

## Occupational stress among the staffs of health centers in Yazd in 2016

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### Abstract

**Background:** Occupational stress is a kind of stress that a person undergoes doing certain jobs, and it is caused by the interaction between working conditions and demographic characteristics of the employee. Given the role of the health professionals in preventive care services in our health system, decision was made to determine the occupational stress among the staffs of the health centers in Yazd.

**Methods:** In the present cross-sectional descriptive study, staffs of the health centers in Yazd were studied following census method and making use of standard Occupational Stress Questionnaire of Health and Safety Executive (HSE). A total of 237 questionnaires were collected and the obtained data was analyzed using SPSS software 16 (SPSS Inc., Chicago, IL, USA).

**Results:** The mean score of occupational stress in individuals was calculated as  $91.5 \pm 13.51$ . Findings of the study indicated that 54.1% of the participants were very undesirable and undesirable in terms of occupational stress. There was no statistically significant relationship between the occupational stress and age ( $P=0.7$ ), gender ( $P=0.24$ ), marital status ( $P=0.08$ ), and educational level ( $P=0.19$ ). On the other hand, the rate of occupational stress was significantly associated with work experience ( $P=0.04$ ). A greater percentage was observed in unfavourable category regarding communication and change sub-scale.

**Conclusion:** According to the results of the current study, it seems that health care workers have a high level of occupational stress. Therefore, the reformation ideas such as stress reduction techniques, supervisor support, staff training on working conditions, and how to manage tasks and participate in decision-making are among the necessities of making an environment enabling so that managers can use the potential capabilities of the staffs in providing services to the community.

**Keywords:** Decision Making; Health Personnel; Family Characteristics; Occupational Stress

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## Introduction

The word "stress" was first exclusively used by Selye in 1936. He defined stress as "a series of defense reactions of the body against harmful stimuli which is generally called as adaptation syndrome". Selye considered three phases for stress: alarm, resistance, and annihilation, so that if the stress goes beyond the resistance rate, the individual will inhale (1). At the same time, different body organs in different people get damaged depending on their sensitivity. Gastrointestinal, cardiovascular, neurologic disorders, and psychosomatic illnesses are among the effects of occupational stress, as well (2).

Occupational stress is one type of stress that a person undergoes doing certain jobs and it is caused because of the interaction between working conditions and demographic characteristics of the employees. Symptoms of stress are psychological, behavioral, and physical. Mental symptoms are those of emotional and cognitive problems such as dissatisfaction, isolation, and alienation from the work, depression, anxiety, and frustration (3). Previous studies showed that, every year, about 160 million people around the world are affected by heart disorders, pulmonary diseases, cancers, and neurological diseases caused by job-related stress, and 1.1 million people lose their lives due to work-related stress and disease (4). Those suffering from occupational stress have reported frequent pain, abdominal pain, back pain, allergies, respiratory distress, increase in the consumption of drugs, bulimia or anorexia, aggressive behavior, smoking, and more sleep problems (5-7). On the other hand, occupational stress leads to the loss of life quality (2). Side effects of environmental stress and costs associated with the disease inflicted by this kind of stress have caught the attention of managers. The results of a meta-analysis of different studies on 15000 nurses showed that job satisfaction has a significant relationship with stress. Besides,

a strong relationship has often been observed between job satisfaction and quality of work life for the nurses (8). Job characteristics, such as role ambiguity, role conflict, and role overload, lead to heavy psychological reactions including low self-esteem and occupational stress (9, 10). The relative risk of being attacked by the sources of stress is 48.4 times higher in injured individuals compared with the ordinary people (11).

Relaxation, confidence, and depression and anxiety avoidance are among the most basic natural needs of human and it has long been one of the basic human problems. Since emotional states have always been with human, and mental health has been the necessary ingredient for optimal functioning of society, the mental health should be pictured (12). In order to improve the performance of the organization, there was a need for paying deeper attention to the personnel and factors affecting their performance (5). Given the role of health personnel, who are responsible for preventive care services in our health system, and the promotions in their employment status which can improve the quality of the services in health systems, decision was made to explore the occupational stress of the staffs in health centers in Yazd, Iran.

## Methods

The present cross-sectional study was carried out in Yazd, Iran. The study population was the staffs in health centers in Yazd in 2016. Sampling was done through census and occupational stress questionnaire of Health and Safety Executive (HSE) distributed on a single visit to the health centers. All the staffs at these centers completed the questionnaire. The questionnaire (HSE) was developed with 35 questions in seven domains of demand, control, peer support, manager support, communication, role, and change in the late 1990s by Health and Safety Institute for measuring occupational stress

of English workers and employees. Reliability and validity of this questionnaire was already approved in 2010 by Marzabadi et al. (Cronbach's alpha=0.78) (13).

The high scores obtained in this questionnaire reveals high occupational stress and low grades show low stress in the individuals. For a more detailed examination, in the present study, the participants were classified into four groups based on their occupational stress. People with lower than 20 percentiles could be placed in the category of very favorable and therefore their working conditions could be kept as it is. People with a percentile between 20 and 50 were ranked as favorable, and still there were opportunities to improve the working environment and reduce the stress. The percentiles 50th up to 80th, were located in the unfavorable range, and there was a need for corrective action in this area. The 80th percentile and above were located in very unfavorable area, and there was a need for an expeditious action on them (14). In order to analyze the data, SPSS software 16 (SPSS Inc., Chicago, IL, USA) was used running Pearson correlation coefficient, one-way ANOVA, chi square, and independent samples t-test.

## Results

In the present study, 237 employees from municipal health centers in Yazd were investigated. A total of 197 women and 40 men with an average age of  $33.6 \pm 7.75$  years and the average work experience of  $9.0 \pm 7.69$  years participated in the research (Table 1). Participants' marital status was married for 188 (79%) and single for 49 (21%). In terms of education level, the population varied from diploma up to Ph.D. level, with most of them having undergraduate certificate (70.9%). As for occupation, the majority of participants worked in the family health unit. The average score for occupational stress in the population was calculated to be  $91.5 \pm 13.51$ . The lowest score for stress was 51 and the maximum was 129.

The relationship between occupational stress and age was assessed by calculating Pearson correlation coefficient which was not statistically significant ( $P=0.7$ ). The relationship between the mean scores of occupational stress and the work experience was also evaluated, which revealed a statistically significant difference ( $P=0.02$ ). Tukey's test also revealed that participants with less than 5 years of work experience had significantly higher mean scores in occupational stress compared with those with 5 to 15 years of work experience (Table 2).

Findings revealed that the relationships between occupational stress and gender ( $P=0.24$ ,) and education level ( $P=0.19$ ) were not statistically significant (Table 1). In the current study, the percentile 20, 50, and 80 of the participants' scores in occupational stress were calculated. The results showed that 54.1 percent of the participants were in undesirable and very undesirable conditions in terms of occupational stress (Table 3).

The results of the frequency of the participants in each subscale are represented in Figure 1. The highest percentage of very desirable category was in control and manager support subscale and the highest percentages of desirable category were in demand and peer support subscales. For undesirable category, the highest percentage was related to communication and change subscale. Finally, the highest percentage of very undesirable category was related to demand and peer support subscales (Figure 1).

## Discussion

Occupational stress is one of the most important phenomena in the social life and a serious threat to the health of the workforce in the world so that the International Labor Organization has introduced occupational stress as the most well-known phenomenon threatening the health of the workers.

Table 1. The relationship between occupational stress score with demographic characteristics of the staffs at the health centers

	Occupational stress score	Mean (SD)	<i>P</i>
Sex	Male	89.1 (13.77)	0.24 <sup>a</sup>
	Female	91.9 (13.44)	
Marital Status	Single	88.5 (12.84)	0.08 <sup>a</sup>
	Married	92.2 (13.60)	
Educational Level	Diploma	86.0 (11.38)	0.19 <sup>b</sup>
	Associate Degree	87.5 (15.66)	
	Bachelor	91.9 (12.93)	
	Master	93.0 (17.93)	
	Ph.D.	96.2 (9.11)	

<sup>a</sup> T test<sup>b</sup> ANOVA

Table 2. The relationship between the mean scores of occupational stress and work experience among the staffs of the health centers

	Mean (SD)	minimum	maximum	<i>P</i> <sup>*</sup>
Less than 5 years <sup>a</sup>	94.2 (12.17)	69	129	0.02 <sup>a,b</sup>
5-15 years <sup>b</sup>	88.5 (12.86)	52	114	0.8 <sup>a,c</sup>
More than 15 years <sup>c</sup>	92.6 (15.43)	64	129	0.2 <sup>b,c</sup>
Total	91.7 (13.43)	52	129	

<sup>\*</sup> ANOVA

Table 3. Frequency and percent of staffs of the health centers in occupational stress categories

Occupational Stress	N (%)
Very Desirable	45 (19.1)
Desirable	63 (26.8)
Undesirable	74 (31.5)
Very Undesirable	53 (22.6)
Total	235 (100)

In the present study, the mean score of occupational stress was 91.5±13.51. About 19% of the participants were in a very favorable situation, 26.8 percent were in a favorable situation, 31.5 in percent unfavorable, and 22.6 percent were in very unfavorable conditions. People with very favorable situation should be kept in the same working conditions. There were still opportunities to improve the working environment and reduce the stress for people in a favorable condition. Those located in the unfavorable range needed for corrective action in this area. Also, the individuals located in very unfavorable area

needed for a quick corrective action. The level of occupational stress in women was higher than men, but there was no significant relationship between occupational stress and gender.

Exploring the relationship between occupational stress and job experience revealed a significant relationship according to which participants with less than 5 years of work experience had significantly higher mean scores in occupational stress compared with those with 5 to 15 years of work experience. These findings are in line with the results obtained by Gharibi et al. (14).

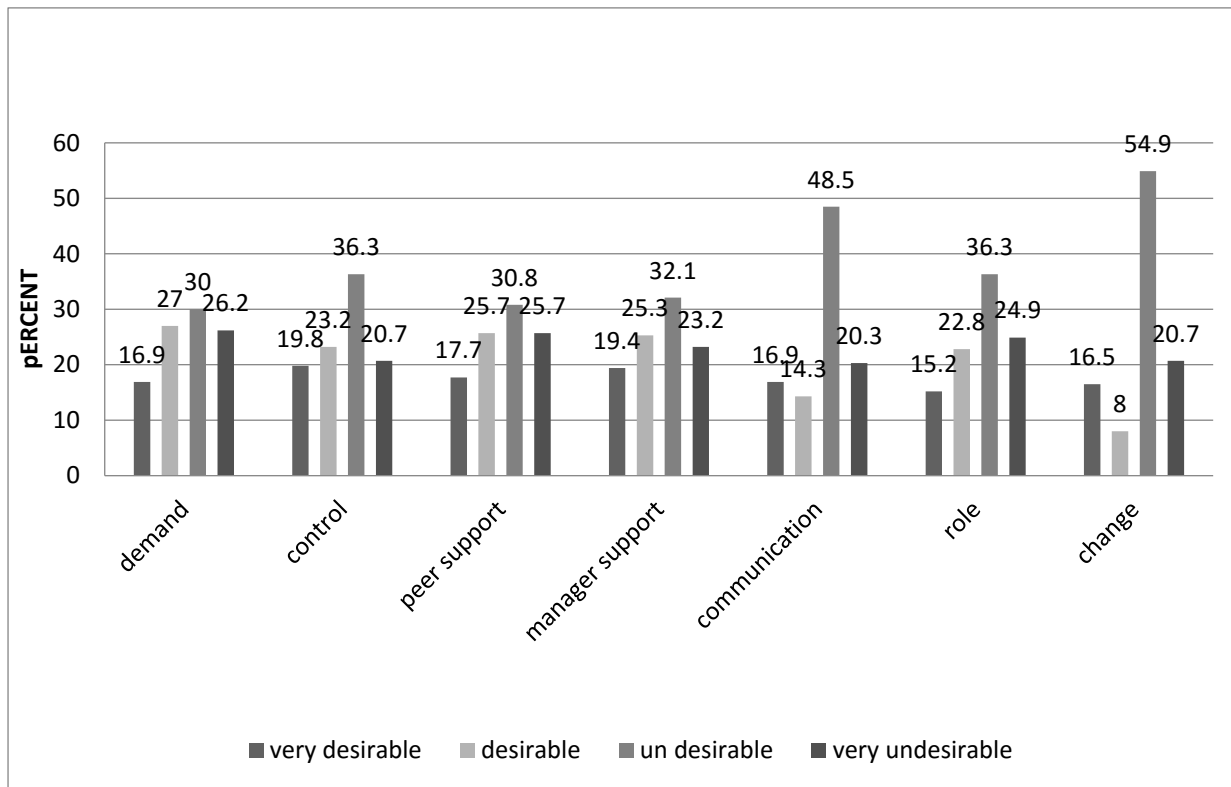


Figure 1. Percentage of occupational stress categories in each subscales in the staffs of the health centers

However, the studies conducted by Daniel et al. (15), Habib et al. (16), and Lotfi Zadeh et al. (17) demonstrated different results. Moreover, the amount of stress in individuals with a job experience more than 15 years increased similar to the result of the study conducted by Gharibi et al. (14); in other words, it seems that people with more job experience face more stress in their workplace. This may be due to several reasons including managers' higher expectations.

The married individuals had higher occupational stress; however, no significant correlation was found. In the study by Aghilinejad et al., it was revealed that there is a significant correlation between marital status and occupational stress. In this study, the marital status was mentioned as a source of comfort and support; the difference between the findings may be due to the difference in the study environment (18).

In the current study, the highest occupational stress was observed in the individuals with Ph.D. degrees. Besides, the level of stress increased as the level of degree increased. But, again, no significant relationship was observed between occupational stress and education. In the same way, in the study conducted by Gharibi (14), no significant relationship was noticed between occupational stress and education. However, in Gharibi et al. study (14), there was a significant relationship between the job-related education and occupational stress: those with job-related education had less stress compared with others. The difference between findings could be due to the differences in occupational groups surveyed in these studies. This finding in the current study could be explained by the stressful jobs and higher expectations of the employer in the group with higher education.

In the communication and change subscale, there were greater percentage of people in the unfavorable category. This shows the need for an increase in practicing co-worker's communication to reduce conflict in the workplace. These findings are different from those reported by Gharibi et al. (14) regarding the demand factors, control, and the role.

According to the results obtained in the present study, it seems that health care workers have a high level of occupational stress in Yazd. Therefore, reforms seem to be essential. Job training such as stress reduction techniques, supervisor support, staff training on working conditions and task management, and participation in decision-making are necessities of an enabling environment. Managers can measure the quality of working life and identify the key issues the employees encounter in their working environment, and thereby reach the strategies that improve the quality of working life in health care organizations. In addition, in this way, they can use the potential capabilities of the staffs in providing better service to the community.

#### *Conflict of interest*

Authors declare no conflict of interests.

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#### **References**

1. Lazarus RS, Folkman S. Stress, appraisal, and coping. US: Springer Publishing Company. 1984.
2. Randall R, Eltmair E. Intervention in occupational stress: a handbook of counseling for stress at work. 2 th Ed. Tehran: Baztab, 2006.
3. Kazemi S, Javid H, Aram M. The effect of communication skills training on job-related stress of the experts. 2011;1(4):63-79. (Text in Persian)
4. Spielberger CD. Job stress survey. Corsini Encyclopedia of Psychology, 2010.
5. Enjezab B, Farnia F. Psychological stress responses and behaviors associated with midwives working in public hospitals of Yazd province in

1998. JOURNAL OF SHAHID SADOUGHI UNIVERSITY OF MEDICAL SCIENCES AND HEALTH SERVICES. 2002;10(3):32-8. (Text in Persian)
6. Bromet EJ, Dew MA, Parkinson DK, Cohen S, Schwartz JE. Effects of occupational stress on the physical and psychological health of women in a microelectronics plant. Soc Sci Med. 1992;34(12):1377-83.
7. Otten F, Bosma H, Swinkel SH. Job stress and smoking in the Dutch labour force. The European Journal of Public Health 1999;9(1):58-61.
8. Lu H, Barriball KL, Zhang X, While AE. Job satisfaction among hospital nurses revisited: a systematic review. Int J Nurs Stud. 2012;49(8):1017-38.
9. Abdollahi B, Reza-Khani Z. The effects of organizational justice on employee job satisfaction in an educational setting a pivotal study. Journal of Education 2008;100:111-34. (Text in Persian)
10. Mirmolaei T, Dargahi H, Kazemnejad A, Mohajerrahbari M. Job satisfaction of midwives. Journal of hayat. 2005;11(2):87-95.
11. Abedi K, Zare M, Barkhordari A, Halvani G. The investigation of job stress and job satisfaction among workers and its relation to individual factors and non-fatal injuries. Journal of Jahrom Medical School. 2009;7(2):10-20. (Text in Persian)
12. Asad Zandi M, Sayari R, Ebadi A, Sanainasab H. Abundance of depression, anxiety and stress in militant Nurses. Journal Mil Med. 2011;13(2):103-8. (Text in Persian)
13. Azad ME, Gholami FM. Reliability and Validity Assessment for the HSE Job Stress Questionnaire. Journal of Behavioral Sciences. 2011;4(2):291-297.
14. Gharibi V, Malakouti J, Arsang Jang Sh, Gholami A. Prevalence of Occupational Stress and Its Relationship to Individual Characteristics in Tunneling Industry Workers. J Health Syst Res. 2013;9(1):57-65
15. Daniali S, Shahnazi H, Kasiri Dowlatabadi N, Hasanzade A, Sharifirad Gh, Rabiie L. Job Satisfaction among Health Workers, Khomeinishahr, Iran. Health system research. 2011;7(6):702-9. (Text in Persian)
16. Habib S, Shirazi MA. Job satisfaction and mental health among the employees of a general hospital. Iranian journal of psychiatry and Clinical psychology. 2003;8(4):64-73. (Text in Persian)
17. Lotfizadeh M, Noor-hassim I, Habibi A. Analysis of occupational stress and the related issues among employees of Esfahan steel company (ESCO), Iran (2009). J Shahrekord Univ Med Sci. 2011;13(5):37-45. (Text in Persian)
18. Aghilinejad. M, Attarchi. M.S, Golabadi. M, Chehregosha. H. Comparing stress level of woman nurses of different units of Iran university hospitals in autumn 2009. JAUMS. 2010;8(1). (Text in Persian)