

Assessment of Depression, Anxiety and Stress among Students Preparing for Various Competitive Exams

¹Dr. Ashish Shrivastava, ²Dr. Don Rajan

Abstract: A cross-sectional study was done on students preparing for various competitive exams to get a deeper understanding on depression, anxiety and stress and their social aspects, to identify the various factors responsible for depression, anxiety, and stress and to identify the ill-effects of depression, stress, and anxiety on their health and daily life. It also helps to find the relatable factors in depression-like income, duration of sleep, social media, peer pressure, parental support, mentor's support and their relation to the level of mental stress. Depression is a common but serious mood disorder. Current research suggests that depression is caused by a combination of genetic, biological, environmental, and psychological factors. It can happen at any age but often begins in adulthood. It is the age of biological and physiological changes and hence there is greater vulnerability and susceptibility. Depression is a common but serious illness that leaves candidates feeling despondent and helpless, completely detached from the world. Candidates may show symptoms like- feelings of sadness or unhappiness change in appetite or weight, slowed thinking or speech, loss of interest in activities or social gatherings, fatigue, feelings of guilt or anger over past failures. Among 400 participants, 19.5% were found to be in a mild depression, 20.3% in moderate depression and 8.8% were found to be severely depressed. 21.8% were found to be mildly anxious, 17.8% with moderate anxiety and 27.3 % with severe anxiety. 19% were mildly stressed, 14.8% were moderately stressed and 7.5 were having severe stress. Overall, depression management involves complete lifestyle change that requires a range of strategies and techniques. They include good eating habits, proper exercise, good family and social life, mood management and relaxation techniques. These allow the individual to reduce, avoid or cope with the negative emotions related to the condition and recognize the triggers and situations that lead to these negative emotions.

Keywords: depression, anxiety, genetic, biological, environmental, mental stress.

1. INTRODUCTION

Depression (major depressive disorder or clinical depression) is a common but serious mood disorder. Current research suggests that depression is caused by a combination of genetic, biological, environmental, and psychological factors. It can happen at any age, but often begins in adulthood. Depression is now recognized as occurring in children and adolescents. Many chronic mood and anxiety disorders in adults begin as high levels of anxiety in children.

Depression among students is being increasingly recognised as a major mental health problem. The burden of depression is found to be on the rise over the years due to greater recognition, awareness and media influence{1}. According to the recent National Mental Health Survey carried out by NIMHANS, the prevalence of depression is estimated to be 1.5% and students who had suffered from depression any time in the past is estimated at 2.2%. Depression is more among male students and highest in the age group of 18 to 22 and among those in urban areas (1.7%) than that compared to rural areas (1%) {2}.

It is the age of biological and physiological changes and hence there is greater vulnerability and susceptibility. Aspirants of competitive examination work hard, study for longer period. Students may also face challenges to their health, both physical and mental, that may have long-term effects. There are many other adverse health effects due to their hectic schedule.

Poor Nourishment and Lack of Exercise: Students lack in many nutrients and become pale as they study a lot. It adversely affects their overall health.

Majority of students, both males and females develop eating disorders during their exam preparation like anorexia, bulimia. Many students do not seek treatment for their eating disorder, nor do they believe they have developed a problem. Eating disorders are potentially life intimidating and can contribute to serious health issues if not treated properly, including kidney failure, stunted growth, loss of female menstruation, failure in the reproductive system and heart problems.

People may also suffer from other mental health issues because of a focus on "constant testing". They suffer from acute Stress.

-Students also suffer from gastrointestinal problems while studying for exams. It is shown in studies that study stress can make them worse. Stress is also a common factor in many other gastrointestinal problems conditions, such as Chronic heartburn (or gastroesophageal reflux disease, GERD), Irritable bowel syndrome (IBS) Indigestion/dyspepsia, Bloating Constipation.

Anxiety disorders are the most common mental illness among scholars who are preparing for examination. Common symptoms for anxiety disorders are feelings of stress and apprehension, irritability, trouble concentrating, fearfulness, sweating and dizziness, shortness of breath, irregular heartbeat, headaches and frequent upset of stomach or diarrhoea.

Depression among students of competitive examination is occasionally observed. Sometimes, it could lead to other symptoms or suicide. Depression is a common but serious illness that leaves candidates feeling despondent and helpless, completely detached from the world. Candidates may show symptoms like- feelings of sadness or unhappiness change in appetite or weight, slowed thinking or speech, loss of interest in activities or social gatherings, fatigue, feelings of guilt or anger over past failures. {3}

Depression:

a Greek physician named Hippocrates is credited with the idea that depression, or melancholia as it was known then, was caused by an imbalance in four body fluids, called humors: yellow bile, black bile, phlegm, and blood. Specifically, melancholia was attributed to an excess of black bile in the spleen.

In the last years before Christ, a very common belief among even educated Romans was that depression and other mental illnesses were caused by demons and by the anger of the gods. Cornelius Celsus (25BC-50 AD) is reported as recommending the very harsh treatments of starvation, shackles, and beating in cases of mental illness.

In the year 1621, Robert Burton published a book called *Anatomy of Melancholy*, in which he outlined both social and psychological causes of depression such as poverty, fear, and loneliness.

During the 18th and 19th century (the Age of Enlightenment), depression came to be viewed as a weakness in temperament which is inherited and cannot be changed, with the resulting idea that people with this condition should be shunned or locked up.

At the present time, depression is considered to arise from a combination of multiple causes, including biological, psychological and social factors. {4}

Symptoms of depression include {5}:

- Trouble concentrating, remembering details, and making decisions.
- Fatigue.
- Feelings of guilt, worthlessness, and helplessness.
- Pessimism and hopelessness.
- Insomnia, early-morning wakefulness, or sleeping too much.
- Irritability.
- Restlessness.
- Loss of interest in things once pleasurable, including sex.

Anxiety:

Anxiety Disorders were only recognized in 1980 by the American Psychiatric Association. Before this recognition people experiencing one of these Disorders usually received a generic diagnosis of 'stress' or 'nerves'.

Although Anxiety Disorders have been on recently officially recognized, they have existed throughout the history of mankind. Many great and influential people in history have reported experiencing panic attacks and Anxiety Disorders. {6}

All anxiety disorders share some general symptoms {7}:

- Panic, fear, and uneasiness.
- Sleep problems.
- Not being able to stay calm and still.
- Cold, sweaty, numb or tingling hands or feet.
- Shortness of breath.
- Heart palpitations.
- Dry mouth.
- Nausea.

Stress:

The term **stress** was borrowed from the field of physics by one of the fathers of stress research Hans Selye. **Hans Selye** began using the term stress after completing his medical training at the University of Montreal in the 1920's. He noticed that no matter what his hospitalized patients suffered from, they all had one thing in common. They all looked sick. In his view, they all were under physical stress.

stress is an organism's response to a stressor such as an environmental condition. Stress is the body's method of reacting to a challenge. Stimuli that alter an organism's environment are responded to by multiple systems in the body. The autonomic nervous system and hypothalamic-pituitary-adrenal (HPA) axis are two major systems that respond to stress. The sympathoadrenal medullary (SAM) axis may activate the fight or flight response through the sympathetic nervous system, which dedicates energy to more relevant bodily systems to acute adaption to stress, while the parasympathetic nervous system returns the body to homeostasis. The second major physiological stress, the HPA axis regulates the release of cortisol, which influences many bodily functions such as metabolic, psychological and immunological functions. The SAM and HPA axes are regulated by a wide variety of brain regions, including the limbic system, prefrontal cortex, amygdala, hypothalamus, and striaterminalis. {8}

Physical symptoms of stress include {9}:

- Low energy.
- Headaches.
- Upset stomach, including diarrhoea, constipation and nausea.
- Aches, pains, and tense muscles.
- Chest pain and rapid heartbeat.
- Insomnia.
- Frequent colds and infections.
- Loss of sexual desire and/or ability.

OVERALL PREVALENCE OF DEPRESSION, ANXIETY AND STRESS:

- A study done by **Dhumale et al** found that Out of the total respondents, stress was present in 24.42%; of these, mild stress was present in respondents 10 %, while 7.6% had moderate stress and 6.8 % had severe stress {12}
- A study done by **K Sathish Kumar et al** found out that, the prevalence of depression, anxiety, and stress were 19.5%, 24.4% and 21.1% respectively. Around four-fifth (81.6%) of the respondents had at least one of the studied disorders, and 34.7% of the respondents had all the three depression, anxiety, and stress. {13}
- While a study done by **Siti Fatimah et al** in 2014 Apr 22 found that the prevalence of depression was 10.3%. Based on this study, the predictors of depression were presence of anxiety, high perceived stress, low self-esteem, unhappy relationship with family, serious financial constraint.

The comorbidity between depression and anxiety in this study was 67.2%. There was a significant association between anxiety and depression (OR=12.82, 95% CI: 9.88–16.63).

About 790 participants (54.3%) were found to have high perceived stress

(16.2%) of the participants with high perceived stress were found to have depression. {14}

- A study done by **SubramaniPoongothai et al** in 2009 Sep 28 stated The overall crude prevalence of depression was 15.1%. {15}
- Another study done by **Strine et al** that was conducted among adults aged 18 years and above in 41 states and territories in US found a 8.7% prevalence of current depression by using the PHQ-8 {16}
- A study done by **Anjali N Shete, et al** in year 2015 stated that, On analysing the depression, among total of 50 participants; 40 reported no evidence of depression. Six cases showed mild depression, one moderate depression; three were having severe depression and one case showed extreme depression. The mean depression score was found to be 6.26 ± 6.00 . Showing overall DASS score. The anxiety scale reported 10 normal interpretations. Among the remaining participants, 18 showed mild anxiety, 16 moderate and three severe anxiety status. Three cases reported extreme severe anxiety status. {17}
- A study done by **ShawazIqbal, et al** showed that 62 (17.5%) students had severe or extremely severe depression. {18}

Sex:

- In a study done by **Bhasin et al**, It was seen that depression was significantly more among the females (mean rank 132.5) than the males (mean rank 113.2) {19}
- While a study done by **Dhumale et al**, Concerning gender found that stress was present in 27.7 % of female respondents as compared to 20.4 % of male respondents This association of stress with gender was statistically significant {12}
- A similar trend was observed by **Abdulghani et al**, Which stated that higher scores of depression, anxiety and stress was associated with female gender, lower semester, younger age {20}
- A study done by **K Sathish Kumar et al** showed that the prevalence of depression, anxiety, and stress were high among females and were significant for anxiety (P=0.00) and stress (P=0.04). {13}
- In a study done by **SubramaniPoongothai et al** published on 2009 Sep 28 Female subjects had higher crude prevalence of depression compared to male subjects [females: 16.3% vs. males: 13.9%, $p < 0.001$] and the respective age-standardized prevalence rates were 17.4% (females) and 14.5% (males, $p < 0.001$). {15}

Age:

- A study done by **Bhasin et al** have reported a higher prevalence of depression in 10th and 12th division students {19}
- A study done by **Johari et al** found out that The younger age group shows a higher stress level which may be due to a new level of responsibility, increased workload in addition to education and patient care activities. {21}
- A study by **Meng Shi et al** Published online 2016 Jan 11 stated that, Compared with younger age group, the older students had a significantly higher prevalence of depressive symptoms ($p < 0.05$). {22}
- A study done by **waffayousifabdel** stated a significant association of stress score with increasing age. {23}

Parent's education:

- In a study done by **Meng Shi et al** published on jan 1 2016, paternal and maternal education did not appear to influence the prevalence of depressive symptoms ($p > 0.05$).{22}

Family Income:

- In a study done by **SubramaniPoongothai et al** stated that Prevalence of depression was 15.7% among those who had family income of less than 5,000, with statistical significance, 9.7% in those between 5000-10,000.{15}
- Economic hardship was also found to be associated with increased level of depression by the Fragile Families and Child Well-being Study (FFCWS).{24}
- A study done by **Yusoff et al** found that the level of stress experienced by students corresponded to family household incomes. Students from lower socio-economic backgrounds faced financial difficulties; students from middle income groups were struggling to fulfil their own and others' expectations, and students of higher socio-economic status had the money to meet their needs.{25}
- A study done by **Teris Cheung et al** showed that financial difficulty was another significant correlate of depression, anxiety and stress in the multivariate analyses. Students in financial difficulties were 2.6 times, 2.3 times and 1.9 times more likely to experience depression, anxiety and stress than those without.{26}
- In a study done by **wafaayousifabdel et al** - It was shown also that there was a significant association between socioeconomic standard and stress and depression scores, p value 0.045 and 0.029 respectively, with higher scores detected among those with lower socioeconomic classes.{23}

Religion & Caste:

- A study done by **Nanda, Ashok Kumar et al** in year 2000 found that, The castes in descending order according to their mental health are general, SC and ST students.{27}
- Recent study by WHO shows culture plays a significant role, such as religion, caste, beliefs, attitudes, interpretations and symptom thresholds, which vary across different parts of India.{28}

Number of Siblings:

- A study done by **Senthilvelou et al** showed that Anxiety and Stress were slightly increased in singles, though they were not statistically significant, as shown by this study. {29}
- Another study done by **SurbhiSidana et al** showed that year of study and academic performance of students had a statistically significant association with depression. Other factors, including gender, self-reported past history of depression, family history of psychiatric disorders, type of social support, family structure, number of siblings and education of parents were not found to have any significant association with prevalence of depression in the study {30}.

Years of preparation:

- A study done by **Abdulghani HMet al** found that, the stress significantly decreased as the year of study increased, except for the final year. The prevalence of stress was higher during the initial three years of study and among the female students. The prevalence of stress was the highest among the first-year students (78.7%), followed by the second-year (70.8%), third-year (68%), fourth-year (43.2%), and fifth-year students (48.3%).{31}
- A study done by **A.G. ABDEL RAHMAN et al** in December 2013 showed that there is a highly statistical significance between year of study and stress, preparatory year and first year of medical studies are the two major years that compose the stress and then stress decreased with progress of study to the sixth year.{32}

Supportive teacher/Parents:

- A study done by **Kamlesh Singh et al** in 2015 oct-dec showed that poor family environment in terms of parental hostility, rejection, and inconsistencies can all contribute to psychological problems viz., anxiety, stress, neuroticism, depression, and many others{33}

- A study done by **V SumayaBasudan et al** showed that Faculty members and administrators as a significant source of stress. Our findings revealed that this dissatisfaction leads to higher levels of stress, anxiety and depression. Faculty support has been associated with significantly lower stress levels in dental students. {34}
- A study done by **Al-Mohaimed and Khan** showed that higher students' social support is, the lower their symptoms of stress. Furthermore, when peers act as mentors, stress and anxiety are significantly reduced. {35}
- A study done by **Ayat R. Abdallah et al** showed that lack of communication with teaching staff was significantly associated with stress ($p < 0.001$). {36}
- A study done by **Mohamed Dafaalla et al** found that medical students with no social support had a higher prevalence of depression than did those who could get help from family and/or friends indicating the impact of the social domain of quality of life on the grade of depression {37}

Expenses:

A study of a Pakistani medical school on " Student stress and coping strategies stated that Those on financial assistance (90.7%) have felt stressed as compared to 93.8% of students who are not on financial assistance {38}

Social media access:

- In a study done by **JocelyneMatar et al** depression emerged as a significant independent positive predictor of Smartphone addiction. depression and anxiety scores emerged as independent positive predictors of smartphone addiction, with depression score being a more powerful predictor compared to anxiety score. {39}
- Another study done by Pitt's Center for Research on Media, Technology and Health showed that people who report using seven to 11 social media platforms had more than three times the risk of depression and anxiety than their peers who use no more than two platforms. {40}

Sleepinghours:

1. A study done by **SoudabehYarmohammadi et al** suggested that the subjective quality of sleep of 69 individuals (17.9%) was very good, of 228 individuals (59.2%) was fairly good, of 64 individuals (16.6%) was fairly badly and of 24 students(6.2%) was too bad. {41}
2. A study done by **Siu Yi Wong et al** suggests that Sleep problems precede an episode of depression in 40% of cases. Individuals with persistent sleep problems may be at significantly higher risk of developing depression. {42}
3. A study by **Wipawan C. Pensuksan et al** suggests that students classified as poor quality sleepers had the high prevalence of depression about 45.5%. Poor quality sleepers reported moderate depression (26.7%), moderate anxiety (29.3%) and moderate stress (22.9%). Female students who had poor sleep quality reported a higher prevalence of moderate anxiety (31.9%), higher than their male counterparts. {43}

Study Hours:

- A study done by **Ayat R. Abdallah et al** showed that studying less or equal to four hours per day were significantly associated with anxiety and stress among students. {36}
- Another study done by **Susan Bahrami, et al** on MSc and PhD students showed that relation between study and depression was negative and significant. This means that their amount of depression decreased with increasing amount of studying. {44}

Field of education:

- A study done by **Dhumale et al** showed that Considering the results according to the participant's field of education, 115 (28.7%) dental students, 82 (19.7%) engineering students and 102 (25.1%) medical students had stress; the association was statistically significant {12}
- In a similar fashion **Al-Dabalet al.** observed a greater prevalence of stress in medical students in comparison with non-medical students in Saudi Arabia {45}
- A study done by **Thelma A Quince et al** showed that Prevalence of depression using a similar cut-off score among comparable groups has been found to vary from 9.5% to 29% for medical students, and from 3.8% to 18% for non-medical undergraduates. {46}

- Another study done by **Vivek B. Waghchavare et al** showed that out of the 1,224 respondents, 299 (24.4%) experienced stress. Among them 115 (38.5%), 102 (34.1%) and 82 (27.4%) were dental, medical and engineering students, respectively. There was a statistically significant association between stress and the field of education. {47}

Residence:

- A study done by **Dhumale et al** suggests that stress was present in 243 students living in hostels (25.9%), while among the students living elsewhere, 56 (19.6%) had stress; an association which was also statistically significant. {12}
- A study done by **Shaikh BT et al** in 2004 Nov found that Among the day scholars, 93.2% feel stressed while 92.1% of the hostellites are stressed in a way suggesting that day scholars appear more stressed than the hostellites. {38}
- A study in AllamaIqbal Medical College, Lahore Pakistan Odds of having depressive state of mind was more if a medical student was living in a dormitory (OR=1.41) while medical students living with families were prone to be affected by psychological anxiety (OR=0.95) and even more susceptible to psychological stress

There data showed that the medical students living in dormitory have considerably higher amount of depression and anxiety as compared to students living with families. {48}

Study Alone V/S Studying With Friends:

A study done by **Pawelgrygiel et al** confirmed those from previous studies reporting a stronger and more stable effect of loneliness on depression than vice versa.

A temporally stable influence of loneliness on depression suggests that interventions aiming to reduce the intensity of the feeling of loneliness should result in lowering the severity of depressive symptoms. {49}

Family members related to common field:

In a study conducted by **Kristen tillman et al** it was found that 28.6% of people regretted following their parents' footsteps in choosing their career option as same as their parents. They wished chosen the field of their own without any influence. {50}

RATIONALE:

To assess the level of depression, anxiety and stress among pre-medical and pre-engineering aspirants. This study helps to get deeper understanding on depression, anxiety and stress and their social aspects. It also helps to find the relatable factors in depression like income, duration of sleep, social media, peer pressure, parental support, mentor's support and their relation with the level of mental stress.

To analyse role of coaching centres in mental status of the students.

To compare the level of depression in male and female students, pre-medical and pre-engineering students, freshers and droppers, low socio-economic and high socio-economic status students, locals and hostellers and thus obtain a data so that appropriate measures can be taken by the respective coaching institutes.

It is cross-sectional study done among 400 students of 4 different coaching institutes in Jabalpur. In this, the students were interviewed with a questionnaire containing 27 questions and DASS (depression, anxiety and stress score). The questions were related to their daily life such as hours of sleep, hours of study, income sources, accessibility to mobile phones and social media sites etc. Their identity was kept anonymous so that they give genuine responses. The responses were analysed and organised in the form of tables and charts.

AIMS AND OBJECTIVES:

1. To assess the level of depression, anxiety and stress among students preparing for various competitive exams in various institutes of Jabalpur.
2. To identify the various factors responsible for depression, anxiety, and stress.
3. To identify the ill-effects of depression, stress and anxiety on their health and daily life.

2. MATERIAL AND METHODOLOGY

TYPE-Descriptive

STUDY DESIGN-Cross sectional study

STUDY POPULATION-Students preparing for various competitive exams.

SELECTION CRITERIA-

- Students preparing for various (medical and engineering) competitive exams.
- Students who give informed consent.

DATA COLLECTION PROCEDURES AND INSTRUMENTS USED:

1. DASS 21{5} –

- The DASS 21 is a 21 item self-report questionnaire designed to measure the severity of a range of symptoms common to both Depression and Anxiety. In completing the DASS, the individual is required to indicate the presence of a symptom over the previous week. Each item study is scored from 0 (did not apply to me at all over the last week) to 3 (applied to me very much or most of the time over the past week).

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of Myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated.	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was Doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physicalexertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Scoring the DASS:

The scale to which each item belongs is indicated by the letters D (Depression), A (Anxiety) and S (Stress). For each scale (D, A & S) sum the scores for identified items. Because the DASS 21 is a short form version of the DASS (the Long Form has 42 items), the final score of each item groups (Depression, Anxiety and Stress) needs to be multiplied by two (x2).

Interpreting the DASS:

Once multiplied by 2, each score can now be transferred to the DASS profile sheet, enabling comparisons to be made between the three scales and also giving percentile rankings and severity labels.

DASS Severity Ratings:

(Don't forget to multiply summed scores by x 2)

Severity	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

2. Another questionnaire would be used for socio-demographic profile and to assess the ill effects on health of students, which considers following variables-

- Gender
- Category
- Monthly Family Income
- Name of coaching institute
- Hometown
- Age
- No. of siblings
- Income sources
- Father's occupation
- Mother's occupation
- Family member/ members related to their field(Medical/ engineering)
- Wheredo they live in Jabalpur
- How well do they like their coaching institute
- How do they meet their coaching expense
- How much time do they spend in their coaching institute
- How much time do they spend on self-study
- How many hours of sleep do they take
- From how much time are they preparing for this entrance exam
- Do they have access to computers where they live or study
- Do they have access to mobile phones
- Do they have access to social media sites
- On an around , How much time do they spend on internet and social media sites in a day
- How do they prefer to study(alone or in group)
- Do they think,their teachers encouragem, are helpful and care about them
- Do they have access to their teachers ,faculties and directors for discussing their problems
- How is the attitude of their parents towards their preparation
- Do they feel pressurized by their friends
- What if they are not selected in the entrance exam

QUALITY CONTROL:

- Pre-structured questionnaire is prepared based on DASS –Scale.

Data collection will be done by individuals trained for the same in the department of community medicine.

- At least 10% of the filled questionnaires’ is reviewed by the guide.

PLAN OF ANALYSIS AND STATISTICAL TOOL-Data will be entered in MS EXCEL.

SPSS Software will be used for relevant inferential statistical tests of associations

ETHICAL CONSIDERATION-Informed consent was obtained from the subjects. In case of minor subjects,permission was granted by the parents.

Subject scoring high in the DASS 21 were reported to the institution, and were advised proper psychiatric treatment at Department of psychiatry, NSCB Medical College Jabalpur.

CONFIDENTIALITY-Each student is given a unique code so that identity of the student remains confidential.

3. OBSERVATION AND RESULTS

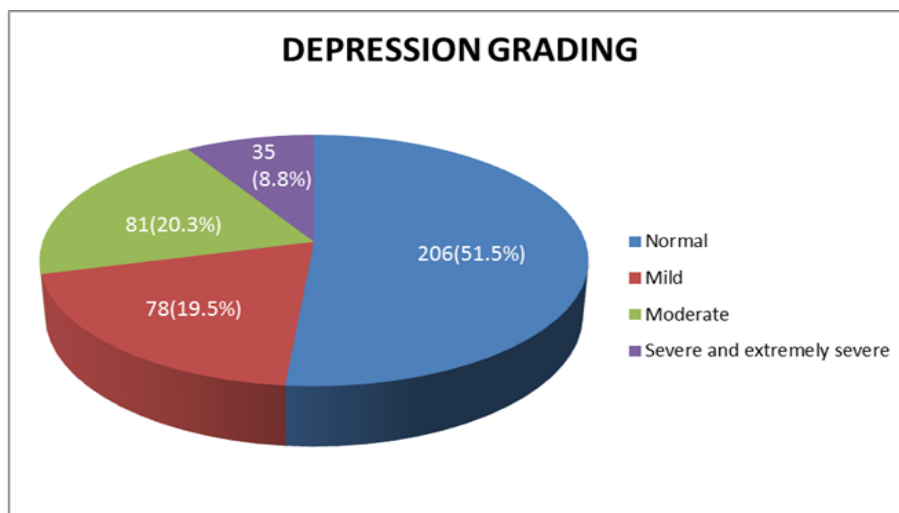


Fig 1: Showing distribution of participants according to grades of depression

Among 400 participants, 51.5% were found to be normal(no depression), 19.5% were found to be in mild depression, 20.3% in moderate depression and 8.8% were found to be severely depressed.

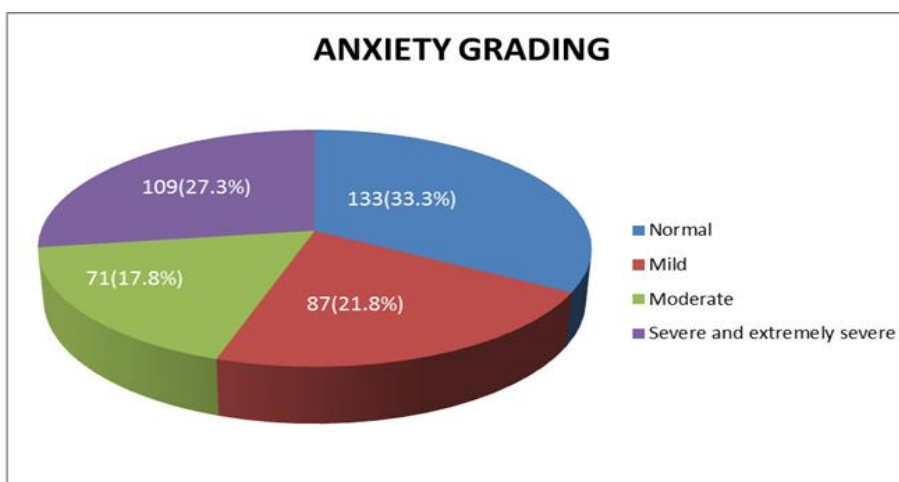


Fig 2: Showing distribution of participants according to grades of Anxiety

Among 400 participants, 33.3% were found to be normal (no anxiety), 21.8% were found to be mildly anxious, 17.8% with moderate anxiety and 27.3 % with sever anxiety.

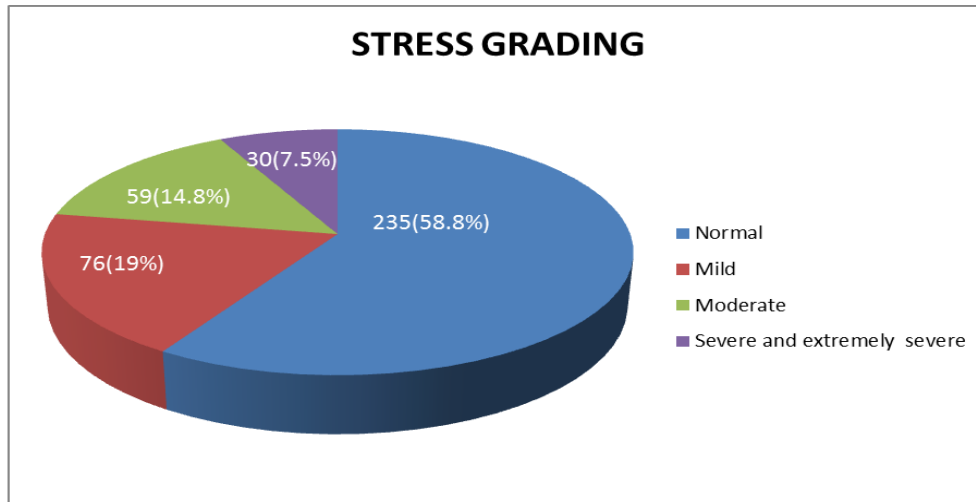


Fig 3: Showing distribution of participants according to grades of stress

Among 400 participants, 58.8% were found to be normal (no stress), 19% were mildly stressed, 14.8% were moderately stressed and 7.5% were having severe stress.

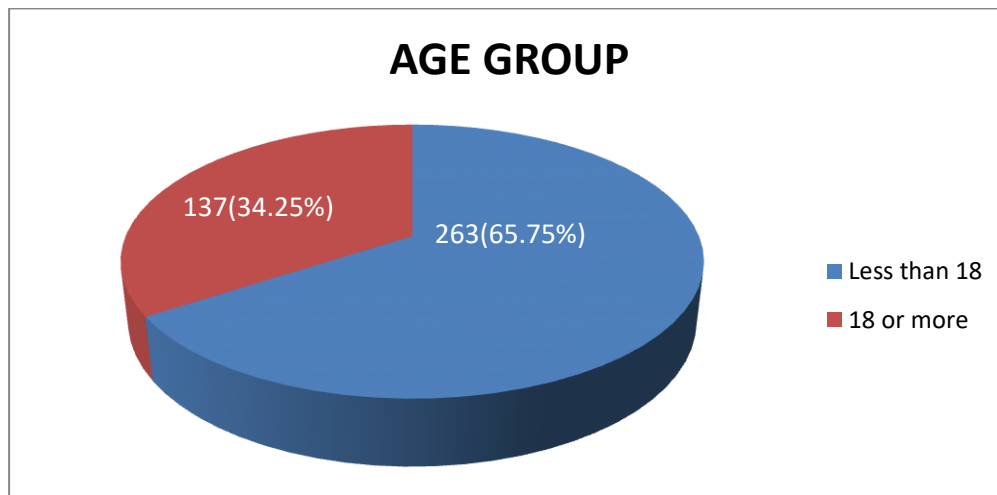


Fig 4: Frequency Distribution Of Age Group

Among 400 participants, 65.75% were less than 18yrs age and rest were 18yrs and above.

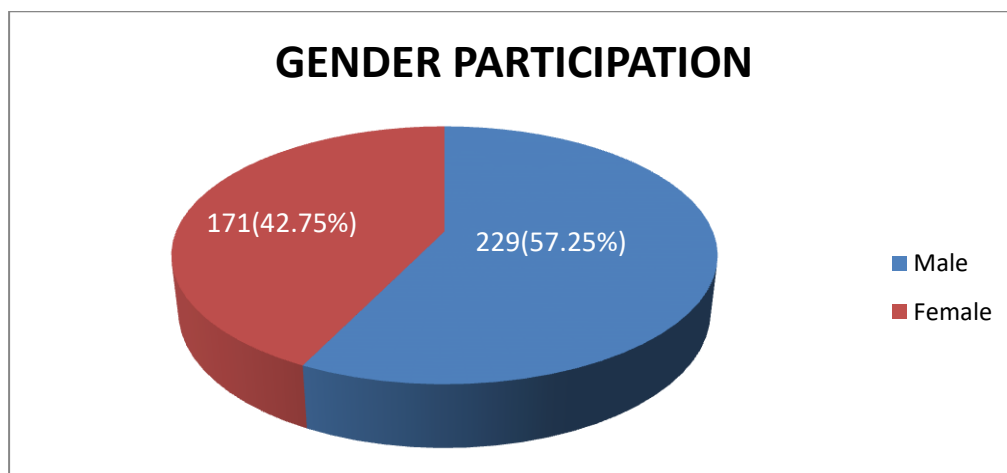


Fig 5: Frequency distribution of gender

Among 400 participants, 229 were male and 171 were female.

Table 1: Descriptive status of Study population

1.	Mean	17.19
2.	Median	17.00
3.	Mode	17
4.	Std. Deviation	1.283
5.	Range	20

Amongst 400 participants, the mean age of the participants was 17.19 years, Median age 17 and mode 17.

Frequency Distribution of participants according to various variables:

S. No	Socio Demographic Variables	Frequency	Percentage
1.	Category		
	Unreserved	267	66.8
	OBC	104	26.0
	Scheduled caste	25	6.3
	Scheduled tribe	4	1.0
Among 400 participants, 66.8% were of unreserved category, 26.0% OBC, 6.3 % scheduled caste and 1.0% scheduled tribe			
2.	Income source		
	Only father employed	290	72.5
	Only mother employed	12	3.0
	Both	89	22.3
	Other	9	2.3
Among 400 participants, source of income of 72.5% were only father, 3.0% only mother, 22.3% both and 2.3% had other sources.			
3.	Father's occupation		
	Govt. employed	187	46.8
	Self employed	104	26.0
	Private job	73	18.3
	Any other	36	9.0
Among 400 participants, the fathers of 46.8% were government employee, 26% were self-employed, 18.3% were in private job and 9% had some other occupation.			
4.	Mother's occupation		
	Gov. employee	58	14.5
	Self employed	16	4.0
	Private job	27	6.8
	Housewife	290	72.5
	Others	9	2.3
Among 400 participants, mothers of 14.5% were government employee, 4% were self-employed, 6.8% were in private job, 72.5% were housewives and 2.3% had some other occupation.			
5.	Likeliness of coaching institute		
	Enthusiastic	129	32.3
	Like it	202	50.5
	Neutral	60	15.0
	Don't like it	9	2.3
Among 400 participants, 32.3% were enthusiastic towards their coaching institute, 50.5% liked it, 15% were neutral and 2.3% disliked.			

6.	Coaching expenses met by-		
	Self	4	1.0
	Parents	390	97.5
	Scholarships and grants	4	1.0
	Loans	2	.5
Among 400 participants, 1% of them met their coaching expenses by self, 97.5% by their parents, 1% by scholarships and grants and 0.5% by loan.			
7.	Time spent in coaching institute		
	<2hrs	1	.3
	2-4 hrs	82	20.5
	4-6 hrs	249	62.3
	>6 hrs	68	17.0
Among 400 participants, 0.3% spent less than 2 hours in their coaching, 20.5% spent 2-4 hours, 62.3% spent 4-6 hours and 17% spent more than 6 hours.			
8.	Access to mobile phones		
	Yes	305	76.3
	No	95	23.8
Among 400 participants, 76.3% had access to mobile phones and rest had no access.			
9.	Access to social media sites		
	Yes	210	52.5
	No	190	47.5
Among 400 participants, 52.5% had access to social media sites and rest had no access to social media sites.			
10.	Time spent on internet and social media sites in a day		
	No access	128	32.0
	<1hrs	216	54.0
	1-3 hrs	45	11.3
	3-5 hrs	3	.8
	5 hrs	8	2.0
Among 400 participants, 32% had no access to internet, 54% spent less than 1 hour, 11.3% spent 1-3 hours, 0.8% spent 3-5 hours and 2% spent 5 hours on internet and social media sites in a day.			
11.	Encouragement, help and care by teachers		
	Not at all	11	2.8
	Sometimes	97	24.3
	Usually	110	27.5
	Always	182	45.5
Among 400 participants, 2.8% were never encouraged, helped and cared by teachers, 24.3% were sometimes, 27.5% usually and 45.5% were always encouraged by teachers.			
12.	Access to teachers/faculties and directors for discussing problems		
	Not at all	9	2.3
	Sometimes	100	25.0
	Usually	92	23.0
	Always	199	49.8
Among 400 participants, 2.3% never had access to faculties, 25% sometimes, 23% usually and 49.8% always had access to teachers and directors for discussing problems.			
13.	If not selected in the entrance exam		
	Retry	157	39.3
	Opt for another field	61	15.3
	Not decided	182	45.5

Among 400 participants, 39.3% would retry if not selected in the entrance exam,

15.3% would opt for another field and 45.5% have not decided yet.

ASSOCIATION TABLES:

S. No	Variables	No. of Students (%)	Depression	Anxiety	Stress
1.	Age group				
	Less than 18	263(65.75 %)	203.69	206.29	205.81
	18 or more	137(34.25 %)	194.37	189.38	190.31
	P value for difference in mean rank		0.442	0.163	0.202
2.	Gender				
	Male	229(57.25 %)	200.36	193.99	182.97
	Female	171(42.75 %)	199.52	208.02	222.70
	P value for difference in mean rank		0.942	0.227	0.001
3.	Siblings				
	1 sibling or less	311(77.75%)	194.79	195.18	194.32
	2 or more siblings	89(22.25)	220.44	219.09	222.11
	P value for difference in mean rank		.064	.084	.045
4.	Preparation field				
	Medical entrance	153(38.25%)	209.46	193.88	203.71
	Engineering entrance	247(61.75%)	194.95	204.60	198.51
	P value for difference in mean rank		0.220	0.365	0.661
5.	Kin members related to preparing field				
	Yes	227(56.75%)	204.11	207.14	204.15
	No	173(43.25%)	193.37	189.36	193.32
	P value for difference in mean rank		0.354	0.125	0.351
6.	Living status				
	In own house	341(85.25%)	204.11	207.14	204.15
	With relative/hostel/paying guest	59(14.75%)	193.37	189.36	193.32
	P value for difference in mean rank		0.669	0.308	.045
7.	Preparing since				
	Less than 2 years	306(76.5%)	197.62	198.24	202.37
	More than two years	94(23.5%)	209.88	207.86	194.43
	P value for difference in mean rank		0.366	0.479	0.559
8.	Parents attitude				
	Supportive	332(83%)	194.53	198.34	197.65
	Neutral/ non supportive	68(17%)	229.64	211.07	214.43
	P value for difference in mean rank		.022	.406	.274
9.	Sleeping hours				
	<6 hours	69(17.25%)	217.05	209.65	215.73
	≥ 6hrs	331(82.75%)	186.88	193.05	199.66
	P value for difference in mean rank		0.035	.164	.151

The table has been prepared with the help of Man whitney u test.

There were 65.75 % participants below 18 years of age, and 34.25 % above 18 years of age. Students of age group less than 18 years were found to be having insignificantly higher level of depression (mean rank of students less than 18 years – 203.69 and above 18 years of age -194.37) *anxiety (mean rank of students less than 18 years -206.29 and above 18 years of age – 189.38) and stress than students above than 18 years of age.

Distribution of male participants was 57.25 % and females were 42.75 %. Depression was found to be insignificantly higher in males as compared to those in females with p value of 0.942.

Anxiety was found to be insignificantly higher in females as compared to males with p value of 0.227. While stress was significantly higher in females with a P value of 0.001. Distribution of participants with 1 sibling or less was 77.75 % and more than 2 siblings was 22.25 %. Depression and Anxiety was insignificantly higher in students with 2 or more siblings with p values of 0.064 and 0.084 respectively. While stress was significantly higher in participants with 2 or more siblings with P value of 0.045.

Distribution of students preparing for medical entrance was 38.25 and engineering entrance was 61.75. Depression and stress was found to be insignificantly higher in students preparing for medical entrance with p values of 0.220 and 0.661. While anxiety was insignificantly higher in students preparing for engineering entrance exams with a p value of 0.365.

56.25 % of the participants had family members related to their preparation field. Depression (0.354), Anxiety (0.125) and stress (0.351) was insignificantly higher in those who had their family members related to their preparation field .

85.25 % of the participants were found to be living in their own house, while 14.75 % of participants were living with their relatives, in hostels or as paying guests. Depression and Anxiety and was found to be insignificantly higher in those living in their own house as compared to others with a p value of 0.669 and 0.308 .while stress was significantly higher in those living in their own house as compared to others with a p value of 0.045.

76.5 % of participants were preparing for exams from less than 2 years while 23.5 % were preparing from 2 or more years. Depression and anxiety was found to be insignificantly higher in those preparing from more than 2 years with a p value of 0.36 and 0.479, while stress was insignificantly higher in others with a p value of 0.559.

83 % of the participants had supportive parents while 17 % had neutral or non-supportive parents .Depression (p value - 0.022) was significantly while anxiety (p value -0.406) and stress (0.274) were insignificantly higher in students whose parent’s attitude was neutral and non-supportive .

17.25 % of students had sleeping hours of less than 6 hours while 82.75 % students sleep for more than 6 hours. Depression (0.035) was found to be significantly while anxiety(0.164) and stress(0.151) were insignificantly higher in students who sleep for less than 6 hours.

Kruskel Wallis test for mean ranks:

S. No		No. Of Students	Depression	Anxiety	Stress
1.	Support from teaching faculty				
	Not at all	11(2.75%)	241.09	185.86	193.95
	Sometimes	97(24.25 %)	236.61	230.61	226.07
	Usually	110(27.5%)	196.14	188.18	199.38
	Always	182(45.5%)	181.44	192.78	187.95
	P value for difference in mean rank		.001	.031	.072
2.	Income of parents				
	<50000	220(55%)	198.06	200.70	196.65
	50000-100000	112(28%)	203.82	199.67	205.74
	>100000	68(17%)	202.93	201.21	204.33
	P value for difference in mean rank		0.895	0.995	0.758
3.	Spend times on study				
	0-2 hrs	34(8.5 %)	225.53	235.43	215.97
	2-4 hrs	139(34.8%)	219.65	210.30	210.88
	4-6 hrs	136(34%)	193.02	192.06	201.17
	>6hrs	91(22.8 %)	173.08	185.09	177.87
	P value for difference in mean rank		0.011	0.090	0.154
4.	Study preference				
	Alone	334(83.5%)	197.71	196.87	197.10
	Sometimes with friends	62(15.5%)	215.27	218.77	220.02
	Always with friends	4(1%)	139.67	160.83	109.50
	P value for difference in mean rank		.357	.324	.138

Depression (p value -0.001) was significantly higher in students who did not get any support from teaching faculty. While anxiety was significantly and stress was insignificantly higher in those who sometimes get support from teaching faculties. Depression and stress was insignificantly higher in those whose parent’s income was between 50,000-1,00,000 as compared to those with less than 50,000 and more than 1,00,000 income. Anxiety was found to be higher in those whose parent’s income was greater than 1 lac.

Depression was significantly (p value-0.011) while stress and anxiety was insignificantly higher in those who spend 2 or less hours on study as compared to those who spend more than 2 hours, moreover depression ,anxiety and stress was lower in those who spend more than 6 hours on study.

Depression , anxiety and stress was higher in those who sometimes studied with friends, as compared to those who always or never study with friends,, while depression ,anxiety and stress was quiet low in those who always studied with friends.

4. DISCUSSION

A. OVERALL PREVALENCE:

Among 400 participants, 51.5% were found to be normal (no depression), 19.5% were found to be in mild depression, 20.3% in moderate depression and 8.8% were found to be severely depressed.

Among 400 participants, 33.3% were found to be normal (no anxiety), 21.8% were found to be mildly anxious, 17.8% with moderate anxiety and 27.3 % with severe anxiety.

Among 400 participants, 58.8% were found to be normal (no stress), 19% were mildly stressed, 14.8% were moderately stressed and 7.5 were having severe stress.

Similarly, a study done by **Subramani Poongothai** et al in 2009 stated The overall crude prevalence of depression was 15.1%. {15}

In line with our study A study done by **K Sathish Kumaretal** found that The prevalence of depression, anxiety, and stress were 19.5%, 24.4% and 21.1% respectively. Around four-fifth (81.6%) of the respondents had at least one of the studied disorders, and 34.7% of the respondents had all the three depression, anxiety, and stress. {13}

While a study done by **Siti Fatimah Kader Maideen** et al in 2014 Apr 22 found that The prevalence of depression was 10.3%. Based on this study, the predictors of depression were presence of anxiety, high perceived stress, low self-esteem, unhappy relationship with family, serious financial constraint. {14}

A study done by **Anjali N Shete et al** in 2015 showed that , On analysing the depression scale, among total of 50 participants; 40 reported no evidence of depression. Six cases showed mild depression, one moderate depression; three were having severe depression and one case showed extreme depression. . The anxiety scale reported 10 normal interpretations. Among the remaining participants, 18 showed mild anxiety, 16 moderate and three severe anxiety status. Three cases reported extreme severe anxiety status. {17}

B. GENDER:

Distribution of male participants was 57.25 % and females were 42.75 %. Depression was found to be insignificantly higher in males as compared to those in females with p value of 0.942.

Anxiety was found to be insignificantly higher in females as compared to males with p value of 0.227. While stress was significantly higher in females with a p value of 0.001.

The level of academic stress is generally high among these students. The pressure to perform academically better is found to be the most common cause. Other causes of stress include personal relationships, drug abuse, health issues, trouble with siblings, arguments with parents. Females are more vulnerable to be affected by these kind of issues because of various body image issues like hormonal changes during puberty, social causes like discrimination in society and ruminating when they are depressed. Girls also tend to emotionally mature more quickly than boys. Similar results were found in the study by **Kumar KS** in his study that anxiety and stress were statistically significant in females {13}. While a study done by **Dhumale et al** ,Concerning gender found that stress was present in 27.7 % of female respondents as compared to 20.4 % of male respondents This association of stress with gender was statistically significant {12}

A similar trend was observed by **Abdulghani et al. and Abu-Ghazaleh et al** Which stated that higher scores of depression, anxiety and stress was associated with female gender, lower semester, younger age {20}.

C. AGE:

There were 65.75 % participants below 18 years of age, and 34.25 % above 18 years of age. Students of age group less than 18 years were found to be having insignificantly higher level of depression, anxiety and stress than students above 18 years of age. This is attributed to the fact that most of the students of the younger age group are school going students who have to manage their school workload and the competitive exam preparation simultaneously. Problems in school like peer pressure, pressure from school teachers and lack of support from the school teachers for competitive exam preparation, family problems like financial struggles, separated or divorced parents and various other types of traumatic events tend to affect the younger age more than the older age group. This was found in contrast to the study conducted by **Shi M et al**, which showed that students of older age group are have more depression than younger age group, due to financial burden and marriage pressures {22}.

D. NUMBER OF SIBLINGS:

Distribution of participants with 1 sibling or less was 77.75 % and more than 2 siblings was 22.25 %. Depression and Anxiety was insignificantly higher in students with 2 or more siblings with p values of 0.064 and 0.084 respectively. While stress was significantly higher in participants with 2 or more siblings with P value of 0.045. This is because of the fact that children with more siblings face greater expectations from their parents. They also face the burden of financial problems due to the greater number of family members. A poor sibling relationship is a major cause of depression among adults as well. This is in contrast to the study conducted by **Senthilvelou et al**, which showed that single children have higher level of anxiety and stress levels as compared to children with siblings, although these are not significant. {29}

E. FIELD OF EDUCATION:

Distribution of students preparing for medical entrance was 38.25% and engineering entrance was 61.75%. Depression and stress was found to be insignificantly higher in students preparing for medical entrance with p values of 0.220 and 0.661. While anxiety was insignificantly higher in students preparing for engineering entrance exams with a p value of 0.365. This is attributed to the fact that there is increased competition in pre medical exams than pre engineering exams and lesser number of seats and lesser number of medical colleges as compared to engineering colleges. And also due to the fact that private medical colleges are more expensive to study than private engineering colleges, therefore there is compulsion among the students to get admission to the limited number of government seats, thus facing more competition and more stress. This is also seen in the study by **Dhumale et al**, which showed that out of the various field of education, medical students had statistically levels of increased stress {12}. In a similar fashion **Al-Dabal et al**. observed a greater prevalence of stress in medical students in comparison with non-medical students in Saudi Arabia {45}.

A study done by **Thelma A Quince et al** showed that Prevalence of depression using a similar cut-off score among comparable groups has been found to vary from 9.5% to 29% for medical students, 16.17% and from 3.8% to 18% for non-medical undergraduates {46}.

F. RESIDENCE:

85.25 % of the participants were found to be living in their own house, while 14.75 % of participants were living with their relatives, in hostels or as paying guests. Depression and Anxiety was found to be insignificantly higher in those living in their own house as compared to others with a p value of 0.669 and 0.308. While stress was significantly higher in those living in their own house as compared to others with a p value of 0.045. This may be due to the fact that they face direct pressure from their strict parents and lack of relaxation activities. There may be lack of emotional support from the parents, and financial problems. This finding in our study is consistent to the study conducted by **Shaikh BT et al**. which showed the same finding that day scholars are more stressed as compared to hostellers due to stress of travelling from campus to home. In contradiction to our study {38}. A study done in **Allama Iqbal Medical College**, Lahore Pakistan showed that the medical students living in dormitory have considerably higher amount of depression and anxiety as compared to students living with families {48}. While another study done by **Dhumale et al** suggests that stress was present in 25.9 % students living in hostels, while among the students living elsewhere, 19.6% had stress; an association which was also statistically significant. {12}

G. SUPPORT OF PARENTS:

83 % of the participants had supportive parents while 17 % had neutral or non-supportive parents. Depression (p value - 0.022) was significantly while anxiety (p value - 0.406) and stress (0.274) were insignificantly higher in students whose parent's attitude was neutral and non-supportive.

Absence of supportive and loving parents in students' life can lead to despair and depression in students. Parents who are emotionally unavailable are often immature and psychologically affected themselves. Such children can become rigid, show low stress tolerance, emotional instability, unstable relationships due to repeated conflicts and lack of emotional support from parents, thus these children develop into adults who struggle with their lives. Similar results were also found in the study conducted by **Kamlesh Singh et al** which showed that poor family environment in terms of parental support, rejection, and inconsistencies can all contribute to psychological problems like anxiety, stress, neuroticism, depression and many others. {33}

H. SLEEPING HOURS:

17.25 % of students had sleeping hours of less than 6 hours while 82.75 % students sleep for more than 6 hours. Depression (p value- 0.035) was found to be significantly while anxiety (0.164) and stress (0.151) were insignificantly higher in students who sleep for less than 6 hours . The students who had reduced sleep showed more depression, anxiety and stress as compared to other students. Reduced sleep can cause various types of mental issues. It can also lead to irritation , lack of concentration, poor academic performance, and various other serious cardiovascular diseases can also occur, Similarly A study done by **Siu Yi Wong et al** suggests that Sleep problems precede an episode of depression in 40% of cases. Individuals with persistent sleep problems may be at significantly higher risk of developing depression. {42}

Our study was also in line with a study done by **Wipawan C. Pensuksan et al** suggests that students classified as poor quality sleepers had the high prevalence of depression about 45.5%. poor quality sleepers reported moderate depression (26.7%), moderate anxiety (29.3%) and moderate stress (22.9%). Female students who had poor sleep quality reported a higher prevalence of moderate anxiety (31.9%), higher than their male counterparts. {43}

I. SUPPORT FROM TEACHING FACULTIES:

In our study, out of 400 students 2.75% students were those who never got any support from their faculty, 24.25% students sometime get support from their faculty, 27.5% student usually got support from their faculty and 45.5% students always got support of their faculty. Depression was statistically significant in the students who never got support as compared to the students who always got support by faculty. Level of anxiety was statistically significant in students who never got supported as compared to the students who sometimes got supported by the faculty. Level of stress was statistically insignificantly higher in students who never got supported as compared to the students who sometimes got supported by the faculty. It may be because of the respect they hold for faculty and often faculties handle these difficult situations themselves for them. It is because of the feeling of helplessness and hopelessness. Teachers compare those who perform well with those who underperform. So Fear of failure to do well in studies is causing anxiety among students which Has substantial negative effects on their academic and social success.. Similarly a study done by **VSumayaBasudan** showed that Faculty members and administrators are a significant source of stress. Their findings revealed that this dissatisfaction leads to higher levels of stress, anxiety and depression. Faculty support has been associated with significantly lower stress levels {34}. A study done by **Al-Mohaimed and Khan et al** showed that higher students' social support is, the lower their symptoms of stress. Furthermore, when peers act as mentors, stress and anxiety are significantly reduced {35}. In a similar manner, study done by **Ayat R. Abdallah and Hala M. Gabr** showed that lack of communication with teaching staff was significantly associated with stress ($p < 0.001$) {36}

J. INCOME OF PARENTS:

Among 400 participants, 55% of the participants had family income less than 50000, 28% had family income between 50000 to 100000 and 17% of participants had family income more than 100000 Depression and stress were found to be insignificantly higher in those whose family income was between 50000 to 100000 While anxiety was found to be higher in those whose family income was greater than 100000. People with inadequate family income typically give accounts of their difficulties in meeting basic costs. The continual juggling of finances financial uncertainties in some cases and very often the sense of being different and less worthwhile leads to depression anxiety and stress in students. In a study done by **SubramaniPoongothai et al** found that, Prevalence of depression was 15. 7% among those who had family income less than 5,000, with statistical significance, 9.7 % prevalence in those between 5000-10,000. {15}

Economic hardship was also found to be associated with increased level of depression by the **Fragile Families and Child Well-being Study (FFCWS)**, a longitudinal study that was conducted from 1998 to 2000. {24}

A study done by Yusoff et al. found that the level of stress experienced by students corresponded to family household incomes. Students from lower socio-economic backgrounds faced financial difficulties; students from middle income groups were struggling to 67ulfil their own and others' expectations, and students of higher socio-economic status had the money to meet their needs {21}

A study done by **Teris Cheung et al found** that financial difficulty was another significant correlate of depression, anxiety and stress in the multivariate analyses. Students in financial difficulties were 2.6 times, 2.3 times and 1.9 times more likely to experience depression, anxiety and stress than those without. {25}

In a study done by **wafaayousifabdel**– It was shown also that there was a significant association between socioeconomic standard and stress and depression scores, p value 0.045 and 0.029 respectively, with higher scores detected among those with lower socioeconomic classes. {23}

K. TIME SPENT ON STUDY:

Among 400 participants, 8.5% participants spent 0-2 hours in studying, 34.8% participants spent 2-4 hours in studying, 34% of participants spent 4-6 hours in studying and 22.1% participants spent more than 6 hours in studying. Depression was significantly (p value 0.011) while stress and anxiety were insignificantly higher in those who spent 2 or less hours on study as compare to those more than 2 hours, moreover depression anxiety and stress were lower in those who spent more than 6 hours on study. Our study was in line with A study done by **Ayat R. Abdallah and Hala M. Gabr** showing Students who spent Less or equal to four hours on study were found to be having significant anxiety and stress as compared to those who spent more than 4 hours. Several factors may underlie this findings. Students who spend more time on studies tend to complete their academic syllabus on time and get more time and opportunities to revise the syllabus. Those spending less time on studies tend to get panic during examination periods due incomplete syllabus, their confidence is lowered, Thus leading to depression, anxiety and stress symptoms. {36}

In contradiction to our study, A study done by **Susan Bahrami et al** on MSc and PhD students showed that relation between study and depression was negative and significant. This means that their amount of depression decreased with increasing amount of studying. {41}

L. STUDYING ALONE V/S STUDYING WITH FRIENDS:

Depression anxiety and stress were higher in those who sometimes studied with friends as compared to those who always or never study with friends, while depression anxiety and stress were quiet low in those who always studied with friends. A study done by **Pawelrygiel et al** confirmed those from previous studies reporting a stronger and more stable effect of loneliness on depression than vice versa. {49}

A temporally stable influence of loneliness on depression suggests that interventions aiming to reduce the intensity of the feeling of loneliness should result in lowering the severity of depressive symptoms.

It may be attributed to the fact that, studying with friends may deviate a person's mind from being pessimistic. Studies become more interactive with friends, involving discussions, instant doubt solving and expands access to information, within a short period of time, thus becoming more effective.

M. FAMILY MEMBERS RELATED TO A COMMON FIELD:

56.25 % of the participants had family members related to their preparation field. Depression (0.354), Anxiety(0.125) and stress(0.351) was insignificantly higher in those who had their family members related to their preparation field It may be attributed to the fact that Studenyts comes under intense pressure to become a conformant member of the society and to live according to their parent's expectation and his extended social circle. The need and desire to perform best leads to depression, anxiety and stress in the students .In a study conducted by **Kristen tillman et al** it was found that 28.6% of people regretted following their parents' footsteps in choosing their career option as same as their parents. They wished chosen the field of their own without any influence. {50}

5. CONCLUSION

The propensity of mental health issues hinders the success of the students. Such issues also have an adverse effect on the social functioning and ability to react and deal with stressful situations, they have high levels of hopelessness, and low coping skills. They can impact their social settings by exhibiting lack of self-esteem, becoming more sensitive to the opinions of others, and also importantly they become less physically active. Girls face increased expectations to conform to the standards set forth by the society. Being stressed as a female adolescent can have long term consequences in terms of social functioning, career, and enjoyment of life. Therefore society should reframe the way they think about the women and stop placing limitations on their freedom of thinking and encourage them to do better in their lives.

Individuals with negative reinforcing social network ie. Non Supportive friends and family are significantly depressed, and also that stress is more among the students who stay in their own homes therefore right kind of family support is an essential aspect to reduce the levels of depression among them.

The students who don't have proper support from their respective coaching faculty have significant levels of depression anxiety and stress, therefore the coaching centres should take care of student's issues as soon as possible and provide adequate support. They should pay attention to students stress in learning and design general curriculum on stress coping strategies like workshops.

Medical aspirant students have more levels of depression anxiety and stress as compared to their engineering counterparts. They must therefore get involved in stress management activities and also learn to seek support from their elders, release stress reduced emotions and develop an optimistic view of life. They must also learn to manage the study hours without compromising their recreational activities and their sleeping hours, since reduced sleeping hours are associated with higher levels of depression as also evident from our study.

Overall, depression management involves complete lifestyle change that requires a range of strategies and techniques. They include good eating habits, proper exercise, good family and social life, mood management and relaxation techniques. These allow the individual to reduce, avoid or cope with the negative emotions related to the condition and recognize the triggers and situations that lead to these negative emotions.

6. SUMMARY

The present study was done in Department of community medicine, NSCB Medical College Jabalpur, M.P. The study was descriptive and cross sectional and aimed to access the level of depression, anxiety and stress among students preparing for various competitive engineering and medical entrance examination. The study was done on 400 students from 8 different coaching institutes of Jabalpur. A self-administered questionnaire comprising of sociodemographic profile and another pre structured questionnaire comprising of DASS scale were used. The data was then collected and entered in MS Excel and then SPSS Software was used for relevant inferential statistical tests of associations.

The salient observation of the study was as following:-

1. 19.5% of total participants were found to be having mild depression, 20.3 having moderate depression and 8.8 having severe depression.
2. 19 % of of total participants were found to be having mild stress, 14.8 % having moderate stress, and 12 % having severe stress.
3. 21 % of the total participants were found to be having mild anxiety, 17.8 % having moderate anxiety and 27.3 % having severe anxiety.
4. 57.25 % of the participants were males and 42.75 % were females. Depression was found to be higher in males. Anxiety was found to be insignificantly higher in females as compared to males with p value of 0.227.while stress was significantly higher in females with a p value of 0.001.
5. The mean age of the participants was found to be 17.19 (+- 1.283). There were 65.75 % participants below 18 years of age, and 34.25 % above 18 years of age. Students of age group less than 18 years were found to be having insignificantly higher level of depression (mean rank of students less than 18 years – 203.69 and above 18 years of age -194.37)*anxiety (mean rank of students less than 18 years -206.29 and above 18 years of age – 189.38) and stress than students above than 18 years of age .
6. Distribution of students preparing for medical entrance was 38.25 and engineering entrance was 61.75. Depression and stress was found to be insignificantly higher in students preparing for medical entrance with p values of 0.220 and 0.661. While anxiety was insignificantly higher in students preparing for engineering entrance exams with a p value of 0.365.
7. Distribution of participants with 1 sibling or less was 77.75 % and more than 2 siblings was 22.25 %. Depression and Anxiety was insignificantly higher in students with 2 or more siblings with p values of 0.064 and 0.084 respectively. While stress was significantly higher in participants with 2 or more siblings with P value of 0.045.
8. 85.25 % of the participants were found to be living in their own house, while 14.75 % of participants were living with their relatives ,in hostels or as paying guests. Depression and Anxiety and was found to be insignificantly higher in those living in their own house as compared to others with a p value of 0.669 and 0.308 .while stress was significantly higher in those living in their own house as compared to others with a p value of 0.045.

9. 76.5 % of participants were preparing for exams from less than 2 years while 23.5 % were preparing from 2 or more years. Depression and anxiety was found to be insignificantly higher in those preparing from more than 2 years with a p value of 0.36 and 0.479, while stress was insignificantly higher in others with a p value of 0.559.
10. 83 % of the participants had supportive parents while 17 % had neutral or non-supportive parents .Depression (p value -0.022) was significantly while anxiety (p value -0.406) and stress (0.274) were insignificantly higher in students whose parent's attitude was neutral and non-supportive .
11. 17.25 % of students had sleeping hours of less than 6 hours while 82.75 % students sleeps for more than 6 hours .Depression (0.035) was found to be significantly while anxiety(0.164) and stress(0.151) were insignificantly higher in students who sleep for less than 6 hours.
12. Depression (p value -0.001) was significantly higher in students who did not get any support from teaching faculty. While anxiety was significantly and stress was insignificantly higher in those who sometimes get support from teaching faculties.
13. Depression and stress was insignificantly higher in those whose parent's income was between 50,000-1,00,000 as compared to those with less than 50,000 and more than 1,00,000 income. Anxiety was found to be higher in those whose parent's income was greater than 1 lac.
14. Depression was significantly (p value-0.011) while stress and anxiety was insignificantly higher in those who spend 2 or less hours on study as compared to those who spend more than 2 hours, moreover depression ,anxiety and stress was lower in those who spend more than 6 hours on study.
15. Depression, anxiety and stress was higher in those who sometimes studied with friends, as compared to those who always or never study with friends,, while depression ,anxiety and stress was quiet low in those who always studied with friends.
16. Depression , anxiety and stress management involves complete lifestyle change that requires a range of strategies and techniques.

REFERENCES

- [1] Michael Kerr. 2015
- [2] National Mental Health Survey of India, 2015-16 National Mental Health Survey of India, 2015-16
- [3] <https://www.civilserviceindia.com/current-affairs/articles/health-issues-of-aspirants-of-competitive-examination-and-remedies.html>
- [4] RashmiNemade, Ph.D., Natalie Staats Reiss, Ph.D., and Mark Dombeck, Ph.D. Sep 19, 2007 in historical understanding of depression.
- [5] Brown AY. AllscriptsEPSi. Mayo Clinic, Rochester, Minn. Nov. 17, 2016.
- [6] American Psychiatric Association
- [7] <https://www.webmd.com/anxiety-panic/guide/anxiety-disorders#1>
- [8] János Hugo Bruno "Hans" Selye in "The stress of life", a classic book
- [9] https://www.webmd.com/balance/stress-management/stress-symptoms-effects_of-stress-on-the-body#1
- [10] Psychology Foundation of Australia
- [11] Fernando Gomez- Consultant Clinical Psychologist
- [12] Waghachavare VB, Dhumale GB, Kadam YR, Gore AD in their study of Stress among Students of Professional Colleges from an Urban area in India.
- [13] K Sathish Kumar and Brogen Singh Akoijamet in their study on Depression, anxiety and stress among higher secondary school students of Imphal, Manipur(26-Apr-2017)
- [14] Siti Fatimah Kader Maideen, SherinaMohd. Sidik, LekhrajRampal, and FirdausMukhtar in their study of Prevalence, Associated Factors and Predictors of Depression among Adults in the Community of Selangor, Malaysia(April 22, 2014)

- [15] SubramaniPoongothai, RajendraPradeepa, AnbhazhaganGanesan, and Viswanathan Mohan in their study on Prevalence of depression in a large urban South Indian population--the Chennai Urban Rural Epidemiology Study (CURES-70). 2009 Sep 28
- [16] Strine TW1, Mokdad AH, Balluz LS, Gonzalez O, Crider R, Berry JT, Kroenke K. in their study Depression and anxiety in the United States: findings from the 2006 Behavioral Risk Factor Surveillance System. 2008 Dec
- [17] Anjali N Shete, KD Garkal Year: 2015 in their study A study of stress, anxiety, and depression among postgraduate medical students
- [18] ShawazIqbal, Sandhya Gupta, E Venkatarao in their study Stress, anxiety & depression among medical undergraduate students & their socio-demographic correlates. Year : 2015
- [19] Bhasin SK, Sharma R, Saini NK in their study on Depression, anxiety and stress among adolescent students belonging to affluent families: a school-based study. 2010 Feb
- [20] Abdulghani HM, AlKanhal AA, Mahmoud ES, Ponnampereuma GG, Alfaris EA. Stress and its effects on medical students: A cross-sectional study at a college of medicine in Saudi Arabia. J Health PopulNutr.2011;29:516–22.
- [21] Johari AB, hassimin stress and coping strategies among medical students in national university of Sabah and university Kuala Lumpur Royal College of Medicine. J. Community health 2009
- [22] Meng Shi, Li Liu, ZiYue Wang, and Lie Wang in their study Prevalence of depressive symptoms and its correlations with positive psychological variables among Chinese medical students: an exploratory cross-sectional study(2016 Jan 11.)
- [23] waffayousifabdelin their study on depression anxiety and stress.
- [24] Fragile Families and Child Well-being Study (FFCWS), a longitudinal study that was conducted from 1998 to 2000
- [25] Yusoff et al. in their study titled Stress Management for Medical Students
- [26] Teris Cheung, Siu Yi Wong, Kit Yi Wog, Lap Yan Law, Karen Ng, Man Tik Tong, Ka Yu Wong, Man Ying Ng, and Paul S.F. Yip in their study Depression, Anxiety and Symptoms of Stress among Baccalaureate Nursing Students in Hong Kong: A Cross-Sectional Study.(2016 Aug 3)
- [27] Nanda, Ashok Kumar, "Mental health of Adolescents" Indian Journal of Psychometry and Education", Vol.31, No, 1 January, 2000, p 17-20.
- [28] WHO under topic "Depression in India, let's talk"
- [29] Senthilvelou. M. Gnanadesigan.selvain their study Depression, Anxiety and Stress Levels among Individuals with Siblings and Individuals without Siblings.
- [30] SurbhiSidana, Jugal Kishore, VidyaGhosh, DivyanshGulati, RC Jiloha, and TanuAnand in their study Prevalence of depression in students of a medical college in New Delhi: A cross-sectional study.(2012 May 31.)
- [31] Abdulghani HM, AlKanhal AA, Mahmoud ES, Ponnampereuma GG, Alfaris EA in their study titled Stress and its effects on medical students: a cross-sectional study at a college of medicine in Saudi Arabia.(2011 Oct)
- [32] Abdel Rahman AG, Al Hashim BN, Al Hiji NK, Al-Abbad Z.intheir study Stress among medical Saudi students at College of Medicine, King Faisal University.December 2013
- [33] Kamlesh Singh, MohitaJunnarkar, and Soumya Sharma in their study Anxiety, stress, depression, and psychosocial functioning of Indian adolescents. 2015 oct-dec
- [34] SumayaBasudan in their study Depression, anxiety and stress in dental students. 2017 May
- [35] Al-Mohaimed and Khan.Perception of Saudi medical students on the qualities of effective teachers. Saudi Med J. 2014
- [36] Ayat R. Abdallah and Hala M. Gabr.Depression, anxiety and stress among first year medical students in an Egyptian public university. 10 February 2014

- [37] Mohamed Dafaalla, Abdulraheem Farah, Shaima Bashir, Ammar Khalil, RababAbdulhamid, MousabMokhtar, Mohamed Mahadi, Zulfa Omer, AsgadSuliman, Mohammed Elkhalifa, HaninAbdelgadir, Abdelmoneim E.M. Kheir, IhabAbdallahman. Depression, Anxiety, and Stress in Sudanese Medical Students: A Cross Sectional Study on Role of Quality of Life and Social Support. 2016
- [38] Shaikh BT, Kahloon A, Kazmi M, Khalid H, Nawaz k, Khan N, Khan S in their research titled Students Stress andCopingStrategies: A CaseofPakistaniMedicalSchool(Nov 2004)
- [39] JocelyneMatarBoumosleh in study titled Depression, anxiety, and smartphone addiction in university students- A cross sectional study. 2017 Aug 4
- [40] Pitt's Center for Research on Media, Technology and Health
- [41] SoudabehYarmohammadi, MajidAmirsardari, ArashAkbarzadeh, Mehdi Sepidarkish and Amir HosseinHashemian. Evaluating the Relationship of Anxiety, Stress and Depression with Sleep Quality of Students Residing at the Dormitories of Tehran University of Medical Sciences in 2013
- [42] Siu Yi Wong, Kit Yi Wong, Lap Yan Law, Karen Ng, Man Tik Tong, Ka Yu Wong, Man Ying Ng, and Paul S.F. Yip in their study Depression, Anxiety and Symptoms of Stress among Baccalaureate Nursing Students in Hong Kong. 2016 Aug 3
- [43] Wipawan C. Pensuksan in study titled Relationship between Poor Sleep Quality and Psychological Problems among Undergraduate Students in the Southern Thailand. 2016
- [44] Susan Bahrami, SaeedRajaepour, HasanAshrafiRizi, MonerehZahmatkesh, and Zahra Nematolahin their study The relationship between students' study habits, happiness and depression. 2011
- [45] Badria K Al-Dabal, Manal R Koura, ParveenRasheed, Latifa Al-Sowielem, and Suhair M Makki in their study titled "A Comparative Study of Perceived Stress among Female Medical and Non-Medical University Students in Dammam, Saudi Arabia" 2010 Jul-19
- [46] Thelma A Quince, Diana F Wood, Richard A Parker and John Benson in their study of Prevalence and persistence of depression among undergraduate medical students (2012)
- [47] Vivek B. Waghachavare,* Girish B. Dhumale, Yugantara R. Kadam, and Alka D. Gore (2013 Jun 25) in their study titled A Study of Stress among Students of Professional Colleges from an Urban area in India
- [48] Perveen S, Kazmi SF, urRehman A. in their study on RELATIONSHIP BETWEEN NEGATIVE COGNITIVE STYLE AND DEPRESSION AMONG MEDICAL STUDENTS. 2016 Jan-Mar
- [49] Pawełgrygiel et al in their study LONELINESS AND DEPRESSION AMONG POLISH UNIVERSITY STUDENTS: PRELIMINARY FINDINGS FROM A LONGITUDINAL STUDY
- [50] Kristen tillman et al in their study titled Parental Influence on College Students' Career Aspirations. 2015