

## “SAD”- A medical undergraduate centered cross-sectional study from a teaching tertiary medical institution in North east India

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### ABSTRACT

**Background-** Stress, Anxiety and Depression disorders are common problems among the youth today especially among the students of professional courses.[1] Our study aims to find the levels of stress, anxiety and depression among medical students, their probable causes and suggest certain measures to control them. Undergraduate medical education in India comprises strenuous study and training for 5.5 years. It has been reported that medical students consequently suffer from depression, anxiety, and stress. It has been reported that healthy students develop depression and stress after commencing their medical education. [2] The competition for getting postgraduate training and seeking job opportunities could be an additional trigger for psychological illness. It has also been reported that physicians tend to have a higher suicide rate than the general population. [3]  
**Aim-** Our study was aimed at finding stress, anxiety and depression levels amongst MBBS students of North East India.  
**Methods-** A total of 120 questionnaires were distributed among the MBBS Students of different academic years out of which 108 responses were received out of which 100 were completed questionnaires and were included for the study. The remaining 20 questionnaires were either not returned or were incomplete, hence were excluded from the study. Results-Among the mental health problems that were assessed, anxiety disorders are the most common. Following anxiety, students are affected the most by depression while stress disorders are the least common. Most of the students felt that they were under academic stress and it can possibly be one of the major reasons for anxiety and stress among them. Interestingly, it was found that the participants felt that gender doesn't play an important role in causing stress but the stress, anxiety and depression levels were found to be higher or equal among the females than the males. The students feel that drug intake and peer pressure was not the cause for adding on to their mental stress. However, the increased usage of internet and time spent on social media can be correlated to the increasing problems among the students as was found in our study.  
**Conclusion-** There is an urgent need to tackle the problem of increasing mental health problems among medical students as emphasised through this study conducted in a tertiary care level medical institute in the North Eastern part of India.

**Key words-** MBBS students, Northeast India, Stress, Anxiety, Depression

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**INTRODUCTION:**

Stress, Anxiety and Depression disorders are common problems among the youth today especially among the students of professional courses.[1] Our study aims to find the levels of stress, anxiety and depression among medical students, their probable causes and suggest certain measures to control them. As per World Health Organization 'Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. [2] Mental health is therefore an important part of it. Depression is more than just sadness.[3] People with depression may experience a lack of interest and pleasure in daily activities, significant weight loss or gain, insomnia or excessive sleeping, lack of energy, inability to concentrate, feelings of worthlessness or excessive guilt and recurrent thoughts of death or suicide as per "The American Psychological Association".[3] A person could be termed depressed if he/she shows a variable combination of low mood; loss of interest or pleasure; feelings of guilt; low self-esteem; disturbed appetite; disturbed sleep; or disturbed concentration.[4]

Undergraduate medical education in India comprises strenuous study and training for 5.5 years. The curricular objectives are dynamic due to expanding knowledge and evolving therapies. During this period, medical students should acquire adequate professional knowledge, skill, and attitudes in order to prepare themselves to deal with life-long professional challenges independently. However, the demands of the learning and training might adversely affect the student's physical and mental health.

It has been reported that medical students consequently suffer from depression, anxiety, and stress. It has been reported that healthy students develop depression and stress after commencing their medical education. [5]

**Material & Methods:**

It is a descriptive cross sectional study which was conducted among the medical students of NEIGRIHMS, India from May 2018 to June 2018 in NEIGRIHMS, Shillong after getting clearance from the Institution Ethics Committee (vide no. NEIGR/IEC/M2/F13//17, DATED 22<sup>ND</sup> SEPTEMBER 2017).

Informed written Consent was obtained from all the participants of the study. The study tool used was DASS 21 Questionnaire prepared by Psychology Foundation of Australia.

The DASS-21 questionnaire categorizes stress, anxiety and depression into five subcategories, namely, normal, mild, moderate, severe, and extremely severe. The questionnaire has 7 questions on each of the following conditions stress, anxiety and depression. 6 questions were added to identify possible correlates to peer pressure, academic stress, number of hours spent on social media, drug abuse, gender, and any other cause for stress, anxiety and depression.

Name and details of the participants were not taken on the questionnaire. However demographic details (name, age, sex, address, year of admission in MBBS) were collected on the Consent Form.

Questionnaires were distributed to the participants and they were requested to fill them up as per their convenience. The questionnaires were collected from the participants later. The collected data was tabulated and analysed using Microsoft Excel software.

**Observations and Results:**

A total of 120 questionnaires were distributed among the MBBS Students of different academic years. 108 questionnaires were returned out of which 100 were completed questionnaires that were included in the study for analysis. The remaining 20 questionnaires were either not returned or were incomplete, hence were excluded from the study. There was proportionate representation of all the batches.

Among the participants, there were 50 Males and 50 Females. All the 100 participants were Indians and were studying MBBS in NEIGRIHMS, Shillong for more than 6 months. They were residing in NEIGRIHMS hostel for more than 6 months.

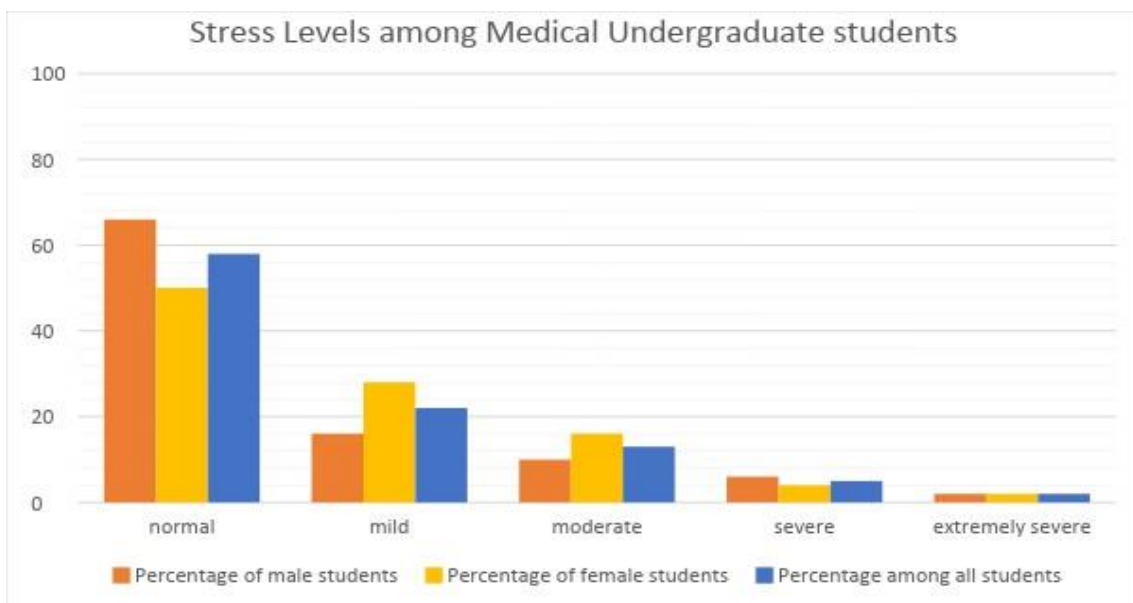
**Table 1: Stress level among MBBS students based on DASS 21**

Overall Stress	Male		Female		Among all students	
	Number	Percentage	Number	Percentage	Number	Percentage
normal	33	66	25	50	58	58
mild	8	16	14	28	22	22
moderate	5	10	8	16	13	13
severe	3	6	2	4	5	5
extremely	1	2	1	2	2	2
<b>Total</b>	<b>50</b>	<b>100</b>	<b>50</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Score**

Among the participants, 50(50%) were males and 50(50%) were females. Among the male students, 33 (66%) of them were normal. 17 (34%) were stressed amongst which 3(6%) and 1(2%) were under severe and extremely severe stress respectively. Among the female students, 25(50%) were normal but 25 (50%)

faced mild to extremely severe stress. 14 (28%) girls faced mild stress whereas 8(16%) faced moderate stress. Overall, **58 students were normal**, 22 students faced mild stress and 13 students were under moderate stress. 5 students were under severe stress and 2 faced extremely severe stress. **42% students were under some stress.**



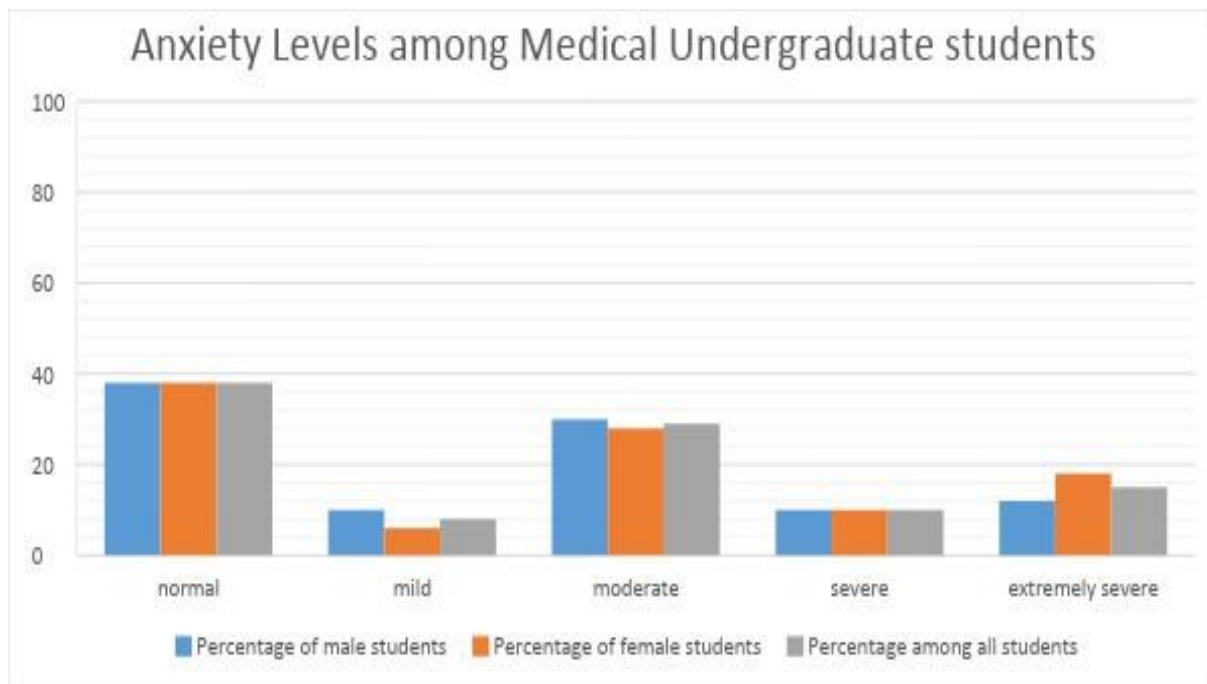
**Graph 1: Stress level among MBBS students based on DASS 21 Score**

**Table 2: Anxiety level among MBBS students based on DASS 21 Score**

Anxiety	Male		Female		Among all students	
	Number	Percentage	Number	Percentage	Number	Percentage
normal	19	38	19	38	38	38
mild	5	10	3	6	8	8
moderate	15	30	14	28	29	29
severe	5	10	5	10	10	10
extremely severe	6	12	9	18	15	15
<b>Total</b>	<b>50</b>	<b>100</b>	<b>50</b>	<b>100</b>	<b>100</b>	<b>100</b>

Among the participants, 50(50%) were males and 50(50%) were females. 19 (38%) males did not have anxiety issues. 5(10%) of them faced mild anxiety issues while 15 (30%) faced moderate anxiety issues. 11 students faced severe to extremely severe anxiety problems. Among the females, 38% were normal while 6% faced mild anxiety issues

and 28% faced moderate anxiety issues. 28% females faced severe to extremely severe anxiety problems. Overall, **62% students were facing mild to extremely severe anxiety problems and only 38% were normal.**



**Graph 2: Anxiety level among MBBS students based on DASS 21 Score**

Table 3: Depression level among MBBS students based on DASS 21

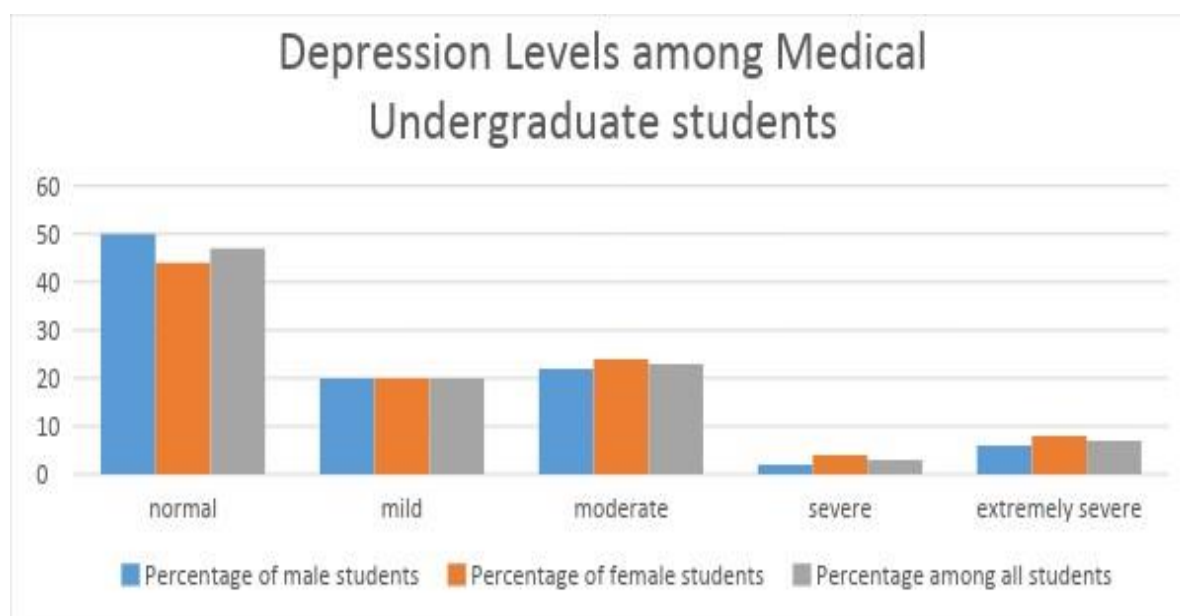
Overall Depressio	Male		Female		Among all students	
	umber	Percentage	Number	Percentage	Number	Percentag e
normal	25	50	22	44	47	47
mild	10	20	10	20	20	20
moderate	11	22	12	24	23	23
severe	1	2	2	4	3	3
extremely	3	6	4	8	7	7
<b>Total</b>	<b>50</b>	<b>100</b>	<b>50</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Score**

Among the participants, 50(50%) were males and 50(50%) were females. 25 (50%) male students were normal, 10 (20%) were under mild depression. 22% were under moderate depression however 6% were under severe depression. Among the females, 44% were normal whereas 56% were under some sorts

of depression. 12 (24%) were under moderate depression while 8% were under extremely severe depression. **Overall 47% students were normal while 53% were under mild to moderate depression.**

**Based on the DASS 21 Scores, overall levels of stress, anxiety and depression among the students were 42%, 62%, 53% respectively.**



Graph 3: Depression level among MBBS students based on DASS 21 Score

For Questions A, B, D, E The chi-square statistic is 84.058. The p-value is < 0.00001

**Table 4: Do you feel you are under peer pressure? (Question A)**

Question A	
Yes	19
No	79
Don't Know	2

19% students feel that they are under peer pressure while 79% don't feel that. 2% students are not sure about it.

**Table 5: Do you feel you are under academic stress? (Question B)**

Question B	
Yes	71
No	26
Don't Know	3

71% students feel that they are under academic stress while 26% don't feel that. 3% students are not sure about it

**Table 6: Do you take any drugs or have tried any (cigarette, alcohol, opium etc.)? (Question D)**

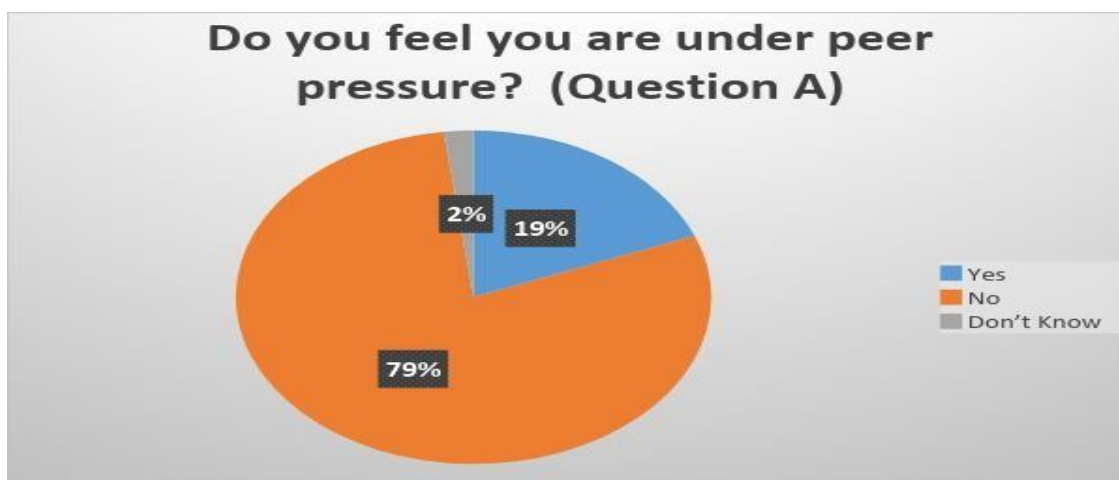
Question D	
Yes	29
No	69
Didn't answer	2

29% students have tried alcohol, cigarette, opium etc. while 69% have not tried anything. 2% students didn't answer the question.

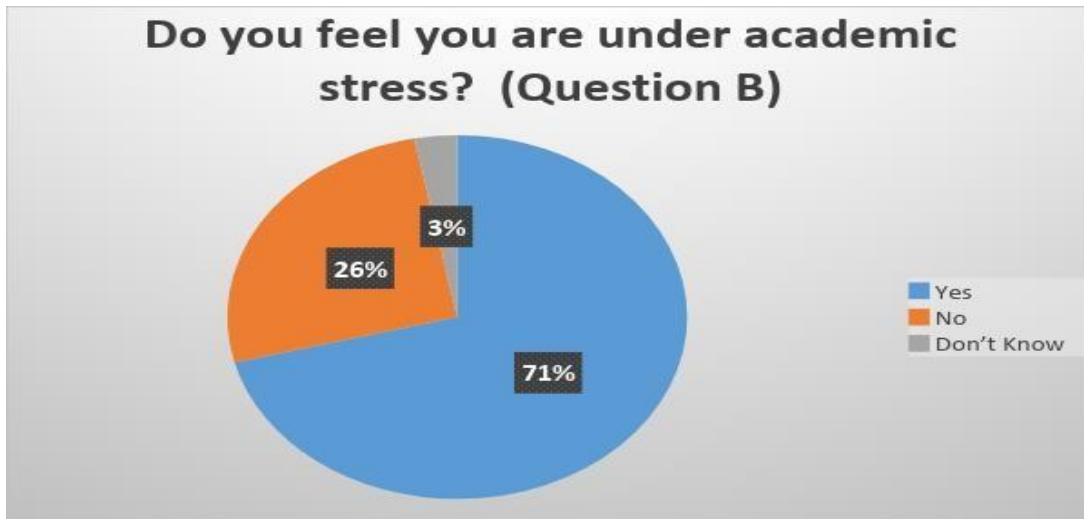
**Table 7: Do you feel your gender plays a role in you being stressful? (Question E)**

Question E	
Yes	19
No	79
Don't Know	2

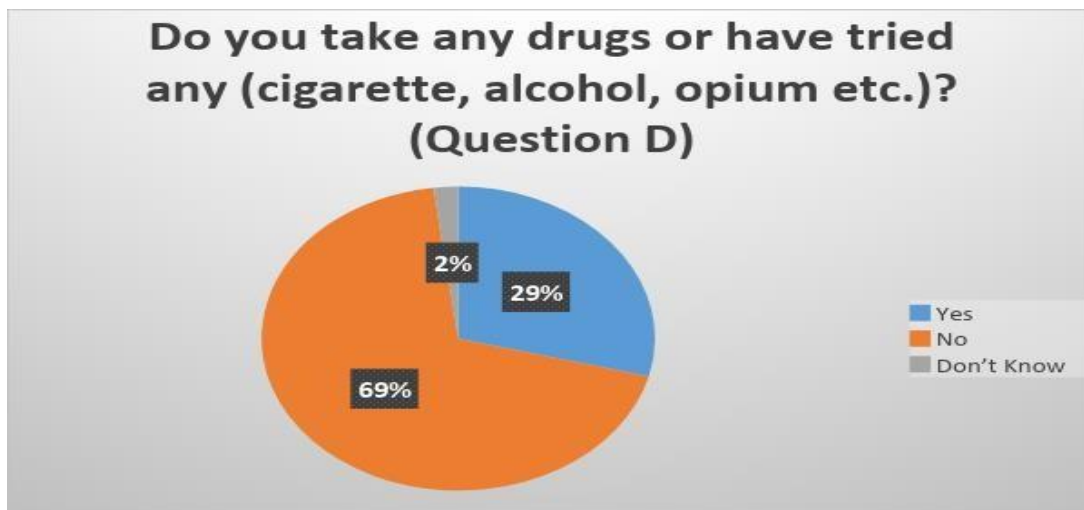
19% students feel that gender does play a role in causing stress while 79% don't feel that. 2% students are not sure about it.

**Graph 4: Do you feel you are under peer pressure? (Question A)**

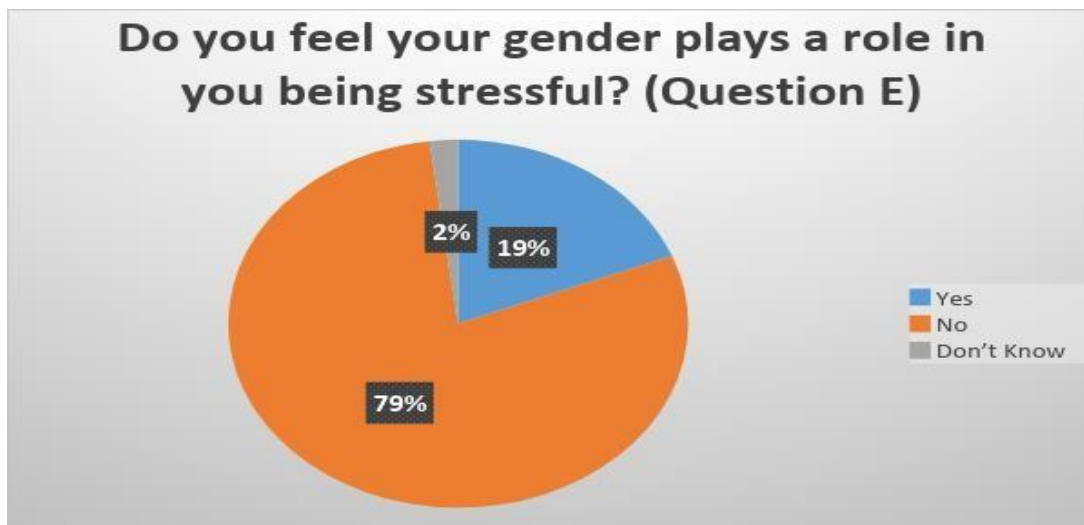




Graph 5: Do you feel you are under academic stress? (Question B)



Graph 6: Do you take any drugs or have tried any (cigarette, alcohol, opium etc.)? (Question D)



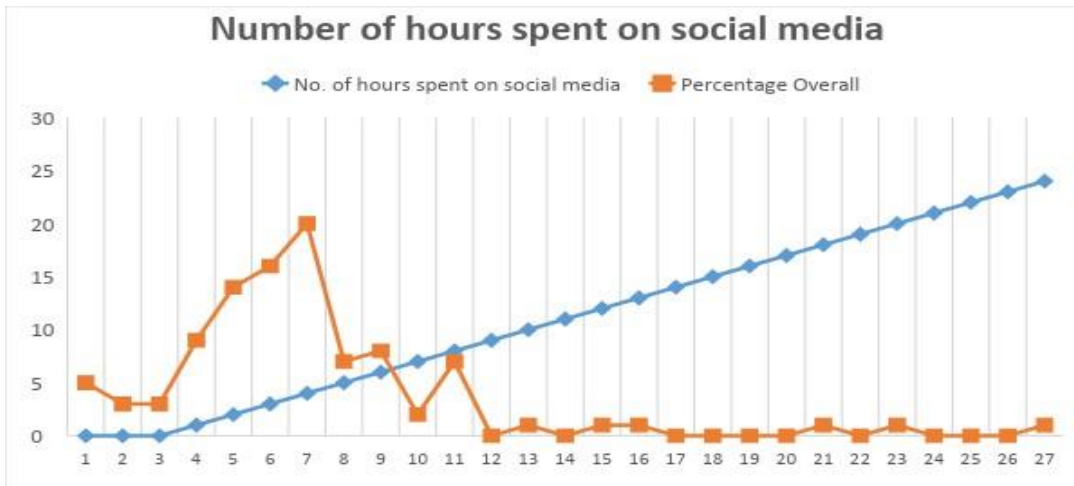
Graph 7: Do you feel your gender plays a role in you being stressful? (Question E)

**Table 8: How many hours do spend on social media?**

No. of hours spent on social media	Percentage Overall
Don't know	5
Variable	3
0	3
1	9
2	14
3	16
4	20
5	7
6	8
7	2
8	7
9	0
10	1
11	0
12	1
13	1
14	0
15	0
16	0
17	0
18	1
19	0
20	1
21	0
22	0
23	0
24	1
<b>Total</b>	<b>100</b>

Among the participants, 20% students spent 4 hours on social media while 16% spent 3 hours and 14% spent 2 hours. 7%, 8%, 7% students spent 5, 6, 8 hours on social media respectively. Only 3% students didn't spend an hour on social media.





**Graph 8: How many hours do spend on social media?**

**DISCUSSION:**

The aim of the study was to assess the stress, anxiety and depression levels among Medical Undergraduate students of North East India.

It was seen that 42% of the student population studied suffered from stress disorders. Most of them were under mild to moderate stress. It was observed that 34% of male students were under stress however 50% of female students were under stress indicating that females are

1.47 times more stressed than their male peers. This is very similar to the studies done in other parts of the world.<sup>[6]</sup>

Anxiety disorders are universally more common and a similar pattern was seen among medical undergraduate students of North East India.<sup>[6]</sup> In our study, more than half the students were facing anxiety problems. Only 38% of the students who participated in the study were normal without any anxiety disorder. Interestingly moderate levels of anxiety was more common than mild anxiety levels as compared to the stress levels. Another important finding was that the anxiety levels are similar in males and females. There is no significant difference in anxiety levels among the different genders.

India has the 6<sup>th</sup> highest suicide rates in the world. And unfortunately depression is a major reason for suicides. In this scenario when more than half the medical students (53%) of North East are under depression, there is a pressing need to take serious steps to control this problem amongst them.

Peer pressure is considered a major cause of stress, anxiety or depression by various studies.<sup>[7]</sup> Interestingly only 19% students felt that they were under Peer Pressure in contrast to the number of students under any of the mentioned problems.

Academics have always been a cause of psychological stress to the students. Be it school or college, it is one of the major reasons for stress among children. Supporting the usual trend, 79% students felt that they were under academic pressure. Studies have established that drug intake is a major cause for causing mood disorders.<sup>[7]</sup> However contrary to the fact that most of the students were under either stress or anxiety or depression, 69% have never tried any form of drugs.

79% students feel that gender doesn't play a role in falling prey to any mood disorder however contrary to this, more female students were under stress and depression. It

is interesting to note that both the gender had equal proportion of students facing anxiety problems.

It is said that increasing use of internet in day to day life disconnects a person from the physical world and pushes him or her into depression. We tried to explore the relation between the time spent on internet, mainly social media, and it was found that 20% students spend 4 hours on social media every day, 16% 3 hours and 14% 2 hours. Probably the reason which we could figure out was that the internet connects them to the virtual world but disconnects them from the real world thus taking away the buttressing which would have been otherwise possible by face to face communication and interaction.

The present study has helped in assessing the mental health of the medical students. With the increasing prevalence of mental health problems, it is important to take note of the same amongst medical students as they face a lot of stress on all fronts of life, both professional and personal and especially with limited avenues to cope up with these problems.

There were certain limitations to our study. A few questionnaires were returned to the investigator at a later time as the participants were busy at the moment or unwilling to participate. The responses to the questions were entirely based on self-assessment by the participants and may not accurately represent their mental health. Thus, we cannot rule out subject bias on the part of the participants.

### CONCLUSION:

The present study was done to find the stress, anxiety and depression levels and it has indeed highlighted the increasing levels of the same amongst MBBS students of North East India. It is indeed important to take urgent steps to counsel the students to come out and talk. It is required to arrange for counselling sessions for the students to encourage them to discuss about

their problems with their friends, teachers and family. The study has highlighted the high level of depression among the students which needs to be taken care of. With the increasing number of suicides among the medical students, proper steps should be taken to diagnose clinical depression at an early stage so that proper remedial measures can be undertaken at the right time.

There is a necessity of formulation and implementation of strict guidelines for improving and maintaining mental health of medical students by Government of India and Medical Council of India. Psychiatrists and clinical psychologists with the help of other health professionals should create awareness about mental health amongst medical students and encourage them to not ignore the problem. An aware medical student will not only help oneself but also create awareness amongst the community, thereby creating a wave of positive transformation in the society as a whole.

Further studies can be carried out to assess mental health among senior consultants, resident doctors and paramedical staff to diagnose any underlying mental health problems.

### SUMMARY

Mental health problems have remained hidden in the society and what we see is just the tip of the iceberg and they have been a taboo since forever. No one is encouraged to talk about it and if any one comes out and talks about it, he/she is either asked to remain silent or ridiculed by the society. Awareness about certain danger signs like social withdrawal, seeking refuge to drug abuse, or other vices or even resorting to suicide or other activities that are harmful to oneself should be made widely known to all so that proper measures can be taken to identify and manage such victims.

Our study was aimed at finding stress, anxiety and depression levels amongst MBBS students of North East India. A total of 120

questionnaires were distributed among the MBBS Students of different academic years out of which 108 responses were received.

Among the mental health problems that were assessed, anxiety disorders are the most common. Following anxiety, students are affected the most by depression while stress disorders are the least common.

Most of the students felt that they were under academic stress and it can possibly be one of the major reasons for anxiety and stress among them.

Interestingly, it was found that the participants felt that gender doesn't play an important role in causing stress but the stress, anxiety and depression levels were found to be higher or equal among the females than the males.

The students feel that drug intake and peer pressure was not the cause for adding on to their mental stress. However, the increased usage of internet and time spent on social media can be correlated to the increasing problems among the students as was found in our study.

There is an urgent need to tackle the problem of increasing mental health problems among medical students as emphasised through this study conducted in a tertiary care level medical institute in the North Eastern part of India.

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