Original Research Article

Prevalence of Depression, Anxiety and Stress Levels on DASS-21 Scale in Medical Students of First Year Odd and Even Batch at Miraj City - An Observational Study

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ABSTRACT

Background: Stress, Anxiety and Depression decrease the academic performance of the students and this plays an important role in academics. The Scale used is Depression, Anxiety and Stress Scale – 21. It is a 21 Items scale which helps to find out levels of depression, anxiety and stress in an individual. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-reactive and impatient. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items.

Aim: To Prevalence of Depression, Anxiety and Stress Levels on DASS21 Scale in Medical Students of First Year Odd and Even Batch at Miraj City.

Method: The sample size comprises of 184 students of first year from Medical Courses in Miraj including both Males and females of odd (92) and even (92) batch. The outcome measures used is a Depression anxiety and stress Scale – 21 which will be given to the students and explained in a language comfortable to them. The students will then complete the scale correctly and truly. Data will be analyzed based on the scores of each student.

Outcome Measure: Depression, Anxiety and Stress Scale – 21

Result: The result proves that presence of Depression, Anxiety and Stress were seen clinically and statistically significant in intra-batches. The mean value of depression, anxiety and stress indicated mild depression in even Batch whereas moderate to severe in Odd Batch. Even batch has mild to moderate anxiety and severe to extremely severe is seen in Odd batch. Stress observed is mild to moderate in odd as well as in even batch.

Conclusion: On comparison in both batches depression is found in odd batch with significant p-value, whereas anxiety and stress do not have significant p-value hence the can be compared in terms of severity levels. The study concludes that there is more depression, anxiety and stress in odd batch than in comparison with the even batch.

Keywords: Depression, Anxiety and Stress Scale-21, First Year Odd and Even Batch Medical Students, mental health.

INTRODUCTION

Mental health is "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community". (WHO)[1] Poor mental Health will lead to many life threatening diseases such as cardiovascular diseases, deaths from external causes or even cancer

deaths, which was only associated with psychological distress at higher levels. [2]

Stress indicates to the psychological state which derives from the person's appraisal of the success with which he or she can adjust to the demands of the society environment. [3] The positive feelings can be favourable at times, producing a boost that provides the drive & energy to help people get through circumstances like exams or work deadlines. However, an extreme amount or negative feeling of stress can have health reaction& adversely affect the immune, cardiovascular, neuro, endocrine & central nervous systems. [4]

Anxiety is contemplated as a state of uneasiness, it's a bodily response to a perceived danger that could be real or imaginary and triggered by an individual's thoughts, beliefs and feelings. [5] Low anxiety levels are adaptive and can provide the motivation required for survival. But it becomes troublesome when the individual is unable to prevent the anxiety from escalating to a level that interferes with the ability to meet basic needs. [6]

Depression is a common mental disorder, signalized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy and poor concentration. [5] There are about 33% of students had depressive symptoms, and noticeably among them, the majority were medical students, consisting of 27–50% of total. [7] Depression can lead to suicidal attempts also at times. [8]

Some Psychological problems often seen like anxieties about aspects of study including exams and presentations, loneliness, homesickness, lack of self-confidence or low self esteem, anger management and worries about appearance. The Emotional problems noticed can be feel inferior to others, being unable to think clearly, irritable and angry for minor reasons, sad and depressed for minor reasons, worrying needlessly, worrying excessively for minor reasons, disturbed sleep and lack of appetite. The Academic issues faced are difficulty in concentration, remembering, unable to study properly, particular subject is very difficult and no interest in studies. [3] This leads to continued pressure of securing a good position and emphasis only on academic presentation to get a residency of choice. [9] Low self-esteem, low quality of patient care, exhaustion, and, eventually an alteration in the values of the medical career might also be caused by distress. [10]

Medical education is extremely demanding and often places heavy demands on the mental resources of its students; stretching their psychological distress and making them vulnerable to high levels of negative affective states. [11] Long working and study hours, environments not ideally suited to learning, sleep deprivation, as well as factors disturbing in everyday personal life are common during this period. [12]

Early detection of such problems shortens the duration of the episode and lessens the social impairment in the long term. [13] The Depression, Anxiety and Stress Scale are applied in order to divulge the psychological status of the individuals. The scale has four point Likert scales, consisting of 21 items that examine the level of depression, anxiety and stress of the experimental subject. [14]

The Depression, anxiety and stress can be treated by various method and some are stated here. Mindfulness refers to the state of bringing non-judgmental recognition to the present moment. [15] Progressive muscle relaxation (PMR) is a systematic technique to lessen stress and attain a deep state of relaxation. This intervention is inexpensive, available, self –induced and free from consequences. It helps people pinpoint which muscles or muscle groups are chronically tense by distinguishing between sensations of tension (purposeful muscle tensing) and relaxation (a conscious relaxing of the muscles). [16]

There are few studies done related to depression, anxiety and stress in Medical students. Early recognition of poor mental health helps to get treated focus on study and others extra activities. Stress, anxiety and depression decrease the academic

performance of the students and this led to their academic failure also at times.

The aim of the study was to find out the prevalence of depression, anxiety and stress levels on DASS21 scale in medical students of first year odd and even batch at Miraj city. The objectives of the study were to find out the stress, anxiety, depression level in odd and even batches of first year Medical students.

MATERIALS & METHODS
MATERIALS
1. Pen
2. Pencil
3. Consent Form
4. Depression Anxiety Stress Scale
5. Chair
6. Exam Board

METHODOLOGY
- Study Design – Observational study
- Study Setting- Medical Colleges, Miraj
- Study Duration- 6 months
- Study Population – First year Students
- Sample Size- 184 (92 in each group)
- Sample Design- Convenience Sampling

PROCEDURE
Ethical committee clearance was been obtained. The students from first year of Medical College were selected then the procedure was explained to the students in detail. Assessment was held in the mid of the semester. The students were screened and divided into two groups i.e., Batch A and Batch B as even batch and odd batch respectively. The students were told to sit in their chairs and then fill the consent form details and thus obtain their consent for the study. The students were explained about the study and their role in the study in detail this explanation was told in brief as said earlier. The scale to be used was explained to all the students according to their language of comfort. The students were asked to fill the scale details correctly and truly.

Statistical Analysis
Statistical Analysis was performed using Multivariate analysis model (MANOVA) for finding the severity level in the depression, anxiety and stress in both the batches and chi-square test was used to formulate the demographic data.

RESULT
Data analysis was performed using Multivariate analysis model (MANOVA) and chi-square test. The test Wilks' Lambda is used to find out the relation between the independent and the dependent variables in the MANOVA.

For this study 184 students of first year were included. To check the Depression, Anxiety and Stress levels the students of both the batches were asked to fill the Depression, Anxiety and Stress Scale – 21.

Severity distribution of DASS scores among medical students (n=184)

Depression				Anxiety			Stress		
Category	All	Male	Female	All	Male	Female	All	Male	Female
Normal	6.62	6.45	6.72	5.60	5.80	5.40	10.87	10.83	10.89
Mild	10.97	10.78	11.07	8.00	8.00	8.00	16.88	16.80	16.95
Moderate	16.69	16.66	16.71	12.05	11.87	12.19	21.31	21.25	21.33
Severe	23.67	23.50	23.75	16.82	16.63	16.93	30.00	30.00	30.00
Extreme Severe	30.00	0.0	30.00	22.00	22.25	21.88	0.0	0.0	0.0
p-value	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*
Males n=70, Females n=114									
* Anova F-test									

Table No 1: Shows the severity distribution of DASS Score among medical students.

The final analysis proves that presence of Depression, Anxiety and Stress were seen clinically and statistically significant in intra-batches. On comparison in both batches depression is found in odd batch with significant p-value, whereas anxiety and stress do not have significant p-value

hence the can be compared in terms of severity levels.

Based on the results of the test analysis at 5% significance level, there is a significant statistical reliable difference between the odd and even batches value for depression (0.001*) and anxiety (odd- 0.004***, even-0.04**) with p-value is less than the 5% significance level (i.e. 0.001 < 0.05) in the study, whereas for stress the p–value (Odd-0.582*, even- 0.616) is less significant and therefore it justifies the presence of depression, anxiety and stress is more in odd batch than in comparison to even batch.
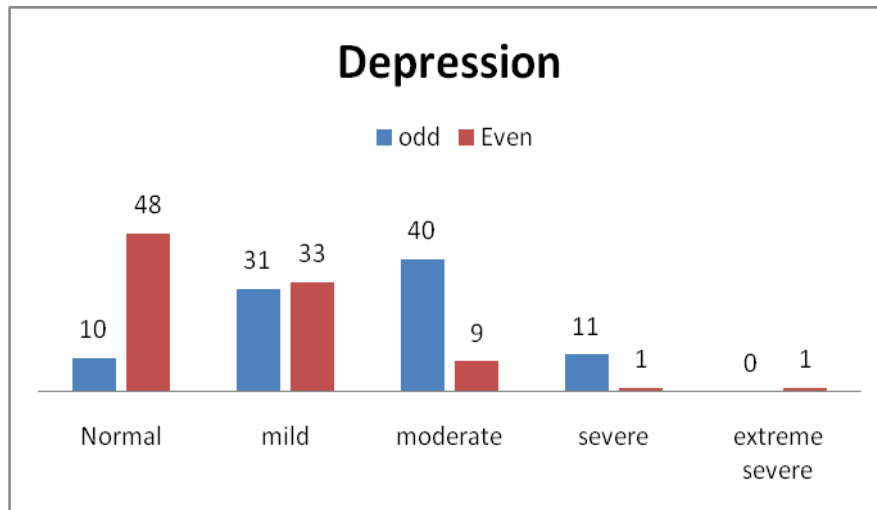
Graph No 1: Shows the Mean values For Depression levels
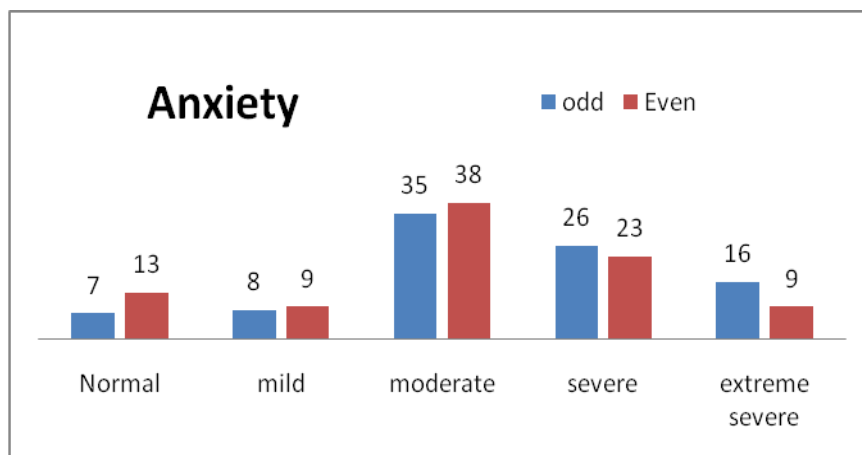
Graph No 2: Shows the Mean value for anxiety levels
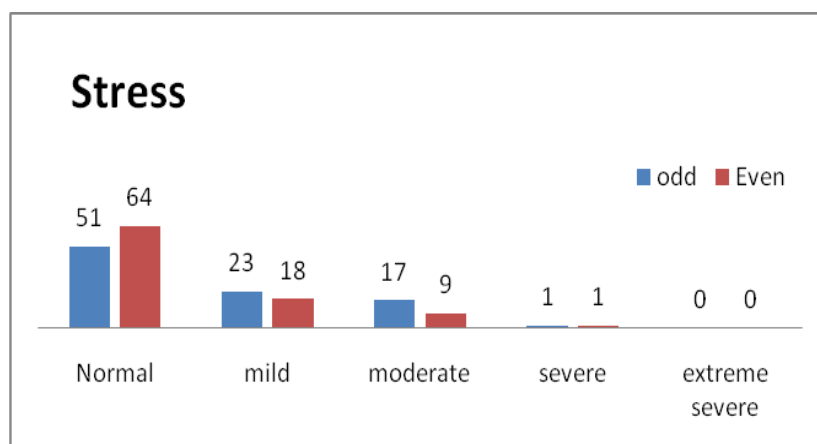
Graph No 3: Shows the mean value for Stress levels

On comparison in the Severity levels of Anxiety and Stress it concludes that the p-value is highly significant in even batch students for severe (0.019*) and extreme severe (0.000*) level whereas the p-values of stress are significant in the odd batch students for mild (0.05) and moderate (0.019) levels.

The mean value of depression, anxiety and stress indicated mild depression in even Batch whereas moderate to severe in Odd Batch. Even batch has mild to moderate anxiety and severe to extremely severe is seen in Odd batch. Stress observed is mild to moderate in odd as well as in even batch. Also the standard deviation shows the consistency in the odd and even batches.

Thus this states that both the batches have depression, anxiety and stress but in comparison to the even batch students the odd batch students had more depression, anxiety and stress.

DISCUSSION

Depression and anxiety are prevailing problems in colleges across the country. [4] Inability to cope well with the enormous stress of medical school may have a cascade of emotional and professional implications. Stress has been shown to have harmful effects on person's physical and mental well-being. [18]

Stress is often narrated as a feeling of being overwhelmed, worried or rundown. By definition, stress is "any uncomfortable emotional experience accompanied by predictable biochemical, physiological & behavioural changes". A major stressor for first year medical students is the amount & difficulty of material to be learned. Some of the salient issues specific to college students are, time pressure, fear of failure, struggle to establish identity, pressure of academic excellence and tough competence. [3]

Some preventive measures that can be used in college setting to pay attention to the students incorporates setting up student counseling centres in all colleges, create awareness among college students about the mental health, student mentors should be in close contact with student counseling centre, student health committee should be formed with a mental health professional, regular workshop for students on stress management, time management, and assertive training and communication skills. [3]

The present study was conducted in various medical college situated in the city of Miraj under the Maharashtra University of Health Sciences, shows the prevalence of depression, anxiety and stress in both the batches, but there is high occurrence of depression, anxiety and stress in odd batch in comparison to the even batch.

A previous study by Tabassum Alvi, et al (2010), anxiety was seen in 133 (47.7%) students and depression was found in 98 (35.1%), whereas both were found in 68 (24.37%) of students. When academic stressors are concerned, academic performance especially in the First Professional, examination criteria dissatisfaction and being overburdened with test timetable were significantly associated with anxiety, which is the case in a number of other studies as well, suggesting academic stressors as being a source of psychological distress among medical students. The odd batch students suffer more as they have to deal with the family and themselves for their failure, learn from the beginning, etc

Further more studies by Ayat R. Abdallah, et al (2014). Psychological illnesses in the form of depression, anxiety, and stress have been reported in substantial proportion of first year medical students at Menoufiya University; depression has been reported in 63.6% of students, while anxiety and stress were seen in 78.4 and 57.8%, respectively. Organized interventions should be initiated to avert excessive psychological illness among medical students. Stress reduction program could be provided regularly as integrated part of their curriculum. The odd batch students must also be taken into consideration for such programs.

A cross sectional study by Subita P Patil, et al. (2018) indicated 25 %, 17% and 9% of moderate level of depression, anxiety and stress respectively. Students were extra anxious than stressed or depressed. Early screening and subsequent interventions for behavioural issues should be promoted among the medical students. In the current study the screening was done in the mid semester so that all the most of the factor would be considered.

The study by Narasappa Kumaraswamy (2013) concludes that health education programs, mentorship and a reduction in information overload in the curriculum can be important strategies to enable undergraduates cope better with the demands of tertiary education. The psychological well-being of college students require to be more carefully addressed, and closer attention paid to the styles of college teaching. Present study shows the symptoms like finding hard to wind down, difficult to initiate to study; there is nothing to look forward to, etc.

The review of Siddharth Sarkar, et al. (2021) suggests that a substantial proportion of medical students suffer from depression, anxiety, and psychological distress. Efforts are needed to cater to medical students who are distressed, in a nonintrusive manner. Awareness about manifestations of distress among medical students requires to be increased among not only students themselves, but also other stakeholders such as medical educationists and parents. Contemporary study there is a serious need to take measures for the students under depression, anxiety and stress and unaware of it.

CONCLUSION AND LIMITATIONS
Depression, anxiety and stress were found to be significant in terms of clinical outcome and are proven to have a significant p value in intra-batches. On comparison in both batches Depression is found to be significant in the odd batch whereas the anxiety and stress do not have a significant difference so they can be compared in terms of severity levels. This states that Depression, Anxiety and Stress are present in both Odd and Even batch.

Thus there is occurrence of mild depression in even Batch whereas moderate to severe in Odd Batch. Even batch has mild to moderate anxiety and severe to extremely severe is seen in Odd batch. Stress observed is mild to moderate in odd as well as in even batch.

Hence the study concludes that there is more depression, anxiety and stress in odd batch than in comparison with the even batch.

The limitation of this study are that there was no intervention given to the students to decrease their depression, anxiety and stress levels, the population taken was the entire medical field students and other factors like family problems, relationships, financial issues, etc were not taken into consideration.

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