

ASSESSMENT OF STRESS STATUS IN HEALTH PROFESSIONALS IN A TERTIARY CARE HOSPITAL

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Abstract

Background: Medical education is inherently stressful & demanding. A postgraduate medical student, in particular, is likely to have more stress due to long working hours, excessive workload, high academic demands, limited contact with family & friends & lack of leisure time. This study was undertaken to explore the level of stress experienced by resident doctors of various departments in a tertiary care hospital. **Materials and Methods:** It was a cross-sectional observational study conducted from March 2023 to June 2023 in 104 resident doctors (50 males & 54 females) working in a tertiary hospital. Their stress status was estimated by administering Cohen's Perceived Stress Scale (PSS). **Result:** In the entire population, according to perceived stress scale, 24 (23 %) of the study subjects were under high stress, 65 (63%) were under moderate stress & 15 (14 %) were under low stress. As regards the association of stress with sex; females showed statistically significant higher stress level than males. Both married & unmarried participants showed moderate stress & there wasn't statistically significant difference in their mean stress levels. Difference in stress levels between clinical, paraclinical & preclinical departments wasn't statistically significant. Stress levels of third year postgraduate students were least (17.33) & they were maximum in second year postgraduate students (22.52) while it was 20.04 in first year postgraduate students. The difference between these groups wasn't statistically significant. **Conclusion:** In our study we found moderate to high levels of perceived stress in 86% of medical postgraduate students. It is expected that the medical doctor himself must be in a perfect state of body & mind. It is the need of the hour to address this issue & put corrective measures in place at institutional level.

INTRODUCTION

Stress can be generally defined as a particular relationship between the person & the environment that is appraised by the person as taxing or exceeding his or her resources & endangering his or her wellbeing.^[1] A certain amount of stress is helpful to performance which is called as eustress; but if it increases it dampens performance. Practice of medicine entails certain amount of stress, both in practising physicians as well as medical students. It is expected that the medical doctor himself must be in a perfect state of body & mind. This however may not be the case as the doctor apart from being affected by the same variables that impose stress on the general population, is also prone to stress because of the peculiarities of his work situation and the expectation of the society at large.^[2]

Medical education is inherently stressful & demanding. A postgraduate medical student, in particular, is likely to have more stress due to long working hours, excessive workload, high academic demands, limited contact with family & friends & lack of leisure time. Increased stress increases the risk of depression; anxiety; sleep disturbances; fatigue, errors in judgement & many psychosomatic illnesses. Stress in postgraduate medical students can disrupt patient-care in hospitals. Therefore, this study was undertaken to explore the level of stress experienced by postgraduate medical students of various departments in a tertiary care hospital.

MATERIALS AND METHODS

Present study was a cross-sectional observational study was conducted from March 2023 to June 2023 among the postgraduate medical students working in

a tertiary care hospital. Institutional ethical committee approval was obtained for the study.

Study population: Resident doctors (who have passed MBBS course) pursuing postgraduate courses (MD/MS) in various departments of a tertiary care hospital associated with medical college

Selection of Subjects

Inclusion Criteria

Resident doctors pursuing postgraduate courses (MD/MS) in various departments of a tertiary care hospital associated with medical college for at least 1 year & up to 3 years who agreed to be part of the study.

Exclusion Criteria

- Subjects suffering from any acute or chronic disease.
- Subjects on any medication.
- Subjects with history of smoking or alcohol consumption

Sample size – 104 (50 males & 54 females)

Experimental Protocol

After receiving approval of institutional ethical committee; a written consent was obtained from all the subjects after explaining nature of study to them. Detailed medical history was obtained to rule out presence of any illness. The instrument used by us was Cohen's Perceived Stress Scale (PSS). This PSS was published in 1983(3) and has become one of the most widely used psychological instruments for measuring nonspecific perceived stress. Then Perceived Stress Scale (PSS) was administered to all the subjects. This scale consists of 10 items which are to be answered on a likert scale as 0 – never, 1 – almost never, 2 – sometimes, 3 – fairly often & 4 – very often.

To obtain the score: Scores for questions 4, 5, 7, and 8 are to be reversed as like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0. Then scores for each item are to be added to get a total score. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

Scores ranging from 0-13 were considered as low stress.

Scores ranging from 14-26 were considered as moderate stress.

Scores ranging from 27-40 were considered as high perceived stress.

Based on their scores subjects were categorised as to be having low, moderate, or high perceived stress.

Statistical Analysis: The data obtained was coded & entered in Microsoft Excel Sheet & analysed using the statistical software Statistical Package for Social Sciences (SPSS16.0). Tests of significance applied were t-test & ANOVA.

RESULTS

[Table 1] shows socio-demographic profile of study participants. A total number of 104 postgraduate medical students participated in the study; out of which 56 (53.84%) were males & 48 (46.16%) were females. Regarding marital status, 59 (56.74 %) were single & 45 (43.26 %) were married or in relationship. Of the total participants, Nineteen (18.27%) were from pre & paraclinical branches & 85 (81.73%) were from clinical branches. 16 (15.38%) participants were in their third year of residency, 42 (40.38%) were in their second year of residency while 46 (44.24%) were in their first year of residency.

[Table 2] shows distribution of participants according to perceived stress levels. According to perceived stress scale, 24 (23 %) of the study subjects were under high stress, 65 (63%) were under moderate stress & 15 (14 %) were under low stress. Among males, 8 (14 %) were high stress, 37 (66 %) were under moderate stress & 11 (20 %) were under low stress. Average PSS of males was 18.39 ± 7.56 . Among females, 16 (34 %) were having high stress, 28 (58 %) were having moderate stress & 4 (8 %) were having low stress. Average PSS of females was 23.26 ± 6.49 .

[Table 3] shows association between stress levels & different variables. The difference in stress levels between males & females was statistically significant (p value -0.001). Both married & unmarried participants showed moderate stress & there wasn't statistically significant difference in their mean stress levels (p value 0.023). Difference in stress levels between clinical & per-paraclinical departments wasn't statistically significant (p value 0.520). Stress levels of third year postgraduate students was least (17.33) & it was maximum in second year postgraduate students (22.52) while it was 20.04 in first year postgraduate students. The difference between these groups wasn't statistically significant.

Table 1: Socio-demographic profile of study participants.

Parameter	Variables	Number of participants
Gender	Males	56 (53.84%)
	Females	48 (46.16%)
Age	24 to 26 years	48 (46.16%)
	27 to 29 years	47 (45.19%)
	More than 30 years	09 (8.65 %)
Marital status	Married	45 (43.26%)
	Unmarried	59 (56.74%)
Year of study	First year (JR 1)	46 (44.24%)
	Second year (JR 2)	42 (40.38%)
	Third year (JR 3)	16 (15.38%)
Specialisation	Clinical departments	85 (81.73%)
	Pre/Para Clinical	19 (18.27%)

	Departments	
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Table 2: Distribution of participants according to perceived stress

	Males (N=56)	Females (N=48)	Total (N=104)
Low stress	11 (20 %)	4 (8 %)	15 (14 %)
Moderate stress	37 (66 %)	28 (58 %)	65 (63%)
High stress	8 (14 %)	16 (34 %)	24 (23 %)
Mean PSS value	18.39 ± 7.56	23.26 ± 6.49.	

Table 3: Association between perceived stress level with different variables.

Parameter	Variables	PSS score (mean ± SD)	t value	p value
Gender	Males	18.39 ± 7.56	3.510	0.001
	Females	23.29 ± 6.49		
Marital status	Married	22.56 ± 6.45	2.310	0.023
	Unmarried	19.20 ± 7.90		
Specialisation	Clinical departments	20.80 ± 7.65	0.640	0.520
	Pre/Para Clinical departments	19.11 ± 5.21		

Statistically significant ≤ 0.001

Table 4: PSS scores according to year of study & application of ANOVA

Year of study	PSS score (mean ± SD)	p value
First year (JR1)	20.04 ± 7.80	0.054
Second year (JR 2)	22.52 ± 7.14	
Third year (JR 3)	19.11 ± 6.27	

Statistically significant ≤ 0.001

DISCUSSION

The results of the present study reveal that of the total participants 86% are having moderate or high levels of perceived stress. Similar findings are noted by many researchers. Our study findings is similar to a study done by Sharma B, Prasad S, Pandey R, Singh J, Sodhi KS, Wadhwa D. where moderate to high perceived stress levels were found in 76% study population.^[3,4] Anupama M, Kulkarni H, Nisarga V. have found 80% of postgraduate students having moderate to high levels of perceived stress.^[5] A study done by Gorantla M and Joshi AR, Nagpal M. also observed moderate level of stress among postgraduate medical students.^[6,7] In a study done by Abraham J, Navya CJ, Joshy V. found about 68 % were suffering from moderate level of stress and 25% having severe level.^[8]

Some studies have reported lower levels of perceived stress than our study. Saini NK, Agarwal S, Bhasin SK, Bhatia MS, Sharma AK reported 17.7% mild stress, 12.2% moderate and only 2.9% severe level of perceived stress in their study conducted in postgraduate students in hospitals in Delhi.^[9] In a Malaysian study done by Ismail A, Ashur ST, Jamil AT, Lee CW, Mustafa J. the prevalence of distressed postgraduate students was 36.4%.^[10] A study done by Shete AN, Garkal KD stress prevalence was 52%, among them 30% had mild stress, 20% moderate stress and only 2% had severe stress.^[11] Malviya A, Tiwari S, Meena V, Binti S, Singh D found the prevalence of stress to be 58.6% and Yusoff MSB, Rahim AFA found it to be 36.4%.^[12,13]

The differences in findings may be because as our study was conducted in a tertiary care hospital attached to a medical college having high number of patients leading to increased workload to postgraduates.

Our study has found increased levels of perceived stress in female postgraduate students & it is statistically significant. Similar findings were observed by Salam A, Yosuf R, Baker SM, Haque M.^[14] Similar findings also found by Gobbur SB, Nigudgi SR, Reddy S. & Mangaiarkkarasi A, Akshita K. where female students were more stressed than male students and the difference in stress levels was found to be significant.^[15,16] The study done by Nazeer M, Sultana R. also found level of stress more among females than males in their study.^[17] But Chandan N, Sherkhane MS have reported that male postgraduates were almost two times more prone to stress compared to females.^[18]

Our study has recorded difference in stress levels between clinical & pre-paraclinical departments but it is not statistically significant. Many researchers have recorded findings contrary to ours. In a study by Shete A. & Garkal KD it was found that there was a significant difference between stress levels among clinical and non-clinical postgraduates.^[11] In a study done by Sharma et al clinical students were more stressed than non-clinical students.^[4] The reason behind these findings is said to be that most of the postgraduates from clinical departments are exposed to patient healthcare, emergencies round the clock as well as academic activities in the college, where as pre and para-clinical departments are involved only in academic activities.

In our study, both married & unmarried participants showed moderate stress. Perceived stress levels were higher in married participants as compared to unmarried participants. But the difference was not statistically significant. Stress levels were found to be high in married students as compared to unmarried in a study by Manpreet K, Maheshwari SK.^[19] Reason could be that married postgraduates have responsibilities towards patients and family.

Though perceived stress levels were higher in second year postgraduate students as compared to first year & third year, we did not find the difference to be statistically significant.

CONCLUSION

In our study we found moderate to high levels of perceived stress in 86% of medical postgraduate students. We recorded higher levels of stress in females as compared to males & the difference was statistically significant. Perceived stress levels were higher in married participants as compared to unmarried participants. But the difference was not statistically significant. Our study recorded difference in stress levels between clinical & pre-clinical departments but it was not statistically significant. We also recorded higher perceived stress levels in second year postgraduate students as compared to first year & third year but it was not statistically significant.

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