

Prevalence of stress among postgraduate doctors in a Medical College.

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Abstract

Introduction: Post-graduate medical doctors who study or practice medicine in developing countries like India encounter additional challenges including shortage of health sector budget, low income, and disparities in human resources and health-care distribution. Moreover, the need to study and work simultaneously make them more susceptible to psychological problems such as depression and stress.

Objectives: To assess stress level in postgraduate doctors in a medical college and find out factors associated with mental stress level among them.

Material & Method: A descriptive cross-sectional study was conducted in Dr. V.M. govt. medical college & Shri Chhatrapati Shivaji Maharaj Sarvopchar

Rugnalay Solapur during the period of 15th December 2021 to 15th January 2022 among 115 post-graduate medical doctors.

Results: Among all study participants, maximum i.e. 88(76.53%) were experiencing moderate stress level followed by 17(14.78%) and 10(8.69%), study participants experiencing high stress level and low stress level respectively, according to PSS-10 scale

Conclusion: Moderate stress levels were found in this study, thus affecting the doctors in various ways. Being married and feeling of fatigue were found to be significantly associated with stress in postgraduate doctors.

Keywords: Perceived stress scale (PSS-10), Post-graduates, Resident Doctors, Medical Students.

Introduction

Stress is a normal and also on some occasions, beneficial part of our lives that can help one learn and grow. Most people may be more active, creative and productive because of stress. But on the other hand, stress can cause significant problems to humans. Prolonged, unexpected and unmanageable stress is damaging to all individual.^{1,2} Medical education promises a well-respected career, but brings with a lot of tough demands on aspiring speciality doctors that includes very tight schedules and a vast course compacted in a short duration. This can leads to the state of stress among a most of the post-graduate students. A physically and emotionally demanding course can inadvertently lead to the psychological problems in students. Besides academic stressors, some students also face various problems such as social, emotional, physical and family problems which may affect their learning ability and academic performance.³ The overall goal of medical education is to produce knowledgeable, competent, and professional doctors who are equipped to care for the nations' sick community, provide advancements in medical science education and research, and most importantly, promote public health care.⁴ The major tasks assigned to post graduate resident doctors are to provide patient care, register new admissions, and prepare medical records. Newly graduated physicians who undertake the resident-ship appreciate that, this is the most stressful period in the life of a medical doctors.⁵ Resident doctors who study or practice medicine in developing countries like India encounter additional challenges including shortage of health sector budget, low income, and disparities in human resources and health-care distribution. Moreover, the need to study and

work simultaneously make them more susceptible to psychological problems such as depression and stress.⁶

Various studies conducted among medical students and residents revealed variable prevalence rates for depression ranging from 2% to 35%; with the higher rates among residents. Depression in physicians not only affects their own personal and family lives but also may have a serious impact on health behavior of the community in general.^{6,7} With above rationale we conducted a study with objective to assess stress level in postgraduate doctors in a medical college and find out factors associated with mental stress level in them.

Objectives

- To assess stress level in postgraduate doctors in a medical college.
- To find out factors associated with mental stress level in postgraduate doctors.

Material & Method

A descriptive cross-sectional study was conducted in Dr. V.M. govt. medical college & Shri Chhatrapati Shivaji Maharaj Sarvopchar Rughalay Solapur during the period of 15th December 2021 to 15th January 2022.

Study population

All the Post graduate doctors studying in Dr. V. M. Govt. Medical college and SCSMSR Solapur who were willing to take part in study are included in study.

Inclusion Criteria: who gave consent for participation in study.

Exclusion criteria: Postgraduate doctors not willing to participate in study.

Out of 130 Post graduate doctors studying in Dr. V. M. Govt. Medical College and SCSMSR Solapur 115 residents gave their consent for participation in study, so they were included in the study.

Study method

Institutional ethics committee approval was obtained before start of study. Respondents were explained the nature of the study and its purpose. Informed consent was taken and anonymity was preserved. Online Google forms were sent to all respondents by WhatsApp.

Data collection tool

A well structured self-administered questionnaire was used to collect the data from the respondents. It included socio-demographic characteristics and Perceived Stress Scale -10 (PSS-10)

Perceived Stress Scale -10 (PSS-10)⁸ is a set of 10 questions which a participant has to answer according to his/her last 1 month mental status. The PSS-10 total score was reversing the score on 4 positive items, e.g. 0=4, 1=3, 2=2, 3=1, 4=0 etc. and then summing all 10 items. Items 4, 5, 7, 8 are the positively stated items. The PSS-10 scale has a range of scores between 0 and 40 with higher scores indicating higher perceived stress.

- Score ranging from 0-13 = low stress
- Score ranging from 14-26 = moderate stress
- Score ranging from 27-40 = high stress

Data analysis

The descriptive and inferential data analysis was done by using Microsoft excel software after proper coding of collected data. Chi square test of independence was used to find association between socio-demographic variables and mental stress. P value less than 0.05 was considered as significant.

Results

The study included total 115 post-graduate students working at Dr. V.M. Govt medical college & CSMSR Solapur out of which, maximum i.e. 70(60.9%) were females and 45(39.1%) were males.

Majority study participants i.e. 84 (73%) were single & rest 31 (27%) were married, 94 (81.7%) were from clinical departments & 21 (18.3%) were from pre and para clinical departments. Most of the study subjects i.e. 62 (53.9%) were from 2nd year of residency & rest 53 (46.1%) were from 3rd year of residency. According to various socio-demographic characteristics studied for stress, only marital status was found statistically significant with p value of 0.01.(Table1)

We found in a study that all post-graduate students were having some stress. Amongst them maximum i.e. 88(76.53%) were experiencing moderate stress level followed by high stress level and low stress level in 17(14.78%) and 10(8.69%) study participants respectively according to PSS-10 scale.(Figure1)

Various associated factors associated with stress studied in present study were sleep, working hours, fatigue, dyspepsia, smoking and alcohol consumption. Post-graduate students with sleep of less than 6 hours were 85 (73.9%). Out of 115 study participants, 97 (84.3%) were working for more than 12 hours. In present study, we found that 12 (10.4%) study participants were smokers & 23 (20%) were taking alcohol occasionally due to stress. 83 (72.2%) post-graduate residents were having complaints of fatigue, 44(38.3%) were having complaints of dyspepsia due to stress. Only factor found significant associated with stress was fatigue in post-graduate students.(Table2)

Table 1: Distribution of study participants according to socio-demographic characteristics and level of stress.

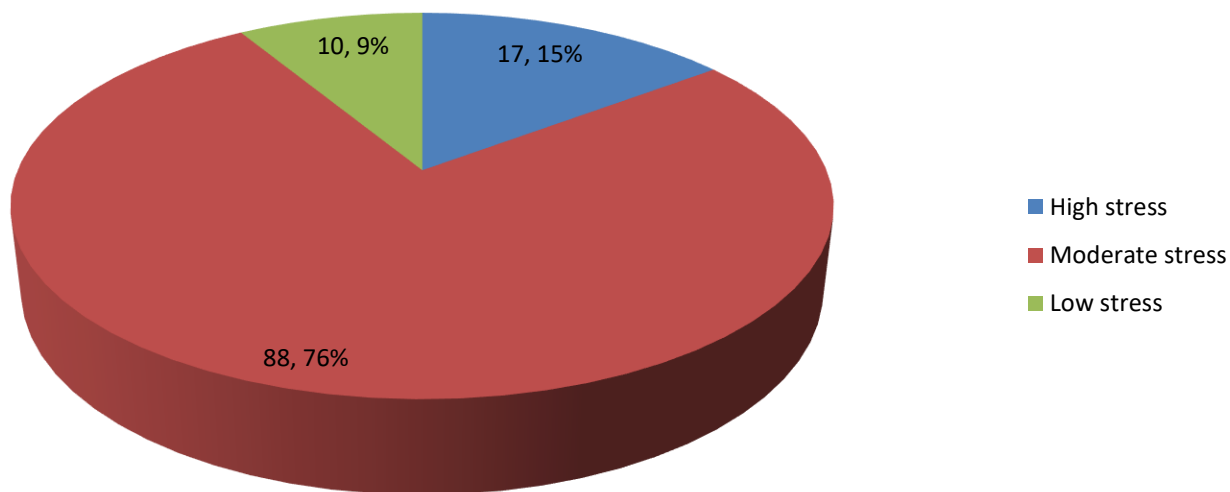
Socio-demographic characteristics	Low Stress	Moderate Stress	Higher Stress	P Value
Gender				
Male	1 (2.22%)	37 (82.22%)	7 (15.55%)	0.14
Female	9 (12.85%)	51 (72.85%)	10 (14.28%)	
Marital status				
Married	2 (6.45%)	29 (93.54%)	0	0.01*
Single	8 (9.52%)	59 (70.23%)	17 (20.23%)	
Year of Residency				
First year	0	0	0	0.07
Second year	8 (12.90%)	48 (77.41%)	6 (9.67%)	
Third year	2 (3.77%)	40 (75.47%)	11 (20.75%)	
Department				
Pre-para clinical	2 (9.52%)	18 (85.71%)	1 (4.76%)	0.35
Clinical	8 (8.51%)	70 (74.46%)	16 (17.02%)	
*chi square test was statistically significant				

Table 2: Distribution of study participants according to factors associated with stress.

Factors	Low Stress	Moderate Stress	Higher Stress	P Value
Sleep duration				
< 6 hours	8 (9.41%)	62 (72.94%)	15 (17.64%)	0.27
> 6 hours	2 (6.66%)	26 (86.66%)	2 (6.66%)	
Fatigue				
Yes	10 (12.04%)	64 (77.10%)	9 (10.84%)	0.03*
No	0	24 (75%)	8 (25%)	
Dyspepsia				
Yes	3 (6.81%)	34 (77.27%)	7 (15.90%)	0.83
No	7 (9.85%)	54 (76.05%)	10 (14.08%)	
Working hours				
> 12 hours	7 (7.21%)	74 (76.28%)	16 (16.49%)	0.24
< 12 hours	3 (16.66%)	14 (77.77%)	1 (5.55%)	

Smoking				
Yes	1 (8.33%)	9 (75%)	2 (16.66%)	0.98
No	9 (8.73%)	79 (76.69%)	15 (14.56%)	
Alcohol consumption				
Yes	1 (4.34%)	18 (78.26%)	4 (17.39%)	0.68
No	9 (9.78%)	70 (76.08%)	13 (14.13%)	
* Chi square was statistically significant				

Figure 1: Distribution of study participants according to total stress scores received of PSS-10



Discussion

Present study included total 115 post-graduate students out of which, maximum i.e. 70(60.9%) were females and 45(39.1%) were males. In present study, maximum i.e. 88(76.53%) study participants were experiencing moderate stress level followed by high stress level and low stress level in 17(14.78%) and 10(8.69%) study participants respectively, according to PSS-10 scale. According to all socio-demographic characteristics studied for stress in present study, only marital status was found statistically significant with p value of 0.01.(Table1)

Study conducted by Tellur L et al⁹, high stress was found in 12.2% and moderate stress in 73.4% of resident doctors which is similar to our findings. Also in their study, postgraduate residents who sleep less than 6 hours who had high stress and moderate stress, found statistically not significant which was similar to our study whereas, Sahasrabuddhi et al¹⁰ in their study resident doctors who were sleeping for more than 6 hours per day as compared to resident doctors who were sleeping less than 6 hours per day, stress was 29.4% and it's found statistically highly significant.¹⁰ In our study when compared to others, there was difference in study tools used to assess the stress, which may be the reason

for varied prevalence of stress. Also, the subjective responses obtained from residents vary when the questionnaire was given.

Various factors associated with stress studied in present study were sleep, working hours, fatigue, dyspepsia, smoking and alcohol consumption. Only factor found significant was fatigue in post-graduate students. Similar factors were studied in study done by Tellur L et al⁹, risk factors like sleep duration, habits, and easy fatigability, dyspepsia & duty hours per day contribute to stress according to them.

Conclusion

Persistent and disproportionate work stress on residents not only leads to poor work life balance and depression for residents but also translates into poorer performance and poor patient outcomes. Moderate stress levels were found in this study, thus affecting the doctors in various ways. Being married and feeling of fatigue were found to be significantly associated with stress in postgraduate doctors.

Recommendation

Fixed duty hours, counselling, and social support can be extremely helpful in reducing stress. Ideas include shift scheduled that are more circadian friendly and adopting a night float system can be very helpful. Proper rest and involvement into stress relieving activities such as meditation and yoga and conducive working environment are the need of hour for the burnout health-care providers.

Limitation

Study inherits all the limitations of cross sectional study. Subjective variation of the individuals could be possible limiting factor. Only one tertiary center is covered so, we cannot generalize the result of the study. Multi-centric

study along with relaxing intervention provisions in between would have better future option.

Ethical Consideration: Study was ethically approved from institutional ethics committee. Verbal consent was obtained from study participants.

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