

# Occupational Stress in Military Health Settings: A Questionnaire-based Survey

Amin Sarabandi <sup>1\*</sup>, Hasan Hazarati <sup>2</sup>, Maryam Keykha <sup>3</sup>

<sup>1</sup> School of Rehabilitations, Tehran University Medical Science, Tehran, Iran. <sup>2</sup> School of Health, Baqiyatallah University of Medical Science, Tehran, Iran. <sup>3</sup> School of Nursing, Mashhad University of Medical Science, Iran.

## Abstract

**Background and Objectives:** Military hospitals play a crucial role in delivery of healthcare services to patients during emergencies. Despite that, limited studies have attempted to characterize factors affecting quality of work life in employees of military health settings. To contribute in filling this gap, this study explored employee occupational stress in a military hospital, situated in the western region of Iran.

**Methods:** A descriptive-analytical study of cross-sectional design was conducted in 2011. All employees working in the 597 Army Hospital (n = 76) were surveyed. Data was collected using questionnaire. Reliability of the scale was ensured by Cronbach's alpha of 0.94. Descriptive statistics was employed for data summarization. T test and ANOVA were used to compare mean scores of occupational stress between demographic and professional groups.

**Findings:** Occupational stress among employees averaged 46% ranging from 26% to 91%. While 25% of subjects reported low occupational stress, 58% showed moderate stress levels, and 17% expressed high stress levels. Clinicians showed significantly higher occupational stress as compared with administrative staff (P = 0.029). No significant effect was identified for other demographic and professional characteristics including age, sex, marital status, educational level, and work experience either between entire employees, or between clinicians.

**Conclusions:** By finding considerable or high stress among three forth of the employees, our study support the notion that employees of military hospitals are more prone to occupational stress as compared with the personnel of civilian health settings. In addition, expression of higher stress levels by healthcare employees compared to their administrative counterparts shows that working conditions in military health settings are even more stressful for clinical staff. These findings add weight to the urgency of devising coping strategies to alleviate occupational stress in clinicians of military hospitals.

**Keywords:** Occupational Stress, Hospital, Military Hospital, Quality of Work Life

## Background and Objectives

Occupational stress is one of the most important factors adversely influencing performance of employees within an organization [1]. Stress and psychological pressure are common characteristics of contemporary societies, and responsible for a wide range of mental and physical illnesses [2-4]. Stress occurs when stressors such as environmental pressures, obstacles, unsettling events induce tensions in an individual's physiological and psychological state [4]. One of the most problematic aspects of stress is work-related

stress, concerning its damaging effect on both the employees and the organizational performance. Occupational stress is associated with various emotional and behavioral disorders in the workplace, including impatience, conflict with clients, and violence [5, 6]. Evidence shows that work-related stress can lead to job dissatisfaction, increased work delays, and poor staff communication [6]. The nature of factors contributing to stress at work has been extensively researched. Erickson *et al.* identified personal obligations, high workload, interpersonal relationships, organizational issues, and work-family imbalance among the major causes of stress [7]. Landsbergis *et al.* found non-homogenous working conditions, rapid or slow professional advancements, and low job security among major stress inducing factors [8]. Other reports highlighted the effect of job monitoring and use of new

\*Corresponding author: Amin Sarabandi, School of Rehabilitations, Tehran University Medical Science, Tehran, Iran, P.O.Box: 9186146966, Tel: +98 5116211982, Fax: +98 21 22220946, Email: sarabandi\_amin@yahoo.com

technology on occupational stress increase [9, 10]. Despite ever-increasing human knowledge about the causes of stress, employees stress in the workplace and its consequent outcomes remains a persistent challenge. Numerous studies have demonstrated that healthcare-related professions can result in excessive stress levels [11]. Healthcare professionals are exposed to a wide variety of intensive stressful conditions due to their responsibility for direct provision of care to patients [12]. According to National Institute for Occupational Safety and Health (NIOSH), occupational stress occurs when demands by the workplace exceed the individual's ability in getting them performed and completed [13]. Such a definition facilitates understanding the link between workplace conditions in healthcare and military organizations and unacceptable stress level in their employees. The workplace in both of these sectors is a ground for emergence of crisis, and working in them generally deal with unpleasant situations such as illness, pain, and negative emotional states. Both healthcare and military organizations are characterized by low flexibility hierarchical structures, serving as additional sources of distress or job dissatisfaction. Military hospitals inherit characteristics of both organizational systems, thereby, bearing even more complexities, potentially manifesting as excessive mental pressure and low work-life quality. Evidence shows that occupational stress in military hospital employees is higher compared to their counterparts in civil hospitals [14-16]. Lang's study demonstrates consistently higher mental fatigue in military nurses as compared with civilian nurses [16]. Employees of military hospitals are on the front line of crisis conditions, and are responsible for providing healthcare services to the nation's defenders. In addition, their critical role is not limited to wartime; they are also responsible for supporting civilians in natural disasters and extreme emergencies. These responsibilities require employees of military hospitals to continuously maintain their mental and physical readiness for confronting emergencies anywhere and anytime. On the other hand, specific responsibilities of military hospitals require their leadership to constantly monitor the wellbeing of their employees by regular surveys, and to use the resulting data for developing and updating interventional programs.

Despite the crucial function of military hospitals in supporting the health of the community, limited study efforts have been made to explore work-related stress in these hospitals when compared with civilian health settings. This shortcoming motivated us to contribute to filling this gap by evaluating occupational stress in an Iranian army hospital situated in the western region of the country.

**Table 1 Demographic and professional characteristics of the participants**

Variables	Number	%
Gender ( <i>n</i> = 76)		
Male	53	69.7
Female	23	30.3
Age ( <i>n</i> = 76)		
20-30	37	48.7
30-40	17	22.4
> 40	22	28.9
Marital Status ( <i>n</i> = 76)		
Married	48	63.2
Single or never married	28	36.8
Education ( <i>n</i> = 76)		
High School	30	39.5
Graduate	41	54
Post Graduate	5	6.5
Work experience ( <i>n</i> = 76)		
1-10 years	38	50
11-20 years	22	28.9
>= 21 years	16	21.1
Type of Service ( <i>n</i> = 76)		
Clinical	45	59.2
Administrative	31	40.8

## Methods

A descriptive-analytical study of cross-sectional design was carried out in the period of April to May 2012. All the staff in the Bojnord Regional 597 Army Hospital affiliated with the Army's ground force was surveyed by census. Data was collected using the Steinmetz occupational stress questionnaire [17]. The questionnaire included 36 items related to stressful workplace situations. Answers to the questionnaire were measured by Likert type five-point scale, in which 1 = "Never", 2 = "Seldom", 3 = "Often" and 4 = "Usually", and 5 = "Always". The Persian version of the questionnaire has already been used in Attar's study in 1995 where a scale validity of 0.77 (Split Half Method), and a scale reliability of 0.72 (test-retest method) was obtained [17]. The reported validity of the measurement tool was accepted in this study. A high internal consistency reliability of the scale was ensured by obtaining

**Table 2** Score Mean and Standard Deviation of Occupational Stress

Item	Mean	SD
I disagree with the supervisor.	35.25	30
My supervisor are demands contradictory.	34.25	37.25
My boss frequently blames me.	31.25	32.75
There is a conflict between my unit and other units.	46	37
I avoid conflict with my supervisor(s).	73	36.75
To do the tasks in my unit, I have to be in contact with other units.	60.5	38.25
I have conflict with the members of my unit.	26	33
I have conflict with the members of other units.	28.5	33.25
I enjoy assistance and support of my colleagues.	59.75	32.5
Making negative comments about colleagues are difficult for me.	54.5	36.5
It is difficult for me to judge between colleagues.	50.25	35
I avoid conflict with colleagues.	76	35
It is difficult to for me to comment negatively about my subordinates.	53.5	37.5
It is difficult for me to judge the difference between my subordinates.	45.5	33.25
I avoid conflict with my subordinates.	69.75	36
My professional expertise contrasts with my organizational task.	35.5	39
My organizational task is not related to my education.	42	37.5
I feel pressured from my family because of long work hours and work on holidays.	41	36.5
I feel pressured to do my task within the time schedule.	53.25	34.5
I usually run out of time in performing my task because of heavy workload.	40.5	34
I am worthy of something better than my current job.	68	96
I feel I am not qualified for my job.	46	37.25
Most people do not know much about the nature of my job.	54	33.5
It is difficult for me to deal with aggressive people.	56.5	36
It is difficult for me to deal with passive persons.	57	34.25
Most of my time at work is spent on disputes and quarrels rather than wok.	29	38
I am expected to do several things simultaneously.	55	35.25
Often I am expected to leave my work unfinished for more important things.	36.5	32.5
I do not trust the organization's leadership.	38.75	33.25
Supervisors do not consult me on decisions that are related to my task.	37.25	35.25
Management does not understand the real needs of the organization.	39.75	34.25
My personal needs conflict with organization's requirements.	41.75	32
Administrative practices impede the work to be done.	43.75	35
Our organization does not use the facilities properly.	44.75	32.75
The training courses I passed differ from those my close colleagues passed.	34.25	35
Contradictory policies lead to failure.	43.75	35.25

a Cronbach's alpha of 0.94. The five-point scale was converted to 100-point scale before data analysis. For the purpose of this study, scores lower than 30 indicated 'Low' occupational stress, between 30 to 70, 'Considerable' and above 70, 'High'. Descriptive statistics was used to summarize data. T test and ANOVA were used to compare the means. All data were analyzed using SPSS Software Version 20.

## Results

### Demographic Data

Table 1 presents the participants' demographic and professional characteristics. Of total 76 subjects, 30.3% were female (23), 63.2% married, 48.7% between 20-30 years of age. While 61.9% of the respon-

**Table 3 Comparison of occupational stress between demographic and professional groups**

Variables		Mean (SD)	t	df	P-value
Gender	Female	40.61 (18.2)	1.45	74	0.150
	Male	48.40 (22.8)			
Marital Status	Married	43.24 (20.81)	1.49	74	0.139
	Single or never married	50.89 (21.9)			
Type of Service	Clinical	50.55 (18.19)	2.32	74	0.029
	Administrative	39.53 (23.7)			

dents held a university degree (47), 50% had a hospital work-experience of 1-10 years (38), and 59.2% were working in medical units (45).

### Survey Results

A mean score of 46% was obtained for occupational stress (range: 26-91%). In addition, 25% of the employees expressed low occupational stress, 58% moderate, and 17% high. The item 'I have conflict with the members of my unit.' received the lowest occupational stress score (21%), and the highest score (76%) was obtained by 'I avoid conflict with colleagues.'

### Analytical Study

Table 3 compares mean scores of occupational stress among different demographic groups. While males expressed roughly 20% higher occupational stress as compared with females, the difference between the two groups was not significant. No significant difference in stress level was observed between single and married employees. A significant difference in employee occupational stress was observed between medical and administrative units. Educational level and work experience were not found to significantly influence stress in the employees. In addition, the effect of demographic and professional characteristics on stress level of clinicians was not significant.

### Discussion

Currently, occupational stress has become a matter of great concern in the healthcare arena due to its high prevalence and its detrimental effects on patient outcome. In the military hospital studied, the majority of employees expressed a moderate to high level of occupational stress, which in comparison, exceeds occupational stress levels reported in several Iranian

civil hospitals [18-22]. This observation supports the theoretical expectations, and argues for developing effective coping strategy plans.

The only significant difference in occupational stress among demographic and professional groups was observed between administrative and clinical divisions. This observation is consistent with precedent studies reporting higher occupational stress in nurses compared with administrative staff and the same difference pattern between clinical and teaching nurses [23]. While both administrative and clinical groups may be exposed to different stressful conditions, the exposure to stressors are higher for employees working in clinical units due to high work pressure, responsibility for patient outcomes, conflict with patients and their families, and the risk of illness due contact with patients [24, 25].

Our study identified no significant occupational stress difference between educational groups. This results is corroborated by the findings of Groot *et al.* who identified no systematic and regular impact on occupational stress for education [26]. Other studies, however, support an opposite conclusion [16, 27, 28]. The contrast between data calls for more in-depth research.

Occupational stress and the related burnout mostly occur during early years of work life, mainly as a

**Table 4 Results of ANOVA for comparison of occupational stress between Education and Work experience groups**

Variables	df	F	P-value
Education	74	1.45	0.150
Work experience	74	1.49	0.139

result of difficulties in the individual's adaptation to new conditions [29]. Demir believes that high experience in dealing with stressful conditions can enhance the employee's ability to cope with stressors [30]. While a relatively high occupational stress level was observed among the work experience group of 1-10 years, difference from the stress level in other work experience groups was not significant. Yaghoubi *et al.* found lower stress levels in employees with longer length of experience [31]. Similarly, Gholamnejad and Nikpeyma reported an inverse relationship between work experience and occupational stress [32]. Considering the smallness of the sample size in our study, lack of significance may be due to occurrence of type II error.

We also found no significant difference in the employees' occupational stress based on their marital status. Previous studies produced contradictory results in this regard. While Souri *et al.* [27], Molazem *et al.* [27], and Rahimi and Hatami [33] did not find any significant difference in job stress based on marital status, Keitel *et al.* [28], Hashemzadeh *et al.* [34] and Azad Marzabadi *et al.* [14] reached the opposite conclusion. Disparity in data indicates the need for larger-scale studies to clarify the role of marital status in occupational stress.

Our further inquiry into the possible impact of demographic and professional factors on occupational stress among clinical staff identified no significant effect. Hence, further investigation is necessary to identify the factors influencing occupational stress in healthcare workers of military hospitals.

### Study Limitations

Study results should be interpreted, considering the smallness of sample size and the low power of hypothesis test. In addition, this study enrolled only one military hospital. Therefore, the results cannot be generalized.

### Conclusions

This study explored occupational stress in administrative and clinical divisions of a military hospital. The majority of employees expressed considerable stress, and one fifth of the study group showed high occupational stress levels. Employees working in clinical divisions showed significantly higher stress levels by a factor of 20% as compared with their administrative colleagues. These findings support the notion that the combined effects of military workplace conditions and patient care difficulties can lead to excessive stress levels in employees of the military hospitals. Other demographic or professional factors, including age, sex, work experience, marital status,

and level of education did not show a significant effect on occupational stress either among entire employees or among clinical staff. Hence, further studies are required to determine factors influencing occupational stress in military health settings.

### Competing Interests

The authors declare that they have no competing interests.

### Authors' Contributions

AS was involved in study design, interpretation of the results, and preparing and revising the manuscript. HH contributed to data collection, data analysis, and manuscript preparation. MK was involved in data collection and analysis. All authors read and approved the final manuscript.

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### References

1. Burgess L, Irvine F, Wallymahmed A. Personality, stress and coping in intensive care nurses: a descriptive exploratory study. *Nurs Crit Care* 2010, **15**(3):129-40.
2. Currid TJ. The lived experience and meaning of stress in acute mental health nurses. *Br J Nurs* 2008, **17**(14):880-84.
3. Evans W, Kelly B. Pre-registration diploma student nurse stress and coping measures. *Nurse Educ Today* 2004, **24**(6):473-82.
4. Beehr TA, Glazer S. A cultural perspective of social support in relation to occupational stress. *J Manag Issue* 2001, **11**:337-44.
5. Iacovides A, Fountoulakis KN, Kaprinis S, Kaprinis G. The relationship between job stress, burnout and clinical depression. *J Affect Disord* 2003, **75**(3):209-21.
6. Lu L, Tseng H-J, Cooper CL. Managerial stress, job satisfaction and health in Taiwan. *Stress Medicine* 1999, **15**(1):53-64.
7. Erickson JM, Pugh WM, Gunderson EK. Status congruency as a predictor of job satisfaction and life stress. *J Appl Psychol* 1972, **56**(6):523-25.
8. Landsbergis PA. Occupational stress among health care workers: A test of the job demands-control model. *J Organ Behav* 1988, **9**(3):217-39.
9. Braun S, Hollander RB. Work and Depression Among Women in the Federal Republic of Germany. *Women Health* 1988, **14**(2):3-26.
10. Mohammadkhani P. Sources of job stress, a group of staff welfare and the stressors associated with job satisfaction. *J*

- Med Rehab* 2000, 1(1):50-57. [Article in Persian].
11. Rafati F, Shafiee N. The effect of job stress on physical health - Mental Nurse. *Jiroft J Nurs Midwifery* 2002, 4(3):14-17. [Article in Persian].
  12. Trygstad LN. Stress & coping in psychiatric nursing. *J Psychosoc Nurs Ment Health Serv* 1986, 24(10):23-27.
  13. Cincinnati O. Stress at work: National Institute for Occupational Safety and Health (NIOSH) 1999.
  14. Azad Marzabadi E., Gholami Fesharaki M. Effective factors on job stress in military personnel. *Journal of Military Medicine* 2011, 13(1):1-6.
  15. Khaghanizadeh M, Ebadi A, Cirati nair M, Rahmani M. The study of relationship between job stress and quality of work life of nurses in military hospitals. *Journal of Military Medicine* 2008, 10(3):175-84.
  16. Ko JW, Yom YH. [The role of social support in the relationship between job stress and job satisfaction/organizational commitment]. *Taehan Kanho Hakhoe Chi* 2003, 33(2):265-74. [Article in Korean].
  17. Attar H. A comparative study of job stress in rehabilitation staffs of Guilan Behzisti. *PhD Thesis*. Tehran University of Medical Science, School of Rehabilitation; 2009.
  18. Abdi H, Shahbazi L. Correlation between occupation stress in nurses at intensive care unit with job burnout. *J Shahid Sadoughi Univ Med Sci Health Serv* 2001, 9(3):58-63. [Article in Persian].
  19. Abdi H, Kalani Z, Harrazi MA. Job related stress in nurses. *J Shahid Sadoughi Univ Med Sci and Health*
  20. Hazavehei MM, hosseini z, moeini b, Moghimbeigi A, Hamidi Y. Assessing Stress Level and Stress Management Among Hamadan Hospital Nurses Based on PRECEDE Model. *Ofoogh-e-Danesh J* 2012, 18(2):78-85. [Article in Persian].
  21. Raeisi P, Tavakoli G. Impact of occupational stress on mental health and job performance in hospital managers and matrons. *Hakim Res J* 2003, 5(4):247-54. [Article in Persian].
  22. Akbari H, Mousavi SGA, Hannani M, Ramezani Y. Job stress among the nursing staff of Kashan hospitals. *Feyz J Kashan Univ Med Sci* 2012, 15(4):366-73. [Article in Persian].
  23. Piramoon Moghadam A. A comparative study of job stress in clinical nurses and nursing educators in universities affiliated with the Ministry of Health and Medical Education in Tehran. *MS Thesis*. Tehran University of Medical Science School of Nursing and Midwifery; 1995.
  24. Weinberg A, Creed F. Stress and psychiatric disorder in healthcare professionals and hospital staff. *The Lancet* 2000, 355(9203):533-37.
  25. Torshizi L, Ahmadi F. Job Stressors from Clinical Nurses' Perspective. *Iran Journal of Nursing* 2011, 24(70):49-60.
  26. Groot W, Maassen van den Brink H. The price of stress. *Journal of Economic Psychology* 1999, 20(1):83-103.
  27. Soori H, Hatami A. Job stress in working women in Ahwaz. *Hakim J* 2003, 6(1):65-69. [Article in Persian].
  28. Kittel F, Kornitzer M, De Backer G, Dramaix M, Sobolski J, Degré S, Denolin H. Type a in Relation to Job-Stress, Social and Bioclinical Variables: The Belgian Physical Fitness Study. *J Human Stress* 1983, 9(4):37-45.
  29. Abdi F, Kaviani H, Khaganizade M, Momeni A. Relationship between burnout and mental health. *Tehran Univ Med J* 2009, 65(6):65-75. [Article in Persian].
  30. Demir A, Ulusoy M, Ulusoy MF. Investigation of factors influencing burnout levels in the professional and private lives of nurses. *Int J Nurs Stud* 2003, 40(8):807-27.
  31. Yaghoubi M, Yarmohammadian MH, Afshar M. A survey on relationship between job stress and three dimensions of organization commitment among nursing managers in educational hospitals of Isfahan University of medical sciences. *Iran J Nurs Midwifery Res* 2009, 14(3):131-35. [Article in Persian].
  32. GHolam Nejad H, Nikpeyma N. Occupational stressors in nursing. *Iran Occupational Health Journal* 2009, 6(1):22-27.
  33. Rahimi A, Ahmadi F, Akhond MR, Hayat J. Evaluation of factors influencing occupational stress of nurses in some hospitals in Tehran. *Hayat J* 2004, 10(22):13-22. [Article in Persian].
  34. Hashemzadeh I, Aurangi M, Bahrehdar MJ. The relationship between job stress and mental health in a group of hospital employees in Shiraz. *Iran J Psychiatry Clin Psychol* 2000, 6(22-23):55-62. [Article in Persian].

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