



HOUSE OFFICER STRESS SYNDROME; ARE DOCTORS WORKING TOO HARD?

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ABSTRACT: Background: The house officers face multiple challenging situations at work throughout their internship year leading to House Officer Stress Syndrome. **Objectives:** The paper addresses the aspects of house officer stress syndrome and its influence on their work. **Study Design:** Cross sectional study. **Setting:** Tertiary health care setup of Karachi. **Period:** October to November 2017. **Method:** A self-designed and self-explanatory questionnaire was prepared and distributed among house officers during work hours. Verbal consent was taken. Confidentiality of the participants was observed. The data was analyzed using SPSS-20, ANOVA and also via a 5 point Linkert scale. **Result:** A total of 278 responses were obtained from 13 different hospitals, maximum from Jinnah Postgraduate Medical Centre. Among the respondents, 83.9% were females and 15.8% were males. Mean age was 24. Around 42.6% worked 96 hours weekly while 64% reported to be on call 7-9 times monthly. On call available sleep time was as low as 1-2 hours. Nearly 56.4% found work physically tiring. **Conclusion:** It can be concluded that house officers are susceptible to stress which affects their overall work performance. Henceforth, a holistic approach must be taken in order to promote a healthy working environment and effective patient care.

Key words: House Officer Stress Syndrome, Cognitive Sleep Debt, Pager Policy.

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INTRODUCTION

Stress is defined as a physical, mental, or emotional factor that causes bodily or mental tension.^{1,2} Stress can be debilitating to the psyche but when it is managed well it can empower the medical professionals to excel in the demanding environment.

Medical students enter their internship year between the time of graduating from medical school and before entering their residency programs. The goal of the internship is to teach them to apply the knowledge they acquired during medical school in their professional careers. Interns face many challenges during this year including a great deal of stress which affects their cognitive function, practical life and patient care.³ However, to function effectively, the doctor's mind must be devoid of tension, this is not the case with medical officers in Pakistan.

The prevalence and sources of stress among

undergraduate and postgraduate trainees is well established. A stimulus that induces stress in an organism is called a stressor.⁴ A stressor can be beneficial to help the organism adapt to increased external demands but when these demands exceed the organism's ability to adapt; a negative form of stress is the result, which can present serious mental and physical health consequences to the organism. Workplace stress is the harmful physical and emotional response that can happen when there is a conflict between job demands on the employee and the amount of control an employee has over meeting these demands.⁵ Workplace stress is known to be prevalent in medicine, particularly among House Officers. In 1997, 77.5% of house officers in Karachi, Pakistan were found to be emotionally distressed and in 2013 it was found that 60.7% faced noticeable anxiety. In 2014 stress amongst house officers in Karachi, Pakistan was surveyed to be an overall response rate of 81.5% (269

out of 330) due to stressors such as night calls, workload, time constraints, working alone, and coping with diagnostic uncertainty.⁶ This study was found to be consistent with these prior results.

Some people believe the current system of training the house officers works while others feel it can be improved upon. Taking steps to modify the system will not only benefit the house officers in the long run but also their patients. In Pakistan there is limited research addressing the adverse atmosphere faced by house officers in tertiary care hospitals. So the aim of this study was to calculate the incidence of House Officers facing stress in 2017 and examine the subsequent behavioral and psychological effects it has on those affected by stress.

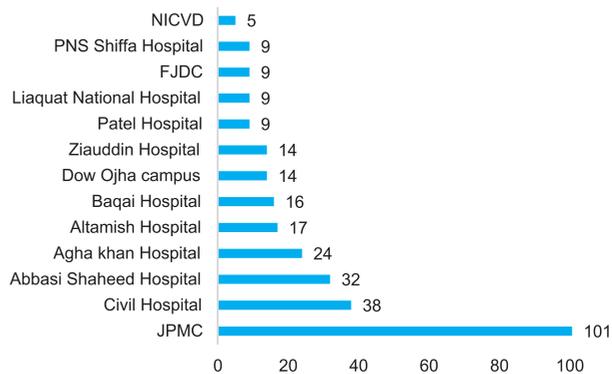
METHOD

A descriptive cross sectional study was conducted in tertiary care hospitals of Karachi in both government and private sectors from October to November 2017. The government hospitals included the Jinnah Postgraduate Medical Centre (JPMC), National Institute of Child Health (NICH), the National Institute of Cardiovascular Diseases (NICVD), Abbasi Shaheed Hospital and Civil Hospital. The lone private sector hospitals were the Aga Khan Hospital, the Liaquat National Hospital, Baqai Hospital, Altamash Institute of Dental Medicine, PNS Shifa and Ziauddin Hospital. Informed verbal consent was obtained from all the subjects. A self-designed and self-explanatory questionnaire was prepared and disseminated using Google forms and also by visiting different hospitals. The sample size was calculated to be 278, at 95% confidence level. A total of 278 questionnaires were distributed to house officers of different hospitals of Karachi, Pakistan during their duty hours in wards, out-patient departments (OPDs) and emergencies. The questionnaire included the following demographic data: age, sex, duration of house job, duration of duty hours and medical errors. Names of the doctors were not recorded. Questions relevant to The House Officer Stress Syndrome covered: knowledge of the syndrome, presence of symptoms pertaining to workplace

stress (fatigue, depression, etc), mental well-being, work satisfaction, sleep schedule, balance between occupational and recreational activities and effect of stress on cognitive function and decision making. The survey was completed in two months. The data was analyzed by using Statistical Package for Social Sciences (SPSS) version 20. All variables were presented as frequency and percentages. Likert scale (0-5) was assigned to each option and ANOVA was used to assess the variations among the groups. Post-Hoc Tukey's test was further applied to analyze the intragroup variations where applicable. No Ethical Approval was needed for study.

RESULTS

About 300 questionnaires were distributed among the different hospitals of Public and Private sector in Karachi, out of which 297 were fully filled. Response were collected from 13 different hospitals (Figure-1).



The majority of the participants were female that is about 83.9% and their marital status was single (84.6%). As the data collection was done in the month of November so most of the respondents that is about 41.6% were in the middle (3-6 months) of their house job duration. Among the total participants, 42.6% of the participants having 96 hours working duration per week. Asking about the emergency calls, 64% of them were on call 7-9 times per month, while on call time available to sleep was reported to be very low that is 1-2 hours per call. The main characteristics of study participants were mentioned in Table-I.

	N	%
Gender		
Male	47	15.8
Female	250	83.9
Marital Status		
Single	252	84.6
Married	44	14.8
Divorced	01	0.3
Working Duration		
1-3 months	59	19.8
3-6 months	124	41.6
6-9 months	66	22.1
9-12 months	48	16.1
Working Hours/Week		
42 hrs	72	24.2
60 hrs	40	13.4
78 hrs	58	19.5
96 hrs	127	42.6
On Call/ Month		
1-3	45	15.1
4-6	60	20.1
7-9	191	64.1
Sleep/Call		
1-2 hrs	144	48.3
3-4 hrs	131	44
5-6 hrs	22	7.4

Table-I. Characteristics of participants

Positive as well as negative change in the behavior was assessed using 5 point Likert scale. Options available on the scale were strongly disagree, disagree, neutral, agree, and strongly agree.

Mean score for positive attitude scenarios for male was reported to be 17.21 ± 6.4 while that of females was 19.2 ± 6.1 , similarly negative attitude scenarios had less score in males which was 21.55 ± 7.96 while that of females was 23.06 ± 7.93 .

Hospital to hospital variation was non-significant in positive attitudes while in negative it was highly significant ($p < 0.001$). On applying post hoc Tukey's test for the inter hospital variations, significant variation was observed between Altamash Hospital and Civil (< 0.001) and that of JPMC was also significant ($p = 0.027$). Other than Altamash only significant variation was reported for Civil and Baqai Hospital with a p-value of 0.016.

Weekly working hours had no significant role in positive attitudes while in negative attitude it was significant ($p = 0.0020$). As the variation in negativity was significant in different working hours' groups by post Hoc Turkey's test was deployed which inferred that there was no significant variation in 60 and 70 hours/week where as significant decline in behavior was seen when the time increased from 42 to 96 hours/week (0.01) and from 60 to 96 hours ($p = 0.038$), while no significant change in behavior was seen if time increased up to 78 hours/week.

Duration of house job had significant effect on both decline in positive while increase in negative attitudes, significant changes were seen in the last quarter of the house job for both positive ($p = 0.029$) and negative attitudes ($p = 0.005$). Similarly sleep duration during an on call shift was found to be having highly significant role in both the attitudes positively ($p = 0.001$) with a positive shift of mean by 5.3 indicating improvement in positive attitudes. While for negative attitudes, change observed was also highly significant ($p = 0.002$) but with a further decline in negative behavior with a mean difference of -6.07. For positive attitude it was significant increase if the sleep time given was 5-6 hours ($p = 0.001$) and that of worsening of negative attitudes 1-2 hours' sleep time.

DISCUSSION

The sole focus of this study was to determine the burden of stress faced by house officers (HOs). Previously, innumerable researches have been conducted worldwide for the same purpose. To begin with, the findings of current study suggest that the hours of sleep a poor HO gets while on call is astoundingly low, being consistence with other studies.⁷ A study conducted in New Zealand, shows highest recorded rate of 6.9 minutes between calls in general surgery, while the lowest recorded rate of 5 hours in geriatric and general medicine.⁸ But few of contradicting studies are present which doesn't support our results which may be either due to difference of study designs or BDS house officers.⁹

Secondly significant numbers reported physical as well as emotional exhaustion at work resulting

in non-existing enthusiasm for work. It might have resulted from enormous workload and patients' responsibilities that fall on HO's shoulders. This is common to all the studies.^{10,11} Additionally, in determining the case of lack of patients' care, our finding suggests positive results for more than half of HO's population. Consequently, HO's find the patients unbearable¹², answer the patients' question a difficult task and their attendants quite demanding.¹³ Other studies don't show such a large proportion¹⁴ It may be because of the overwhelming size of underprivileged patients found in hospitals particularly government ones (offering almost free of cost treatment). However, Hos are clear that they treat patient with indifference regardless of the chaotic conditions and regret their behavior towards their patients owing to the fact that they have not yet sacrificed their morale and sense of duty.

Furthermore, an alarming one third of HOs mention the pressure they receive from senior doctors. Some studies support¹¹ while other differ to this.¹⁵ Since there is a diversity of seniors the HOs work under, treatment can vary greatly. Moreover, there is increased incidence in the number of HOs who are short of time for family/friends and fail to enjoy normal activities; several studies have come up with several results.¹⁶ Unexpectedly, decision making skills, handling problems and confidence in greater number HOs are all thanks to the stressful training. The current finding is contradictory to some of the studies. This highlights the productivity of adequate amounts of stress.¹²

Next, it is pleasing to discover that many optimistic HOs find their work experience rewarding and feel they play a useful part. Certain studies oppose this finding as they show little number of content HOs.¹⁷ Considering this, job satisfaction is an outcome of human psychology, which differs from person to person. It can simply be because of the reluctance to become a doctor and being forced into Medicine.¹⁸ HOs usually perceive more salary than they receive for the hard work they go through which give rise to dissatisfaction.¹⁰ Lastly, many felt incapable of overcoming difficulties blaming the grueling work and this is constant in

other studies as well.¹⁹

There is some recommendation to reduce house officers stress syndrome as the results revealed the prevalence of chronic sleep deprivation in HOs so hereby, it is essential to cut down the working hours to assign resting period for the drained HOs, for this a "Pager Policy" should be put under consideration. A study conducted in New Zealand states that Pager frequency is potentially useful marker of job acuity and consequent junior doctor stress level.²⁰ Secondly hospitals rules should not oblige HOs to do those duties that can be performed by trained medical staff without the need of a doctor's presence. Lastly, it should be mandatory for the HOs to give feedback regarding their senior's evaluation. Seniors should have interacting sessions with juniors to build humor and understanding. Limitation of the current study is the small sample size.

CONCLUSION

It can be concluded that house officers are susceptible to stress which affects their overall work performance. Henceforth there must be a reduction in working hours, more on call sleep time should be given and a cooperative attitude of senior colleagues should be encouraged. Pager policy, fringe benefits as well as hiring of supervision staff should be considered in order to promote a healthy working environment and effective patient care.

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4	Muzna Shah	Work drafting.	
5	Mahira Lakhani	Statistical analysis	
6	Fahad Khalid Soleja	Statistical analysis	
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