

Measurement of Stress Among Doctors in Intensive Care Unit (ICU)

Muhammad Taimoor Shah and Mosin Masud Jan

ABSTRACT

Objective: The objectives of the study were to identify stressors and to measure their magnitude of stress on doctors of ICU and to identify major stressors and major distress working in ICU.

Study Design: Descriptive / cross-sectional study

Place and Duration of Study: This study was conducted at the Department of Intensive Care Units (ICUs) of four hospitals of Lahore namely Doctors Hospital, Ittefaq Hospital Trust, Jinnah Hospital Lahore General Hospital Lahore for one month, during spring 2016.

Materials and Methods: It was in which 40 doctors working in intensive care units participated. The collected data through questionnaire was analyzed by using SPSS 16.0. Frequencies and percentages were calculated and data was presented in tables and diagrams. Confidentiality of the information was also ensured.

Results: Among 40 doctors, 47.5% were up to 30 years old and 72.5% were males. 22.5% strongly disagreed that their job has very little chances of promotion. 37.5% doctors agreed somewhat that their workload is too heavy. 35.0% agreed that they seldom receive adequate acknowledge or appreciation when their work is really good. 37.5% doctors agreed somewhat that they often receive threats from patient attendants. 37.5% strongly disagreed that their workplace environment is not pleasant. 35.0% doctors agreed somewhat that they tend to have frequent arguments with seniors, coworkers or patients/attendants. 40.0% disagreed that they often feel their job to be boring. 25.0% doctors agreed while 17.5% strongly agreed that they have sense of un-achievement when results of treatment are not good despite of hardworking on patient's treatment. 62.5% doctors had average stress.

Conclusion: Majority of doctors were dissatisfied with the chance of promotion and heavy workload. Threat from patients' attendants was the leading cause of stress observed among majority of the ICU doctors. Sense of un-achievement was also the important cause of stress despite of hardworking on patient's treatment.

Key Words: Stress, intensive care unit, doctor, workload, workplace environment

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INTRODUCTION

Stress is a general term which refers to two distinct concepts, namely 'stressors' (environmental characteristics, or thoughts which cause an adverse reaction in the individual) and 'strain' (the individual's adverse reaction to the stressor).^{1,2} Michie (2002)³ described stress as the psychological and physical state that occurs when the resources of the individual are not sufficient to cope with the demands and pressure of the situation. Payne on the other hand, defined stress as a process which causes or precipitates individuals to believe that they are unable to cope with the situation facing them.⁴ Stress is a state of challenge or threat that discontinues the normal rhythm and balance of a person's life.⁵ Stress results when individuals feel they

cannot cope up with demands being made and with threats to their entity. The source of stress may be external or internal in the form of blood pressure, pain, and tumors, distressing events or psychological. Anything that demands on an individual requiring adjustment or adaptation can be a stressor.⁶

The signs of stress include sleeplessness, aches and pains and anxiety. Doctors may become irritable with their patients and coworkers, lack of energy and commitment, and become self-absorbed.⁷ After-hours and on-call work; interferes with family life.⁸

Intensive care units (ICUs) are traditionally deemed as an important source of stress for patients and their families. Currently it has been noted that this environment is also stressful for the professional staff. This stress, due to work in the ICU is primarily caused by the closed ambiance with extenuating work conditions and pace, demanding routines and work, ethical issues that require brisk and difficult decisions as well as living with suffering, death, the unforeseen events and an excessive workload.⁹

Coomber (2002) reported that approximately one third of UK ICU doctors appeared distressed and 10% reported depressive symptoms.¹⁰ Most of the attention is focused on junior doctors and their long working hours. However, there also have been studies of distress among senior hospital doctors.¹¹

Department of General Surgery, Shaikh Zayed Postgraduate Medical Institute, Lahore.

Department of Surgery, CMH, Lahore.

Correspondence: Dr Muhammad Taimoor Shah, House Officer, Department of General Surgery, Shaikh Zayed Postgraduate Medical Institute, Lahore.

Contact No: 0301-4147790

Email: taimoorshah91@gmail.com

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It is adequately documented that health professionals experience higher levels of stress and stress related health problems than other occupational groups.¹² Among the health worker groups, the ones at a greater risk for developing chronic stress syndromes, are intensive care units staff and mental health professionals.¹³

Physicians are at particular risk of stress at work and continuous work stress can lead to psychological morbidity, impaired quality of life, depressive reactions and even suicides. Not all physicians are influenced by the same stressors and this process depends on their position at work (consultants had higher level of stress than junior physicians, their gender (women are more sensitive to stress than men and their specialty. The most sensitive to stress are physicians working in emergency departments and at intensive care units (ICU).^{14,15,16}

Doctors' working condition not only affects their own health but also the care the care their patients get.¹⁷ Work overload, interruptions, time and pressure, conflicting demands, problems with cooperation between various departments, poor leadership, and less social support have been identified as adverse working conditions.¹⁸ . Stressor at work deem to affect work satisfaction, leading to career disruption and poses a threat to doctors well being.¹⁹ Stressors interferes performance in various ways, traversing from hampered communication to medication errors and increased patient mortality.^{20,21}

There are many stressors in ICU such as; complex patient care, conflict with physicians, working nights or holidays, poor cooperation from other departments. Some of the stressors in intensive care unit are related to patient and patient-care like dealing with routines, technology and emotional needs, others are linked to health care personnel, such as working with physicians, inexperienced staff, dealing with interpersonal tensions, families of patients and some stressors are related to the environment and organization.²²

To reduce stress, there is a need to make strategies to improve physicians work life. In contrast to various studies describing doctors job stressors, there is a lack of interventional efforts aimed at promoting hospital doctors working conditions.²³

However, working conditions are responsive to improvements, especially by changing the work organization.²⁴ Organizational re-design for health professionals is suggested as a bright way to reduce health profession stressors and promote patient safety.²⁵

MATERIALS AND METHODS

It was cross-sectional descriptive study. The place of study was intensive care Units (ICUs) of four hospitals of Lahore namely Doctors Hospital, Ittefaq Hospital Trust, Jinnah Hospital Lahore General Hospital Lahore. Doctors working in intensive care units of above four hospital of Lahore were the study population. Simple random sampling was done. The duration of study was one month, during spring 2016.

The responses of doctors working were obtained through the questionnaire. The frequency & severity of ICU specific stressors were rated using likert type scales. Score can be interpreted as indicator of morbidity. Data was entered in computer software SPSS 16.0 Frequencies and percentages were calculated and data was presented in tables and graphs.

Consent and permission was taken from concerned authority to conduct the study. Verbal consent was taken from respondents. Privacy and confidentiality was maintained at all costs in accordance with principles laid down in Helsinki Declaration of Bioethics

RESULTS

Among 40 doctors, 19 (47.5%) were upto 30 years old and 13 (32.5%) were 31-40 years old while 8 (20.0%) doctors were more than 40 years old. Among 40 doctors, 29 (72.5%) were males while 11 (27.5%) were female doctors. Among 40 doctors, 10 (25.0%) were working in Doctors Hospital, 10 (25.0%) in Ittefaq Hospital Trust, 10 (25.0%) in Jinnah Hospital Lahore and 10 (25.0%) doctors were working in Lahore General Hospital Lahore.

Among 40 doctors, 9 (22.5%) were strongly disagreed that their job has very little chances of promotion, 6 (15.0%) were disagreed, 12 (30.0%) doctors were agreed somewhat and 8 (20.0%) doctors were agreed while 5 (12.5%) doctors were strongly agreed.

It is depicted that only 1 (2.5%) doctor was strongly disagreed that their workload is too heavy, 0 (0.0%) disagreed, 15 (37.5%) doctors were agreed somewhat and 17 (42.5%) doctors were agreed and 7 (17.5%) doctors were strongly agreed that their workload is too heavy.

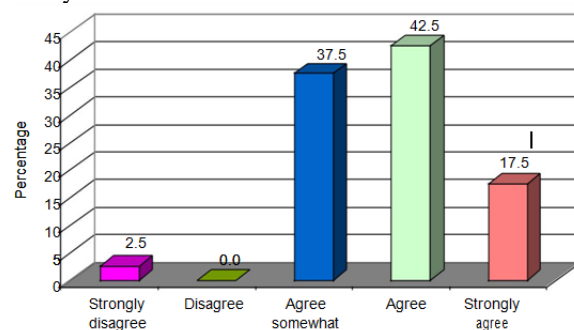


Figure No.1: Frequency distribution of doctors according to feelings that their workload is too heavy

Out of 40 doctors, 3 (7.5%) were strongly disagreed that they seldom receive adequate acknowledge or appreciation when their work is really good, 7 (17.5%) were disagreed, 12 (30.0%) doctors were agreed somewhat and 14 (35.0%) were agreed while 4 (10.0%) doctors were strongly agreed.

Out of 40 doctors, 8 (20.0%) were strongly disagreed that they often receive threats from patient attendants, 4 (10.0%) were disagreed, 15(37.5%) were agreed

somewhat, 9 (22.5%) were agreed and 4 (10.0%) doctors were strongly agreed.

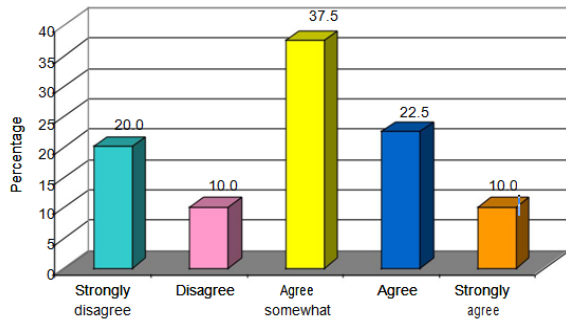


Figure No.2: Frequency distribution of doctors according to threats received from patient attendants

Among 40 doctors, 15 (37.5%) were strongly disagreed that their workplace environment is not pleasant, 7 (17.5%) were disagreed, 7 (17.5%) doctors were agreed somewhat, 7 (17.5%) were agreed and 4 (10.0%) doctors were strongly agreed.

Out of 40 doctors, 2 (5.0%) were strongly disagreed that their job often interferes with family and social obligations or personal needs, 2 (5.0%) were disagreed, 17 (42.5%) doctors were agreed somewhat, 9 (22.5%) were agreed and 10 (25.0%) doctors were strongly agreed.

Among 40 doctors, 8 (20.0%) were strongly disagreed that they tend to have frequent arguments with superiors, coworkers or patients/attendants, 7 (17.5%) were disagreed, 14 (35.0%) doctors were agreed somewhat and 8 (20.0%) were agreed while only 3 (7.5%) doctors were strongly agreed.

Out of 40 doctors, 8 (20.0%) were strongly disagreed that they often feel their job to be boring, 16 (40.0%) were disagreed, 8 (20.0%) doctors were agreed somewhat, 5 (12.5%) were agreed and 3 (7.5%) doctors were strongly agreed.

Table No.1: Total score with frequency and percentage

Total Score	Frequency	Percentage (%)
Very high stress	1	2.5
High stress	10	25.0
Average stress	25	62.5
Low stress	4	10.0
Total	40	100.0

Low stress = 1-25
High stress = 51-75

Average stress = 26-50
Very high stress 76-100

Among 40 doctors, 5 (12.5%) were strongly disagreed that they often feel their job to be monotonous, 12 (30.0%) were disagreed, 12 (30.0%) doctors were agreed somewhat, 5 (12.5%) were agreed and 6 (15.0%) doctors were strongly agreed.

Among 40 doctors, 5 (12.5%) were strongly disagreed that they have sense of un-achievement when results of

treatment is not good despite of hardworking on patient's treatment, 6 (15.0%) were disagreed, 12 (30.0%) doctors were agreed somewhat and 10 (25.0%) were agreed while 7 (17.5%) doctors were strongly agreed.

Out of 40 doctors, 1 (2.5%) had very high stress, 10 (25.0%) doctors had high stress and majority (62.5%) had average stress while only 4 (10.0%) doctors had low stress. (Table 1.0, Fig 1.0)

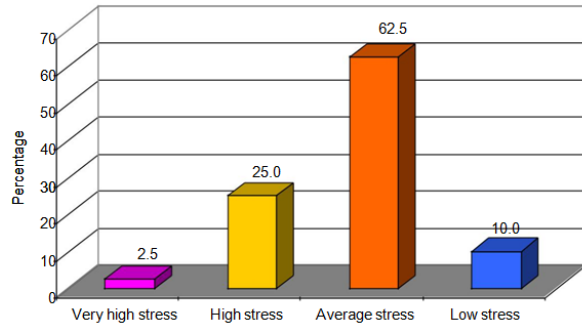


Figure No.3: Frequency distribution of doctors according to stress level

DISCUSSION

Stress is one of the serious issues among doctors working in health care facilities especially in intensive care units. It is injurious and emotional reactions that happen when job requirements do not harmonize with capabilities, needs and resources of doctor. Long working hours, excessive workload, financial constraints are also the factors associated with stress. Intensive care unit is not only considered major source of stress of patients and for their families but also for the doctors. Keeping in mind such issues present study was performed to measure stress among doctors of intensive care units.

A good working environment is very much essential for an employee to perform better. Excessive work load disrupts the efficiency of the employees. It was very disturbing that a mainstream (97.5%) of doctors had heavy workload which was significant cause of stress.

Doctors' profession is one of the sacred professions but sometimes they face threats from patients' attendants owing to death or other complications which are beyond their control. Study disclosed that most of the doctors had threats from patients' attendance which could affect their performance or they can quit their jobs.

Pleasant working environment is very much crucial for an individual to perform their duties efficiently. Study showed encouraging results that most of the doctors (55.0%) preferred their work environment and believed it is more comfortable. The results of my study exhibited better scenario than the study conducted by Barros and associates (2008) who reported that 73.7% ICUs doctors complained for noise and uncomfortable environment.

Good relations with super-ordinates, colleagues/ subordinates and patients/ attendants are imperative to curb the stress. Study revealed that 62.5% doctors had arguments with superior, coworkers or patients/ attendants which increased the stress level among doctors of intensive care units.

It is pertinent to mention that majority of ICU doctors had sense of un-achievement when result of treatment is not good in spite of hardworking on patient's treatment. Little stress at work place is natural phenomena but excessive stress disrupts the performance of employees as well as productivity of the organization. Study revealed that major proportion of ICU doctors had average stress (62.5%), followed by very high stress (2.5%), high stress (25.0%) and low stress (10.0%).

It was found during study that 11 out of 40 doctors had high stress. The ratio of which is about 1:4.

Health education programs should be held among doctors of intensive care units to reduce stress. Health department intervention and media significant role could be helpful to overcome the problem of stress among the doctors of ICUs.

CONCLUSION

Stress is a leading problem among doctors due to excessive workload, job requirement, long working hours, financial problem, imbalance between personal & professional lives and patients' related problems. Present study measured stress among doctor of intensive care units and found that most of the doctors were males and more than 30 years old. Majority was dissatisfied with the chance of promotion. A major proportion was found dissatisfied due to heavy workload. A mainstream of doctors was found satisfied as their work was appreciated on good performance. Threat from patients' attendants was the leading cause of stress observed among majority of the ICU doctors. Workplace environment was found satisfactory. Interference between family and social obligation or personal needs was the significant issues of stress among the doctors. Most of the doctors had stress on workplace due to arguments with superiors, coworkers or patients/attendants. A massive portion of doctors was pleased in performing their job. Sense of un-achievement was also the important cause of stress despite of hardworking on patient's treatment. Most of the doctors had average stress. Seminars and health education programs are required to be held among ICUs doctor to reduce stress and to boost their morale towards better performance.

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Nakao M. Work-related stress and psychosomatic medicine. *Bio Psycho Soc Med* 2010;4:4-11.
2. Makames RA, Alkoot EM, Al-Mazidi BM, El-Shazly MK, Kamel MI. Sources and expressions of stress among physicians in a general hospital. *Alexandria J Med* 2012;48:361-366.
3. Michie S. Causes and management of stress at work. *Occup Environ Med* 2002;59: 67-72.
4. Grzeskowiaka M, Bartkowska-Sniatkowskab A, Rosada-Kurasinskab J, Kielbasiewicz-Drozdowski I, Janickid PK. Stress assessment by anaesthesiologists and nurses working in paediatric intensive care units. *Eastern J Med* 2012;17:59-66.
5. Sanderson CA. *Health psychology*. John Wiley and Sons 2004.
6. Menon A, Munalula B, Glazebrook C. Stress in doctors: A pilot study of the university teaching hospital, Lusaka, Zambia. *J Psychol Afr* 2007;17: 137-140.
7. Organ A, Bateman R. *Organizational behavior*. John Wiley and Sons 1998.
8. Richards J. *In sickness and in health* (2nd ed.). Wellington, NZ: Doctors' Health Advisory Service; 1998.
9. Barros DS, Tironi MOS, Sobrinho CLN, Neves FS, Bitencourt AGV, Almeida AM, et al. Intensive care unit physicians: Socio-demographic profile, working conditions and factors associated to the burnout syndrome. *Rev Bras Ter Intensiva* 2008; 20: 235-240
10. Coomber S, Todd C, Park G, Baxter P, Firth-Cozens J, Shore S. Stress in UK intensive care unit doctors. *Br J Anaesth* 2002;89:873-881.
11. Embriaco N, Hraiech S, Azoulay E, Baumstarck-Barrau K, Forel JM, Kentish-Barnes N, et al. Symptoms of depression in ICU physicians. *Ann Intensive Care* 2012;2:34.
12. Voltmer E, Kieschke U, Schwappach D, Wirsching M, Spahn C. Psychosocial health risk factors and resources of medical students and physicians: A cross-sectional study. *Med Educ* 2008;8:46-54.
13. Fackler JC, Watts C, Grome A, Miller T, Crandall B, Pronovost P. Critical care physician cognitive task analysis: An exploratory study. *Crit Care* 2009;13:33-40.
14. Rutter H, Herzberg J, Paice E. Stress in doctors and dentists who teach. *Med Edu* 2002;36:543-549.
15. Khuwaja AK, Qureshi R, Andrades M, Fatmi Z, Khuwaja NK. Comparison of job satisfaction and stress among male and female doctors in teaching hospitals of Karachi. *J Ayub Med Coll Abbottabad* 2004;16:23-27.
16. Baig A, Siddiqui I, Naqvi H, Sabir S, Jabbar J, Shahid M. Correlation of serum cortisol levels stress among medical doctors working in emergency departments. *J Coll Phys Surg Pak* 2006;16:576-580.

17. Wallace JE, Lemaire JB, Ghali WA. Physician wellness: A missing quality indicator. *Lancet* 2009;374:1714-1721.
18. Scheurer D, McKean S, Miller J, Wetterneck T. US physician satisfaction: A systematic review. *J Hosp Med* 2009;4:560-568.
19. Laubach W, Fischbeck S. Job satisfaction and the work situation of physicians: A survey at a German university hospital. *Int J Publ Health* 2007;52: 54-59.
20. Fahrenkopf AM, Sectish TC, Barger LK, Sharek PJ, Lewin D, Chiang VW, et al. Rates of medication errors among depressed and burnt out residents: prospective cohort study. *BMJ* 2008;336: 488-491.
21. Weigl M, Hornung S, Angerer P, Siegrist J, Glaser J. The effects of improving hospital physicians working conditions on patient care: A prospective, controlled intervention study. *BMC Health Ser Res* 2013;13:401.
22. Hussein J, Aniza I, Taufik JM. Factors associated with organizational stress among intensive care unit healthcare workers, in Somalia Hospital. *Malaysian J Publ Health Med* 2012;12:57-66.
23. Ruotsalainen J, Serra C, Marine A, Verbeek J. Systematic review of interventions for reducing occupational stress in health care workers. *Scand J Work Environ Health* 2008;34:169-178.
24. Ramanujam R, Rousseau DM. The challenges are organizational not just clinical. *J Organ Behav* 2006;27:811-827.
25. Bourbonnais R, Brisson C, Vezina M. Long-term effects of an intervention on psychosocial work factors among healthcare professionals in a hospital setting. *Occup Environ Med* 2011;68: 479-486.