Males | P value |
|---|---|---|---|
| Depression | 15.9±8.46 | 8.1±5.97 | <0.0001** |
| Anxiety | 14.235±7.24 | 13.588±6.28 | 0.5004 |
| Stress | 15.882±7.46 | 16.1±8 | 0.8422 |

**Table no: 5** DASS scores in male female participants in relaxed state (data presented are Mean ± SD) (*P value <0.05 ** P value <0.001)

| | Females | Stressed state | P value |
|---|---|---|---|
| Depression | 20.38±8.45 | 15.1±7.26 | <0.0001** |
| Anxiety | 21.765±7.02 | 22.52±6.22 | 0.4218 |
| Stress | 24±5.30 | 19.2±7.02 | <0.0001** |

**Table no:6** DASS scores in male female participants in stressed state (data presented are Mean ± SD) (*P value <0.05 ** P value <0.001)

## DISCUSSION:

It was reported that majority of medical students experience stress.[7] It was reported that examinations act as an unavoidable natural stressor and lead to increased stress, anxiety and depression in students.[8] It was reported that large proportion of medical students were depressed, anxious and stressed revealing a neglected area of the students' psychology requiring urgent attention.[9] Higher levels of stress may influence professional development and adversely impact academic performance contributing to academic dishonesty and substance abuse in students.[10] We agree with the previous studies as we have observed significant increase in depression, anxiety and stress scores during pre examination period in both males and females. However we have observed higher depression scores in female students in both relaxed state as well as stressed state. Anxiety scores were not significantly different in male and female students in both relaxed and stressed states. Stress scores were significantly different in stressed state in male and female students.

**Limitations**

The present study was based on results from a self-administered questionnaire, hence reporting bias cannot be totally eliminated. This study was limited to one geographical area.

## CONCLUSION:

It is the need of the time to make medical teachers and medical students aware of negative consequences of high levels of stress, anxiety and depression faced during pre examination period. We recommend that educational institutes should adopt simple relaxation programmers for highly stressed students and provide support for their well being and better academic performance.

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