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Original Research Article

A cross-sectional epidemiological study of prevalence of work stress among resident doctors of a metropolitan tertiary care hospital

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ABSTRACT

Background: To assess the prevalence of work stress , to compare of the prevalance of stress among resident doctors working in clinical and non/para-clinical departments, to determine the factors leading to stress among resident doctors.
Methods: after getting approval from Institutional ethics committee all the resident doctors of the hospital were contacted during a period of data collection of one year. Data was collected using standard questionnaire. Detailed descriptive statistical analysis was done.
Results: The mean age of the participants in the study was 26.8 years with maximum age being 39 years and minimum being 24 yrs. Among 454 study subjects nearly 34.8% were female and 64.2% were male i.e. 158 & 296 respectively. Among 454 resident doctors 188 from 1st , 139 from 2nd & 127 were from 3rd year of residency with percentage contribution of 41.4, 30.6 & 28.0 respectively, 39.4% of resident doctors are suffering from some degree of stress. While 16.1% suffered from mild degree of stress 7.9% suffered from moderate degree of stress, the percent of resident doctors suffering from severe and extremely severe degree of stress was 15.2 & 0.2 respectively. The prevalence of stress among clinical is much more (29.2%) as compared to non/para-clinical (13.9%), stress was more with increasing duration of working hours.
Conclusions: It was found that the prevalence of stress among resident doctors was much more as compared to general population. The prevalence was directly correlated to factors like duration of working hours, gender and department.

Keywords: DASS, Resident Doctors, Stress

INTRODUCTION

Stress is a normal part of human life or rather it is a normal part of any form of life. Stress can be defined as a mismatch between the demands placed on us and the way we cope with these demands. It can also be defined as a feeling of being overloaded, wound-up tight, tense and worried.[1] Medical practice is stressful. There are various reasons for this. A medical personnel has to respond to the needs of patients and families at any time in an efficient manner. Even his medical knowledge may be limited owing to the tough medical procedures which may be filled with uncertainties. Errors or mistakes may cost a patient his/her life. Medical professionals have to work at night and changing shifts and long hours are routine. A great deal of research has indicated that long-term exposure to these factors can cause job-related stress and can lead to burnout.[2] After three decades, burnout has

been defined as a psychological syndrome that may emerge when employees are exposed to a stressful working environment with high job demands and low resources. Burnout not only endangers their health and well-being, but also is associated with higher medical errors and suboptimal quality of care.

METHODS

Study design

A cross-sectional observational study.

Study area

Study was conducted at tertiary care hospital and medical college.

Study participant

Resident doctors pursuing degree or diploma in post-graduate courses in the study area.

Sampling method

In this study all the resident doctors pursuing their post-graduation in tertiary care hospital were included. Those filling into this and willing to participate in the study, were included by complete enumeration method.

Inclusion criteria

All the resident doctors working in various departments of the hospital who willingly participated in the study.

Exclusion criteria

- Resident doctors who were pursuing super-specialty were not included in the study.
- Doctors employed as house officers for a contractual period of 6 months.
- Resident doctors who did not give consent and those who were unable to be contacted in wards or in room after 4 visits.

Sample size

The total number of PG seats in the college under various departments are actually 550, however not every set is opted in counselling so after enquiring from the office the total number of resident doctors were found to be 523.

A total of 454 resident doctors were included in the study after fulfilling all inclusion and exclusion criteria.

Study period

Study period was of eighteen months – Since the preparation of protocol till the analysing of the data and computing results and writing the thesis. This is from May 2014 till November 2015.

Study procedure

The study was divided into following phases.

Data collection

The questionnaire was administered to the study participant after explaining the importance of the study in detail .The data was collected by interview method. Written consent was taken after assuring them that anonymity will be maintained throughout the study.

First part of questionnaire included information regarding age, sex, smoking, alcoholism, family type, working duration, year of residency department was asked.

Second part of questionnaire was aimed at measuring the stress among study participants by using DAS Scale.[3]

Using DASS score participants were categorized into having no, mild, moderate, severe and extremely severe stress. All responses were tabulated by the investigator using Microsoft- Excel 2013 Software. Graphical representations were made wherever necessary. Data was analysed by using SPSS software version 21.0.

RESULTS

The mean age of the participants in the study was 26.8 years with maximum age being 39 years and minimum being 24 yrs. Among 454 study subjects nearly 34.8% were female and 64.2% were male i.e. 158 & 296 respectively. Among 454 resident doctors 188 from 1st139 from 2nd&127 were from 3rd year of residency with percentage contribution of 41.4, 30.6&28.0 respectively. In the study 13.4% of residents were pursuing their Diploma while the remaining were doing degree courses which are 2 and 3 year courses respectively.

When the distribution based on the working hours was analysed it was seen that nearly 60% of resident doctors worked for more than 8 hrs a day which amounts to 273 resident doctors. Out of these 273 doctors, 144 worked for more than 12hrs a day which constitutes about 32% of the total. So nearly one third of resident doctors were working for more than 12 hrs a day which can be alarming given the condition they work in this can lead to increased stress as found out in this study, and consequently decreased quality of work also it is a known fact that the performance of work significantly fall after a certain amount of time(4)(4)(4)(4)(4)(4)(4). On interviewing the participants it was found that nearly half (48%) of the resident doctors work for all 7 days a week while 52% work for 6 days.

39.4% of resident doctors are suffering from mild to severe degree of stress.

While 16.1% suffered from mild degree of stress 7.9% suffered from moderate degree of stress, the percent of resident doctors suffering from severe and extremely severe degree of stress was 15.2 & 0.2 respectively

On observing the table one can see a difference between the clinical residents &non/para-clinical residents who have severe stress is conspicuously large with former having 21% and latter having only 5.8% residents suffering severe stress. Only one resident suffered from extremely severe stress that belonged to clinical category.

Table 1: General profile of participating resident doctors.

General profile	Number	Percentage
Gender	**(n=454)**	
Male	296	65.2
female	158	34.8
Year of residency	**(n=454)**	
1st	188	41.4
2nd	139	30.6
3rd	127	28.0
Residency programme	**(n=454)**	
Diploma	61	13.4
MD/MS	393	86.6
Marital status	**(n=454)**	
Married	117	26
Unmarried	337	74
Hours of work/day	**(n=454)**	
6-8	181	39.9
8-12	129	28.4
>12	144	31.7
Days of work /week	**(n=454)**	
6	233	52.6
7	215	47.4
Department	**(n=454)**	
Clinical	281	61.9
Non-clinical/para-clinical	173	38.1

Table 2: Prevalence of stress based on department.

Stress score	Department		Total
	Clinical	Nonclinical	
No stress	156 (55.5%)	119 (68.8%)	275 (60.6%)
Mild stress	43(15.3%)	30 (17.3%)	73(16.1%)
Moderate stress	22 (7.8%)	14 (8.1%)	36 (7.9%)
Severe stress	59 (21.0%)	10 (5.8%)	69(15.2%)
Extremely severe	1 (0.4%)	0 (0.0%)	1(0.2%)
Total	281 (100%)	173 (100%)	454 (100%)

DISCUSSION

The mean age of resident doctors in the study was 26.8 years, similar study conducted by Saini et al in New Delhi showed a mean age of 27.5 years.[5] A study by Ndom et al titled 'Perceived stress factors among resident doctors in a Nigerian teaching hospital' had average age of study participant of 33 years.[6]

In the present study among 454 participant 34.8% were female while 64.2% were male i.e. 158 & 296 respectively. In the study by Saini et al male and female were 53.2 & 46.8 respectively.[5] In the study conducted by Shashtrabuddhe et al titled 'stress among resident doctors doing residency: a cross sectional study at a tertiary care hospital in Mumbai' the male and female were 62 & 38% respectively.[7]

In our study majority of participants were from first year of residency. In the study by Saini et al majority of resident doctors were from 3rd year. In the study by Shashtrabuddhe et al the 1st 2nd and 3rd year resident were 93, 89 & 91 respectively.

Out of 454 resident doctors who participated in the study, 117 were married. None of the resident doctors were divorced or separated.

In the present study the clinical residents were 281 in number while non-clinical were 173. In the study by Saini et al the resident doctors in clinical and non-clinical were 694 & 236 respectively.[5]

In the present study prevalence of stress among resident doctors was found to be 39.4%. While 16.1% suffered from mild, 7.9% suffered from moderate 15.2 suffered from severe and only 0.2% suffered from extremely severe stress. The prevalence of stress in clinical and non-clinical residents in the present study was found to be 45.5% & 31.2% respectively. In the study by Shashtrabuddhe et al the prevalence of stress among non/para-clinical and clinical were found to be 15.9 & 44.3% respectively. Study by Saini et al found prevalence of stress to be 27.5% & 34.6% respectively in non/para-clinical and clinical.

CONCLUSION

The present study indicates that there is high prevalence of stress among resident doctors. These doctors are of young age and they bear a large portion of burden of public health. The stress may affect their long term health and further diminish their working capacity. There should be adequate breaks between working hours and regular mental health check up with workshops for stress management.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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