

# Investigation the Job Stress in Nurses of an Educational Hospital in City Yazd in 2016

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## ABSTRACT

**Background:** job stress is an important phenomenon in social life and a serious threat for workforce health in the world today.

**Aim:** To investigate job stress among nurses of an educational hospital in Yazd city.

**Methods:** This research is sectional-descriptive with 141 staff of hospital who was randomly selected from various sectors. Data was collected using OSIPOW job stress questionnaire and was analyzed by SPSS 22 software.

**Results:** 58.6% of population was female and 41.4% of them were men in this research. In addition, 6.6% of them were single and 93.4% of them were married. The mean overall stress score is 11.52 and its standard deviation was obtained 23.75. Results showed that the overall score of job stress among male and female has a significant difference ( $P=0.31$ ). On the other hand, total score of job stress didn't have a significant different in single and married groups ( $P=0.79$ ). Moreover, a positive and non-positive correlation was seen between stress total score and age ( $P=0.255$ ,  $r=0.123$ )

**Conclusion:** Since the high percentage of nurses have medium stress level, this index can influence on their morality and makes them depressed and disappointed.

**Keywords:** job stress, nurses, workplace

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## INTRODUCTION

Employees are considered as the most valuable capital of each organization and person performance is effective in total organization performance. Therefore, deeper scrutiny on staff and effective factors on them is essential studies have shown that 160 million people suffer from cardiovascular, pulmonary, cancers and neuropsychiatric diseases, and 1.1 million people die by job stress and diseases<sup>2</sup>.

People with job stress reported more frequent pain, abdominal pain, back pain, allergies, respiratory distress, and increasing consumption of drugs, overeating, or loss of appetite, aggressive behavior, smoking, and sleeping problems [3,4] On the other hand, job stress damages hundreds of work days, overcoming emotional and psychological disturbances from an environment or area to the environment or other area, and damage life quality generally<sup>5</sup>. Today, the resulted stress by work and life among public, health, and education professionals, and others who are responsible for the well-being of

individuals, including nurses has been popular and over the all work [6]. The professional medical authorities are imposed to the effect of various stressful factors for undertaking the responsibility of patients' treatment and health<sup>7</sup>. The National Institutes of Health and the United States in this field has announced after a survey about the relative prevalence of health disorders in stressful jobs that nurses got rank 27 out of 130 jobs who referred to the doctor for the resulted problems by mental health. Nurses experience stress similar to patients and many of them are influenced by stress who are not able to adapt with it<sup>8</sup>. In addition, based on studies, 7.4% of nurses absent once a week for disability or burnout by stress that 80% is more than the other job groups<sup>9</sup>. Many studies have shown that stress in nurses make them escape from job, conflict among staff, vulnerability in professional communication, and eventually dissatisfaction and career exclusion. Nurses absent 80% more than other professional groups for the caused burnout and disability by stress<sup>10</sup>.

Therefore, as human force is considered as an important factor in each organization, and nurses have a significant role in evolution and care and social affairs development as an abled power of health service system. On the other hand, high frequency of nurses in medical-care groups shows the reduction of stress control and prevention importance to make the proper decision and promote nursing services quality. Thus, based on the importance of nursing force health, this research

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aims on studying the effect of nurses' job stress in one of educational hospitals in Yazd city from Iran.

## METHODOLOGY

This research is descriptive-sectional conducted to study staff job stress in one educational hospital in 2016. Data was collected using demographic information form and OSIPOW job stress questionnaire. OSIPOW questionnaire can be filled by all staff in all organizational levels. In this study, 141 questionnaires were distributed among staff by coordination and cooperation of the mentioned hospital professional health officer. All ethical cases in research including optionality of completing questionnaires, the confidentiality of the names of individuals, and the justification of individuals in relation to the purpose of completing questionnaires were considered. OSIPOW job stress questionnaire was prepared and used by OSIPOW in 1987 to evaluate individual stress in six dimensions of workload, role incompetence, role duality, role range, responsibility, and physical environment. Content validity of this questionnaire was reported well in Sharifian et al. (2005) research, and its reliability was calculated by re-test method in satisfaction level. Finally, its Cronbach's alpha coefficient was calculated and reported 0.89<sup>11,12,13</sup>.

Generally, this questionnaire includes 60 questions that all of its 6 mentioned dimensions were evaluated by 10 expressions relatively as following:

1. "Workload" dimension: it studied a person condition about the demands of the work environment and has 10 questions.
2. "Incompetence" dimension: it evaluates the proportion among skill, educational and educational and empirical characteristics of a person and the second 10 questions are related to this factor.
3. "Duality" dimension evaluates a person awareness about priorities, workplace expectations, and valuation criterions. It has 10 questions.
4. "Range" dimension: it evaluates the contradictions that a person expects in terms of his work ethic and his role in the workplace. It has 10 questions.
5. "Responsibility" dimension: it evaluates a person responsibility based on efficiency and welfare in workplace. The fifth 10 questions are related to this factor.
6. "Physical environment" dimension: it studies improper physical conditions of workplace which staffs face with. The sixth 10 questions study this factor. Scaling OSIPOW job stress questionnaire based on five-point Likert spectrum is as following. Scores range of this questionnaire is

60-300 that the higher participants' scores in this questionnaire show high mental stress level.

Data was analyzed using SPSS 22 software. Descriptive and analytical test was used for statistical analysis and also chi-2 square test was used to determine job stress and the existed variables.

**Findings:** 58.6% of the studied population was female and 41.4% were male. In addition, 6.6% were single and 93.4% were married. The other demographic and job characteristics of the studied people were shown in table. Generally, 89 out of 141 filled questionnaire was examinable that 11.2% of the studied population had low-medium stress level (with 10 people frequency), 70.8% medium-high stress level (with the maximum frequency of 63 people), and 18% very high stress level (with 16 people frequency). Based on the reported data in table, the mean job stress score in "workload" group was higher than the other groups among 6 sub-groups.

Table 1: Job and demographic characteristics of the studied population

Variable	Variable type	%age
age	<30	21/3
	30-40	43/4
	>40	35/3
education	Under diploma	7/7
	Diploma	29/8
	Associated degree	4/6
	Bachelor	52/7
	MA/M.Sc	5/3
Background	1-5 years	22/5
	6-10 years	16/3
	11-15 years	17/1
	16-20 years	25/6
	21-25 years	17/1
	25-30 years	1/6

Table 2: Mean score of each job stress questionnaire sub-group

Sub-group	mean	St.dev	Min	Max
Workload	32.76	7.29	19	70
Role incompetence	31.28	5.67	17	45
Role duality	31.65	5.77	16	47
Role range	29.5	7.49	17	88
Responsibility	29.47	8.46	16	73
Physical environment	26.78	8.2	10	47

Total mean score of stress is 181.52 and its standard deviation is 23.75, and the minimum obtained score from questionnaire is 121 and maximum is 271.

Results of two-way variance analysis showed that the total mean score of job stress has a significant difference in two groups of male and female ( $P=0.31$ ), and mean stress in male was significantly more than it in female. On the other hand, total mean score of job stress didn't have a significant difference in single and married groups

( $P=0.79$ ). Based on statistical analysis, the total mean score of job stress has a significant difference in various educational groups, and job stress score in MA/MSc was significantly higher than the other groups.

Statistical analysis showed no significant difference among total mean score of job stress among various groups of background in various sectors of hospital and in various age groups.

In addition, there is a positive and significant correlation between results of Pearson correlation test and age ( $P=0.255$ ,  $r=0.123$ ) and also between stress and working background ( $P=0.190$ ,  $r=0.144$ ). No significant correlation was seen in results of Pearson correlation test between stress total score and back ground ( $P=0.237$ ,  $r=0.130$ ), various age levels and stress total score ( $P=0.194$ ,  $r=0.141$ ), and

education and stress total score ( $P=0.151$ ,  $r=0.155$ ). Moreover, there is non-significant and negative correlation between the marital status and stress total score ( $P=0.528$ ,  $r=0.069$ ). In addition, there is a negative statistical correlation between stress total score and gender ( $P=0.018$ ,  $r=0.261$ ).

Table 3: Stress by separation of all hospital units and sectors

Sector	Stress division				Total
	Low	Low medium	Medium high	High	
Non medical	-	5	16	8	29
Medical	-	5	47	8	60

Fig.1:-Mean score of job stress in each subgroup

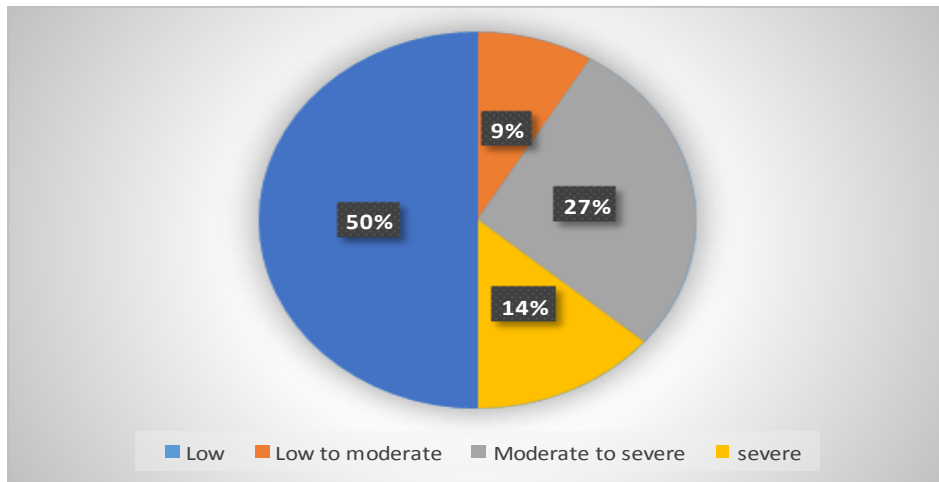
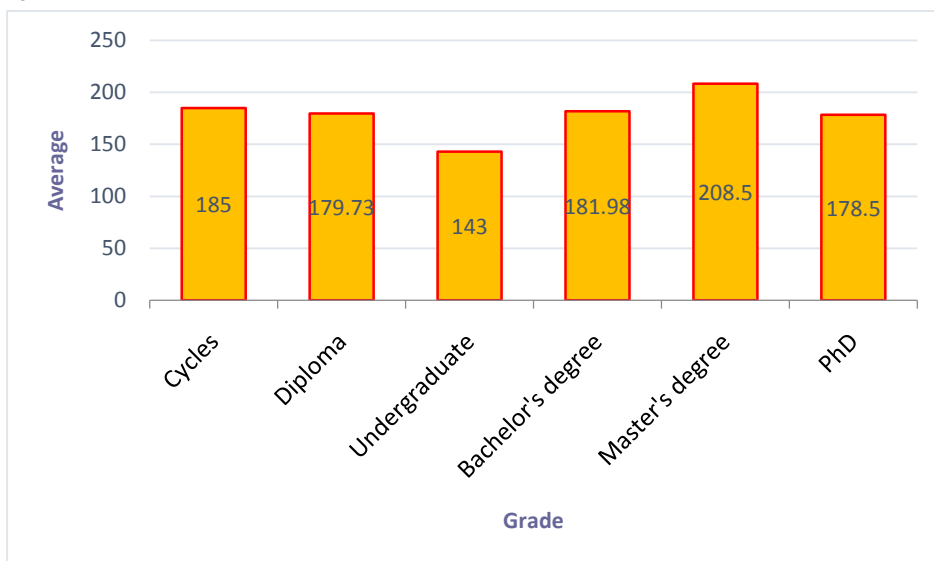


Fig. 2: Division of job stress





**DISCUSSION**

Stressful factors and making job dissatisfaction make staffs absent and leave job, work-related accidents, and lack of productivity. Finally, it is to be noticed that they can be more effectively removed by identification the factors and resources of job stress. This issue is important regarding to economic-social aspects in each human system, because it was observed that job stress has a direct relationship with mental and physical health of him. Even it was observed that its relationship with cardiovascular diseases increases medical and organizational costs. Therefore, supplying staff general health in each system consequently increases productivity and reduces the target cost of that system and even national cost.

In this research, 70% of nurses reported medium to high stress level that is more than the other reported popular stress in Iran as the one reported in Aghilnezhad et al. who announced the stress level 31.4% in highway police<sup>14</sup>. Furthermore, comparison the obtained results from this research with related data of stress popularity among health sector staff and teacher shows the difference in stress among nurses of this hospital<sup>15,16</sup>.

Results of this study in some demographic characteristics such as age and background show the significant relationship of these variables with stress. These findings are in agreement with the ones from Spector et al. [17] which showed no significant relationship between stress and demographic characteristics. In addition, Suri et al. [18] and Aghilnezhad et al. [14] didn't showed a significant relationship between age and stress, while findings of Manshor et al [19] in Malaysia factories, research of Kolagari et al. [20] in Gorgan city, and also Halvaei et al. [21] aren't in agreement, because these studies show the significant relationship between age and stress. It seems that this difference was for the dominance of workload in the collection of stressful factors in nurses in addition, stress management must be mentioned in the initial working years to prevent its unpleasant results. In this research, stress was more prevalent in male than female in spite of more number of female than male. In Mohebbifar et al. research in nurses of hospitals of Qazvin University of Medical Sciences, it was observed that female have 85% stress level<sup>22</sup>.

Results of this research showed the reverse significant relationship between marital status and stress level, it is obvious that single have higher stress level than the married one, and marital status is the only personal characteristics with direct relationship with job stress. This finding is in agreement with the one by Khodaveisi. He observed a direct relationship between job stress of medical

records staff and their marital status [23]. Results of Hasanzadeh et al. research about marital status and recruitment is disagreed that noticed marriage as a supportive and peace factor [24]. Therefore, it can be generally stated that relationship between these two variable is not clear based on different results from various studies and finding the correlation between marital and stress needs more studies.

In this research, the maximum stress was seen in people with MA/MSc degree and the minimum stress was seen in ones with associated degree. It means the professional skills increases by promotion in scientific level and people find higher self-confidence which reduces stress. This results are in agreement with the ones from Soori research<sup>18</sup>. Contradicted relationships have been reported for the relationship between education effects on job stress. Contradicted relationships have been reported about the effect of education on job stress. In this study, the results of the six dimensions of stress were shown workload with 32.76%, then role incompetence and duality with 31.28% and 31.65%, respectively got the maximum score. Aoki et al. showed the significant relationship between job stress and workload<sup>25</sup>. Wong, Lee, and Xianyu and Lambert showed in their research that workload is the most important stress resource<sup>26,27</sup>. Moreover, Abdi and Shahbazi in their research on nurses showed that 25% by workload, 54.1% by incompetence, 62.5% by role range, and 54.2% by physical environment had job stress<sup>28</sup>.

**CONCLUSION**

Based on research results, high percentage of nurses had stress. Therefore, it is essential for authorities to notice this issue and have necessary programs to improve condition and reduce stress from one hand and resulted dangers by job stress and its different losses on organization and society by another hand. In addition, people can reduce job stress and its effects by personal actions. The aim of these suggestions is training essential skills of smoothing (self-suggestion training, sports, thinking, worship, yoga, etc.) to enable the individual increase his/her abilities and reduce stress by organizing his work space.

**Conflict of Interest:** There is no conflict of interest in this article.

**REFERENCE**

1. Enjezab B, Farnia F. Psychological stress responses and behaviors associated with midwives working in public hospitals of Yazd province in 1998. *Journal of Medical Sciences Shahid Sadoughi* 2002;10(3):32-8 [Persian]
2. Spielberger CD. Job stress survey. *Corsini Encyclopedia of Psychology*, 2010.
3. Zamanian Z, Zakian S, Jamali M, Kouhnavard B. The Relationship Between Personality Traits, Stress and

- Job Satisfaction of Employees of Iran Telecom Companies. *johe*. 2015; 1 (4) :11-18.
4. 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.
  5. Randall R, Eltmair E. *Intervention in occupational stress: a handbook of counselling for stress at work*. 2 th Ed. Tehran: Baztab, 2006.
  6. Kooranian F, Khosravi AR, Esmaeeli H. The relationship between hardiness/ locus of control and burnout in nurses. *Ofogh-e-Danesh* 2008; 14(1): 58-67. [Persian]
  7. Kabirzadeh A, Mohsenisaravi B, Asghari Z, Bagherianfarahabadi E, Bagerzadehladari R. Ebrahim. Rate of General Health, Job Stress and Factors in Medical Records Workers. *Journal of Health Information Management* 2007; 4(2): 215-2. [Persian]
  8. Topt M. Personality hardiness, occupational stress and burnout critical care nurses. *Res Nurs Health* 1998; 12(3): 179-86.
  9. Noorbala AA, Mohammad K, Bagheri Yazdi SA, Yasami MT. Study of mental health status of individuals above 15 years of age in Islamic Republic of Iran in the year 1999. *Hakim Research Journal* 2002; 5(1): 1-10. [Persian]
  10. Khghanizadeh M, Ebadi A, Siratinayyer M, Rahmani M. The study of relationship between job stress and quality of work life of nurses in military hospitals. *J Mil Med* 2008; 10(3): 175-84. [Persian]
  11. Osipow SH, Spokane AR. *Occupational Stress Inventory Revised Edition (OSI-R) professional manual* [Internet]. Odessa, Fla: Psychological Assessment Resources, Inc. 1998. Available from: <http://www.Sigmaassessmentssystems.Com/assessments/osir.asp>.
  12. Osipow SH, Spokane AR. *Occupational stress inventory revised*. Odessa, FL: Psychological. 1998:1-15.
  13. Sharifian SA, Aminian O, Kiyani M, Barouni SH, Amiri F. The evaluation of the degree of occupational stress and factors influencing in forensic physicians working in legal medicine organization- Tehran- Autumn of 2005. *Scientific journal of Forensic Medicine*, 2006; 12(3):144-157.
  14. Aghilinegad M, Mohammadi S, Afkari ME, Abbaszadeh R. [Surveying the association between occupational stress and mental health, personality and life stressful events in Tehran police officers. *J Shahid Beheshti Univ Med Sci*. 2008; 31(4): 355-60. [Persian]
  15. Nasiripour AA, Raeissi P, Shabanikiya HR. [Occupational stress among rural health workers in Mashhad district, Northeast Iran. *J Res Health Sci*. 2009; (9)1: 21-29. [Persian]
  16. Raeissei P, Tavakoli G. [Impact of occupational stress on mental health and job performance in hospital manager and matrons. *Hakim Res J*. 2003; 5(4): 254-47. [Persian]
  17. Spector PE, Cooper CL, Maria E, Aguilar-Vafaie. A comparative study of perceived Job stressor sources and Job strain in American and Iranian managers. *IAAP*. 2002; 51(3): 446-57.
  18. Soori H, Rahimi M, Mohseni H. [Occupational stress and work-related unintentional injuries among Iranian workers, a case control study. *Iran J Epidemiol*. 2005; 1(4,3): 53-8. [Persian]
  19. Manshor AT, Fontaine R, Choy CS. Occupational stress among managers: a Malaysian survey. *J Manag Psychol*. 2003; 18(6): 622-8.
  20. Kolagary Sh, Sanagoo A, Mirkarimy F, Behnampor N. [The level of stress among Gorgan University of Medical Sciences hospital operation room's personals and its relation to some related factors. *J Gorgan Univ Med Sci*. 2002; 4(10): 54-9. [Persian]
  21. Halvaei MH, Harazi MA, Nasleseraji J, Aminipor MR. [Determination of depression among Iran Ore employees. *J Yazd Univ Med Sci Iran*. 2000;5(1):23-29. [Persian]
  22. Mohebbifar R, Kiaei MZ, Khosravizadeh O, Sadeghi T, Ahansazan H. Job stress and its related factors in nurses of Qazvin University of Medical Sciences. *JMED*. 2015;7(1):55-63.
  23. Khodaveisi M, Mohammadi N, Omidi A. Frequency of Job Stress in Clinical Nurses. *Sci J Hamadan Nurs Midwifery Fac*. 2006; 13 (2) :44-54
  24. Hasanzadeh HA, Shirbeigi N, Olazadeh H. A survey of Job Stress and Productivity among Kurdistan Gas Firm's Staff. *Iran Occupational Health Journal*. 2012;9(2):1-10.
  25. Aoki M, Keiwkarnka B, Chompikul J. Job stress among nurses in public hospitals in Ratchaburi province, Thailand. *J Pub Health Dev* 2011; 9(1): 19-27
  26. Lee I, Wong HH. Perceived occupational stress and related factors in public health nurses. *J Nurs Res* 2002; 10(4): 253-60
  27. Xianyu Y, Lambert VA. Investigation of the relationships among workplace stressor, ways of coping, and the mental health of Chinese head nurses. *Nursing and Health Sciences* 2006.8, 147–155.
  28. Abdi H, Shahbazi L. The relationship between occupational stress and burn out in critical nurses. *J Yazd Shahid Sadoghi Univ Med Sci Health Serv* 2002; 9: 58-65. [Persian]