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PREVALENCE OF STRESS AND PSYCHIATRIC MORBIDITY AMONG POST GRADUATE RESIDENT DOCTORS WORKING IN MEDICAL COLLEGE IN UTTAR PRADESH

Dr. Swati Singh*[1] and Dr. Prerana Gupta[2]

[1]*Post Graduate Junior Resident, Dept. of Psychiatry, TMMC & RC, Moradabad, Uttar Pradesh-244001.
[2]Associate Professor in Dept. of Psychiatry, TMMC & RC, Moradabad, Uttar Pradesh-244001.

***Corresponding Author: Dr. Swati Singh**
Post Graduate Junior Resident, Dept. of Psychiatry, TMMC & RC, Moradabad, Uttar Pradesh-244001.

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ABSTRACT
Residency training is a stressful course. Interns and resident doctors in developing countries encounter additional challenges including shortage of health sector budget, low income and disparities in health care distribution. The need to study and work simultaneously make them more susceptible to psychological problems. **Aim of the study:** To study the prevalence of stress and the associated factor & other psychiatric morbidity among postgraduate doctors at Teerthanker Mahaveer University, Moradabad(U.P) in India. **Materials and Methods:** This cross-sectional study was conducted at the University Teerthanker Mahaveer Medical College & Research Center (TMMC & RC) Moradabad in U.P, 50 postgraduate students were included in this study after obtaing written informed consent. **RESULT:** The mean depression score was 6.26 ± 6.00, the anxiety score was 10.34 ± 3.91 and the mean stress score was 15.30 ± 3.93. The present study showed mild anxiety level and moderate level of stress in postgraduate students. The study showed a difference in stress level when compared for age and gender, but it was not statistically significant. When the stress level was compared for clinical and non-clinical departments; the difference was statistically significant.

KEYWORDS: STRESS, ANXIETY, DEPRESSION SCALE, POST GRADUATE.

INTRODUCTION
The stress which affects the doctors is receiving increased attention. Stress is exhausting for the body and for the mind, it can cause a variety of problems such as depression, heart disease, cancer, stroke, ulcers, back pain, headaches, raised blood pressure, indigestion etc.[1] Work has always been a major part of a person's life and a common source of stress for many people. Most of the jobs produce some degrees of stress, which may be increased in individuals who work in occupational environments that are demanding.[2] Medical study is one of the stressful and demanding branch in education. stress may affect academic performance and also physical and mental health.[3] Many study conducted among medical students showed that student stress level was too high.[3] Stress is an unavoidable and common aspect of a doctor's and researcher work.[4][5] It may have positive aspects in that some individuals may feel challenged and raise productivity to meet increasing demands,[6] however, in junior doctors, work-related stress and anxiety have been shown to lead to low morale and poor work performance and to affect the quality of care provided. The heavy workload and the health risks faced by the doctors puts them under lot of stress. Doctors have higher rates of suicide, psychiatric illness and possibly alcohol and drug misuse than the general population.[7] Mental ill health in practitioners appears to be a global phenomenon. There appear to be high rates of mental ill health in young doctors. Recent findings from studies of young doctors suggest that their own health care is poor (Baldwin et al., 1997).[8] A prospective study (Sen et al., 2010) found a significant increase in depressive symptoms during medical internship, with over a quarter of the participants meeting the criteria for depression during internship compared to just 3.9% before the internship. There appears to be a need for support and monitoring from a very early stage of the doctor's career, with medical training emphasising clear pathways for help and increasing awareness of the vulnerability of doctors to mental illness (Hassan et al., 2009)[8] Residency training is a stressful course. Interns and resident doctors in developing countries encounter additional challenges including shortage of health sector budget, low income and disparities in health care distribution. The need to study and work simultaneously make them more susceptible to psychological problems.[9] It is essential to identify the prevalence and levels of stress among students, which affects not only

their well-being but also their academic accomplishments at different points of time during their study period.[10] A number of factor identified which may have exposed to students have made them vulnerable for depression, stress and anxiety. These are related to their age, sex, family type, relationship or marital status and residence. In India, few studies have been done on emotional distress and associated factor in resident doctors. Hence, we planned this study to find the prevalence of stress and the associated factors and other psychiatric morbidity among post-graduate doctors at the Teerthanker Mahaveer University, Moradabad(U.P) by using the DASS.[21]

AIM OF THE STUDY

1. To study the prevalence of stress and other psychiatric morbidity among postgraduate doctors at Teerthanker Mahaveer University, Moradabad, Uttar Pradesh in India.

MATERIALS AND METHODS

Study Center

2. This cross- sectional study was conducted at the University Teerthanker Mahaveer Medical College & Research Center(TMMC & RC) Moradabad in U.P. This center serves as a mci recognized training center for medical students and doctors who undergo post-graduate training in various fields of specialization which are offered there.

Participants

3. Post graduate medical residents(n=50). Each resident was given a package which consisted of an information sheet regarding the details of the study, a proforma for personal details and the DASS[21] item scale. The packages were personally delivered and they were collected by the researcher. No doctor declined from participating in the study.

Inclusion criteria

- Post graduate medical Student who does not have any major medical or psychiatric illness.
- Post graduate medical Students those are willing to participate.

Exclusion criteria

- Post graduate Students having major medical or mental illness.

Data collected

4. The following data was collected in addition to theDASS-21 item ques- tionnaires: age, gender, marital status, type of residence (students' hostel vs. others), major field of specialization, family type and a past history of psychiatric disorders.

Assessment

The DASS-21 was used for the assessment of stress and other psychiatric morbidity among the study samples. DASS-21 is a self-report scale which consists of 21 items, which is used to measure the depression, anxiety and stress. The DASS-21scoring was assessed by using the Likert method in which each item has a score of zero to three (0-1-2-3). The DASS-21was validated as a suitable measure of the mental health at the work place. 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) must be multiplied by two (×2).[12] The minimum score is zero and the maximum score is 42. The final score of DASS can be categorized as in Table 1. Studies have shown that the DASS 21 score have validity in the measurement of the degree of depression, anxiety and stress in the person. It also has high reliability in terms of usage in a clinical and non-clinical setting.[11][12]

Table 1. Severity of depression, anxiety and stress.

RATING	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
EXTERMELY SEVERE	28+	20+	37+

STATISTICAL ANALYSIS

The data were analyzed and coded. The variables such as age, gender and working department (clinical or non-clinical) were assessed. The variables were compared and Chi-square test was applied for statistical significance. P = 0.0001.

RESULTS

A total of 50 completed questionnaires were returned. The age of the participants ranged from 23 to 34 years. Among 50 participants; 17 were males and 33 were females. Totally 25 students were from Pre-clinical Departments and 25 were from Clinical Departments. When we analyzed, 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 mean depression score was found to be 6.26 ± 6.00. Table 2 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. The mean anxiety score was found to be 10.34 ± 3.91. The study reported 24 normal cases for stress scale. 15 were having mild stress, 10 were

moderate stress and one case reported severe stress score. No case showed extreme severe stress level. The mean stress score was 15.30 ± 3.93. For the overall sample, the level of depression was found to be in normal range [Table 2]. The results showed a moderately higher level of anxiety and mild degree of stress level in post graduate students. We further grouped the sample into different groups to observe the correlation of factors on the stress level in post-graduate students. The data was grouped into three types; age, gender and type of department in which he or she works [Tables 2-4]. The depression score in males was 7.17 ± 7.70 and in females was 5.66 ± 5.08. The depression score in age group 23–28 years was 6.82 ± 6.50 and in group of 29–34 years was 5.36 ± 5.18. The depression score in preclinical students was 2.80 ± 3.09 and in clinical students it was 9.56 ± 6.46. The results were statistically significant for type of departments. The anxiety score for males was 9.76 ± 3.63 and for females was 10.63 ± 4.06. For age 23–28 years it was 10.53 ± 3.97 and for age 29–32 years it was 10.09 ± 3.90. For preclinical departments it was 8.621 ± 49 and for clinical departments it was 12.00 ± 4.82. The results were statistically significant for department difference. The stress score for males was 14.05 ± 3.09 and for females was 16.24 ± 4.27. The score in age group 23–28 years was 16.28 ± 4.31 and for age group 29–32 years it was 13.86 ± 2.94. The preclinical departments showed a stress score of 12.88 ± 2.33 and clinical departments showed a score of 18.12 ± 3.63. The results were significant for department category only. All the selected candidates were similar residence inside the hostel and similar socio economic status. These variables, therefore, were not compared.

OVERALL DASS SCORE,N=50	NORMAL	MILD	MODERATE	SEVERE	EXTREME SEVERE	MEAN+_SD
DEPRESSION	40	06	-	03	01	6.26+_6.00
ANXIETY	10	18	16	03	03	10.34+_3.91
STRESS	24	15	10	01	-	15.30+_3.93

DASS: Depression, anxiety and stress scale, SD: Standard deviation.

DEPRESSION SCORE

	NORMAL	MILD	MODERATE	SEVERE	EXTREME SEVERE	MEAN+_SD
MALE(N=17)	13	02	-	01	01	7.17+_7.70
FEMALE(N=25)	27	04	-	02	-	5.66+_5.08ns,P=0.0001
24-28 YEARS(N=28)	21	04	-	02	01	6.82+_6.5
29-34YEAR(N=22)	19	02	-	01	-	5.36+_5.18ns,P=0.0001
PRECLINICAL(N=25)	24	01	-	-	-	2.80+_3.09
CLINICAL(N=25)	16	05	01	02	01	9.56+_6.46,P=0.0001*

*Significant. n: Number of cases, NS: Not significant, SD: Standard deviation.

ANXIETY SCORE

	MILD	MODERATE	SEVERE	EXTREME SEVERE	MEAN+_SD
MALE(N=17)	03	07	-	01	9.76±3.63
FEMALE(N=25)	07	11	03	02	10.63±4.06 NS, P=0.0001
24-28 YEARS(N=28)	04	11	01	02	10.53±3.97
29-35YEAR(N=22)	06	07	02	01	10.09±3.90 NS, P=0.0001
PRECLINICAL(N=25)	19	05	-	-	8.68±1.49
CLINICAL(N=25)	07	08	03	-	12.00±4.82 P=0.0001**

**Highly signifi cant. n: Number of cases, NS: Not signifi cant, SD: Standard deviation.

STRESS SCORE

	MILD	MODERATE	SEVERE	EXTREME SEVERE	MEAN+_SD
MALE(N=17)	10	05	02	-	14.05+_3.09
FEMALE(N=25)	14	10	08	-	16.24+_4.27ns,P=0.0001
24-28 YEARS(N=28	11	09	07	-	16.28+_4.31
29-35YEAR(N=22)	13	06	03	-	13.86+_2.94ns,P=0.0001
PRECLINICAL(N=25)	21	03	01	-	12.88+_2.33
CLINICAL(N=25)	03	12	09	-	18.12±3.63 P=0.0001**

**Highly signifi cant. n: Number of cases, NS: Not signifi cant, SD: Standard deviation.

DISCUSSION

Medical students are expected to learn and master a huge amount of knowledge, attitudes and skills for which they have to work hard which in turn put them under a lot of stress.[13] Studies of medical students from Saudi Arabia, Malaysia, Thailand identified a high frequency of stress.[14-15] The present study also showed a high-stress level in post graduate medical students. The anxiety level in our study was higher. However, the depression level was found to be in normal range in the present study [Table 2]. Our study showed no significant correlation for the gender difference [Table 3]. It may be due to small and unequal sample size. The present study showed a higher stress level in younger age group compared to elder group. The results were not statistically significant. Similar findings were shown by Johari et al.[16] 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 [Table 4]. Our study revealed a significant difference in stress level between clinical and nonclinical departments students [Table 5]. It may be due to extended duty hours, increased workload and dealing with patient related issues like emergency situations, trauma cases and death, etc.,] Medical students are the future doctors who are the caregivers for the physical and mental wellbeing of the patients.

To ensure the patient safety and well-being, it is very essential to focus on the mental health of the future doctors. Curriculum planners need to give proper attention to take appropriate measures to reduce the stress among these students.

CONCLUSION

The medical education and training are highly stressful. Our study revealed a raised level of anxiety and stress among the post graduate students. There are factors such as age and type, of course, which enhances further the anxiety and stress level among these students.

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