

## A Study on Stress Levels among First Year Medical Students: A Cross Sectional Study

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### Abstract:

**Introduction:** Stress is an inevitable part of medical education and lack of adequate stress coping skills may affect the students variedly.

**Objectives:** To study the magnitude and causes of stress among first year medical students, to plan and implement an appropriate intervention.

**Method:** A descriptive cross sectional study was carried out from 1<sup>st</sup> May to 30<sup>th</sup> June 2015. Among 200 students of first year MBBS 133 were willing and gave consent. A pre designed modified questionnaire consisting of 28 questions is given. The study was carried out at Kurnool medical college and respective hostels, Kurnool, Andhra Pradesh.

**Result:** Analysis shows that 78.19% of the respondents were feeling stressful. Girls (52.88%) perceived greater stress when compared to boys (47.12%) though the difference did not reach statistical significance. Stress levels in the students of age 18yrs and below were greater. Poor performance at the exam, large content to be learnt and lack of time to revise were the major causes of stress among the students.

**Conclusion:** A substantial proportion of students were found out to be stressed and academic stressors being the major cause of stress among the subjects. An intervention was planned in two sessions and students were educated on how to handle stress by AV aids, personal and group interview.

**Keywords:** medical students, stress, coping, gender differences.

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### I. Introduction

**Defining the stress:** stress is a highly subjective phenomenon that it defies the definition. Let us assume it as a non specific response of body to any demand for change.

A **stressor** is defined as the personal or environmental event that causes stress.

**Back ground:** Stress is an inevitable part of medical education and can affect students at any stage of their study.

*These are our personal experiences and a few events that influenced us to take survey among medical students:*

- Sleepless nights
- Depression<sup>[1]</sup>
- Suicidal ideation<sup>[2]</sup>
- Addictions to cope up with stress
- Poor performance at exams in spite of hard work done

A humble attempt is made to assess the levels of stress among the 1<sup>st</sup> year medical students of Kurnool medical college and appropriate intervention is done based on analysis.

### II. Aim And Objectives

Aim of this project is to study the magnitude of stress perceived by first year MBBS students.

#### Objectives:

- To measure distribution and magnitude of the stress levels in the target group
- To sort out causes leading to increased stress among students
- And to provide appropriate suggestions based on analysis to make *distress* to *eustress*

### III. Methodology

**Study design:** A descriptive cross sectional study

**Study period:** 1<sup>st</sup> April 2015 to 31<sup>st</sup> May 2015

**Study area:** Kurnool medical college, Kurnool, Andhra Pradesh.

**Sample size:** 133 medical students of either sex from the 1<sup>st</sup> year MBBS were included in the study.

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**Ethical issues:**

Ethical clearance from the ethical committee was taken. Consent from the students who were willing to participate in the study was taken and the permission to carry out this study was taken from the respective authorities.

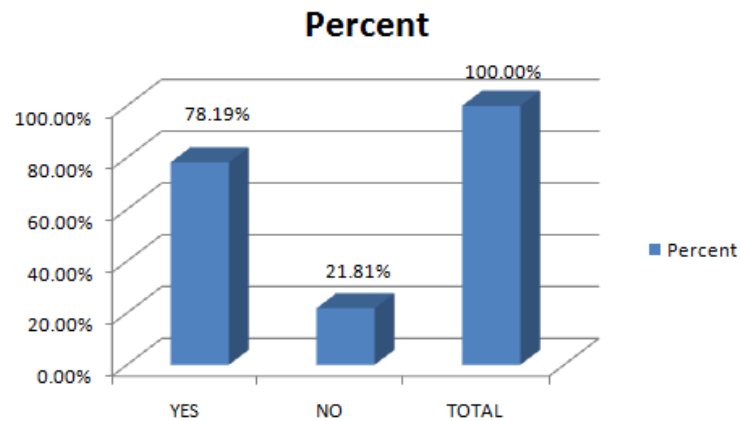
**Procedure:**

After the selection of the topic, discussions were done regarding the project and appropriate planning was done to organize the project. A suitable questionnaire with 28 questions was prepared. The questionnaire consisted of 3 parts. The first part includes demographic information of age, sex and residence. The second part includes Yes or No type of questions about the causative factors of stress and a single open ended question about how do they perceive the stress. The third part consisted of questions related to activities done to relive stress. The students of 1<sup>st</sup> year MBBS were invited to take part in the survey after taking consent. Students of both gender participated in the survey. Prior to the distribution of questionnaire they were sensitized to the type of questions being asked and Students were assured of about confidentiality of their details and clarification was given regarding doubts about questions. Data was collected from 133 students and data was analyzed using Epi info 7 software and the significant values were taken based on chi-square tables. Based on the analysis an intervention was planned and intervention was done after 3 weeks in 2 sessions, the 1<sup>st</sup> session was with AV aid in the form of power point presentation which lasted for about 1:30 hr. 3 weeks later 2<sup>nd</sup> session was done in the form of personal interviews and group discussions at their respective hostels.

**IV. Results**

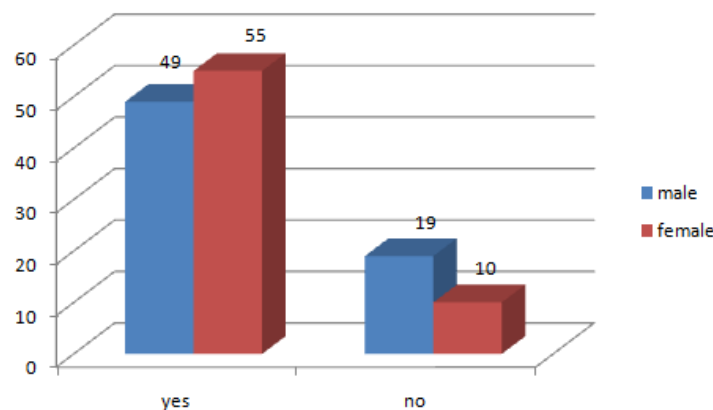
Among the 133 respondents, 68 (51.13%) were males and 65 (48.87%) were females.

**Pic 1, The prevalence of stress among students is as follows:**



Picture 1 showing 78.19% students are under stress and 21.81% aren't.

**Pic 2, Gender wise distribution:**



In fig 2 showing 49 males and 55 females are under stress where as 19 male and 10 females are normal.

Pic 3, Age wise distribution with stress

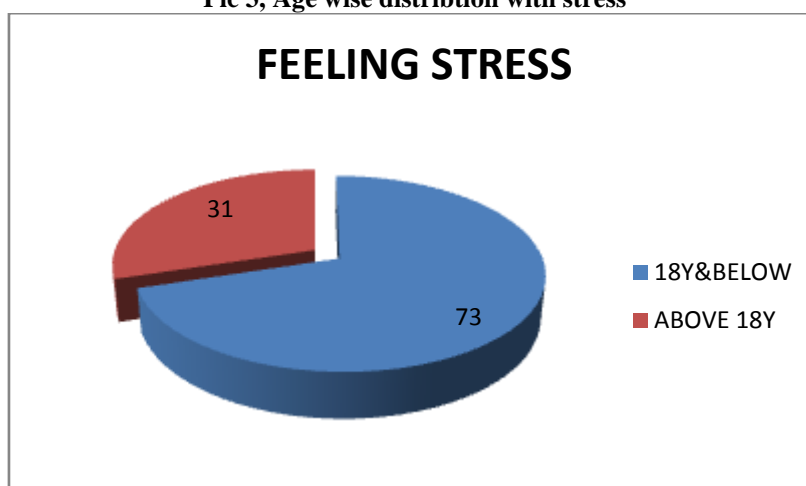


Fig 3 showing 73% of children aged 18 and below are under stress and 31% are normal.

Table 1, Significant contributing factors of stress :

Variable	Stress		P Value
	Yes	No	
Gender	Male – 49 (47.12%)	Female – 55 (52.88%)	0.071
Poor performance at the exam	Yes – 91 (87.50%)	No – 13 (12.50%)	0.0004
Difficulty in understanding the subject	Yes – 71 (86.59%)	No – 11 (13.4%)	0.002
Large content to be learnt	Yes – 102 (80.31%)	No – 25 (19.69%)	0.006
Lack of recognition to work done	Yes – 46 (90.20%)	No – 5 (9.80%)	0.008
Lack of time to revise	Yes – 99 (80.49%)	No – 24 (19.51%)	0.02

Table 1 showing relation ship of gender with stress with P vale  $>0.05$  which is statistically not significant. Relation ship of poor performance at the exam & difficulty in understanding the subject with stress is statistically highly significant with P value  $<0.005$  and relationship of stress with large content to be learnt, lack of recognition to work done & lack of time to revise is statistically significant with P value  $< 0.05$ .

Table 2, Significant Causes of poor performance at exams :

Variable	Poor performance at exams		P value
	Yes	No	
Lack of time to revise	103 (83.74%)	20 (16.26%)	0.008
Large content to be learnt	106 (83.46%)	21 (16.54%)	0.002

Table 2 showing relation ship of lack of time to revise with poor performance at exams is sttistically significant with P value  $< 0.05$  . relationship of large content to be learnt with poor performance at exams is statistically highly significant with P value  $< 0.005$ .

**Table 3, Gender wise significant factors:**

Variable causing stress	Male	Female	P Value
Competition with fellow students	31	52	0.00004
Conflicts	1	7	0.02
Lack of recognition	19	32	0.01

Table 3 showing relationship of gender with competition with fellow students is statistically highly significant with P value < 0.005. relationship of gender with conflicts & lack of recognition is statistically significant with P value < 0.05.

**Table 4, Activities adopted by students to tackle stress:**










ANY ACTIVITIES DONE RELIEVE STRESS	Frequency	Percent	Cum. Percent	Exact 95% LCL	Exact 95% LCL	
INTERNET BROWSING	12	9.02 %	9.02 %	4.75 %	15.23 %	
LISTENING TO MUSIC	45	33.83 %	42.86 %	25.86 %	42.54 %	
NO	21	15.79 %	58.65 %	10.05 %	23.12 %	
PLAYING GAMES	16	12.03 %	70.68 %	7.04 %	18.80 %	
SLEEPING	14	10.53 %	81.20 %	5.88 %	17.03 %	
SPENDING TIME WITH FRIENDS	14	10.53 %	91.73 %	5.88 %	17.03 %	
WATCHING MOVIES	10	7.52 %	99.25 %	3.66 %	13.39 %	
YOGA, MEDITATION	1	0.75 %	100.00 %	0.02 %	4.12 %	
<b>TOTAL</b>	<b>133</b>	<b>100.00 %</b>	<b>100.00 %</b>			

Table 4 showing activities done to relieve stress are 9.02% said internet browsing, 33.8% said listening music, 15.79% said nothing, 12.03% said playing games, 10.53% said sleeping & spending time with friends, 7.52% said watching movies and 0.75% said yoga/meitaton.

## V. Discussion

The present study confirmed the general impression that stress is common among medical students with a prevalence of 78.19% among our study group. The findings of this study are by and large similar to the other studies; existing literature confirms that stress is common among medical students<sup>[3], [4]</sup>.

The gender wise distribution of stress is insignificant in our study with p value of >0.05. Taking the age is taken into consideration, the subjects of age 18 years and below perceiving it greater than when compared to above 18 years.

The major cause of stress in the study is found out to be academic related<sup>[5]</sup> which included large content to be learnt, lack of time to revise the subject, difficulty in understanding the subject, poor performance at the exam and lack of recognition of the work done by students and other non significant academic factors include poor relationship with professors, poor participation in class discussion, lacking interest in learning. Poor performance in the exams was accreted mainly due to lack of time for revision (83.74%) and large content to be learnt (83.46%).

Since the study is carried out in a govt. medical college where meritorious students get admission there would naturally be a competition among students but only a few can cope up with such competition in the presence of the above mentioned academic stressors.

As depicted in the literature [6], our study found out the gender variability of certain stress causing factors like competition with fellow students, conflicts and lack of recognition. It showed that female perceive more stress in the presence of competition and had greater inter and intra personal conflicts. Study showed that females felt that there was lack of recognition for their work done greater than males.

There was no significant difference in the stress perceived by day scholars and residents. Our study also included the type and measure of stress coping skills adopted by the students, listening to music (46%) was the common strategy employed by the students to relive stress, 21% of them were not involved in any activity to cope up with stress, 16% involved in playing sports and games, 14% spend time with others to overcome their stress. Health and financial issues were insignificant in the study.

## **VI. Conclusion**

The study revealed that academic problems were greater sources of stress in first year medical students compared to non-academic problems. It also pointed out the gender related differences with some stressors, indicating a necessity of different kind of approach to each gender during intervention. Student distress may influence professional development and adversely impact academic performance contributing to academic dishonesty and substance abuse.

Addressing these issues by the institution using professional help would go a long way in ameliorating their stress levels and in making their learning a pleasant affair.

## **VII. Suggestions**

Mentoring the students to help them revive academically was advised. To tackle the academic related stressors students were educated on the importance of regular study hours and on the necessity of developing effective time managing skills to learn, revise the subject and to present it properly in the exams. Role of healthy student teacher relationship was explained which could foster the courage among students and help them tackle the stress. Students were taught about the importance of self motivation to stay positive.

They were advised to cultivate hobbies, spend time with friends and family and were encouraged to discuss their problems with elders or friends. Benefits of daily 30 minute physical activity and regular meditation was explained to the students.

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