

**Relationship between occupational stressors and mental health status among university hospital nurses**Mahbobeh Karimi<sup>1</sup>, Neda Sayadi<sup>2</sup>, Somayeh Ansari<sup>3</sup>, SHayesteh Haghighi\*<sup>4</sup><sup>1</sup> BSn,MSn Ottawa, Canada<sup>2</sup> Faculty of Nursing and Midwifery, Midwifery Department, Ahvaz, Jundishapur University of Medical Science, Ahvaz, Iran<sup>3</sup> Faculty of Nursing and Midwifery, Midwifery Department, Ahvaz, Jundishapur University of Medical Science, Ahvaz, Iran<sup>4</sup> Faculty of Nursing and Midwifery, Medical and Surgical Department, Ahvaz, Jundishapur University of Medical Science, Ahvaz, Iran[\\*shayestehh@ymail.com](mailto:*shayestehh@ymail.com)

**Abstract:** Nursing is one of the most stressful careers in the world and this stress affecting most aspects of nurses life. However, the effect of occupational stressors on their mental health status is not clear yet, so the aim of this study was to evaluate relationship between occupational stressors and mental health status among university hospital nurses. **Methods:** In this analytical cross – sectional, study 146 nurses of teaching hospital of Ahwaz University were enrolled. The participants filled three questionnaires of personal characteristics, nursing stress scale (NSS) and general health questionnaire (GHQ28) and the relation between occupational stressors and mental health of samples was investigated. **Results:** Of those nurses who responded, 136 (93.7%) were female and 9 (6.3%) were male. The mean age of participants in the study was 38±15 years. Duration of employment was 14±12 years. GHQ-28 scores and NSS scores had a positive correlation with each other ( $P<0.001$ ,  $r=0.329$ ). **Conclusion:** According to present study, positive association between occupational stressors and mental health status of nurses is existed, and because of the importance of their mental health in their nursing care quality, it seems paying attention to nurse occupational stressor and their mental health in level of prevention is essential.

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**Introduction**

Stress is a transactional relationship between a person and his/her environment that appraises as taxing or exceeding their resources and endangering their well-being. Many studies in western society showed that occupational stress has significant impact on worker's health. This issue has subsequently attracted serious attention by researchers recently (1), that defined and categories stressors as following: objects and events. Also response to this stressors were seen in two different ways; physiological (rapid heart rate, increased blood pressure, etc) and psychological (anger, fear, etc), and this two different responses occur when someone confront with a stressor(2). Among different occupations, nursing is one of the most stressful careers in the world, in the other hand nurses need to have good concentration, sound judgment and quick reaction times, especially in emergencies(3). It is worth noting that some recent studies, which evaluated nurses' conditions, showed that occupational stress may lead to dissatisfaction with work. It also affected mobilized feelings of suffering originating from relationships with patients and family members, teamwork causes absenteeism, In

other words a strong negative relation has been found between nurses' occupational stress, job satisfaction and nursing quality (4, 5). Against many studies that evaluate the relation between stress and job satisfaction and nursing quality, there are few studies for evaluating mental health status of nurses and effect of occupational stressors on mental health from prospective of nurses. Thus, the aim of this study was to evaluate relationship between occupational stressors and mental health status among university hospital nurses.

**Methods**

During this cross- sectional study from February 2009 to March 2010, among 218 eligible providers, 145 nurses of four Teaching hospital of Ahwaz University, Iran with at least 1 year employment and had master degree or greater in nursery were enrolled in our study. Nurses who had diabetes, hypertension, malignancies, psychological disorder such as depression, and other major disorders also nurses with recent major accidents which affect their psychosocial aspect of their life were excluded.

*Questionnaire:*

In the first part, demographic and occupational status of the participants were asked as following: (1) gender and age; (2) duration of employment; (3) duration of work per week;(4) shift system (day shifts only/2-shift system/3-shiftsystem) and (5) workload. In the other part of this study two different questionnaires were used:the first one was Gray-Toft and Anderson questionnaire - also called the Nursing Stress Scale (NSS) - for evaluation of the amount of the nurses stress and General Health Questionnaire (GHQ-28) which used to find mental health status of nurses. NSS was designed to obtain a factor structure of 5 dimensions: Death and dying (6 questions), Conflict with physicians and other nurses (6 questions), work load (7 questions), Lack of support (2 questions) and uncertainty concerning treatment and inadequate preparation (8 questions).Each question had four options (never, sometimes, usually and always) and all nurses answered this 21 questions, Based on this questionnaire, the minimum score is 0 and the maximum is 116. Content validity and Cronbach's alpha ( $\alpha=0.95$ ) were used for validity and reliability of the questionnaires.

At the end, nurses were asked to fill the General Health Questionnaire (GHQ)-28which 4-factor structure (somatic symptoms,anxiety/insomnia, social dysfunction, and depression)were obtained.

#### Statistical Analyses:

Person test used to assess the correlation between scores of questionnaire and other variables. Data were expressed by mean $\pm$  standard deviation (SD). p value less than 0.05 was considered statistically significant. All tests were done with SPSS 18.0 (Statistical Package for Social Sciences) for Microsoft Windows.

#### Results

One-hundred Forty five nurses responded to the questionnaires, for a response rate of 66.5% (Table 1).

Table 1.Demographic Characteristics

Gender	
Male (number)	9
Female (number)	136
Age year (mean $\pm$ SD)	38 $\pm$ 15
Duration of employment/year (mean $\pm$ SD)	14 $\pm$ 12
Duration of working per week h (mean $\pm$ SD)	197 $\pm$ 10
Shift system	
3-shift workers (number/percent)	80(55%)
Number of 2-shift workers	20(13.7%)
Number of day workers	45(31.3%)

GHQ score= General Health Questionnaire; NSS score= Nursing Stress Scale

Among 145 nurses, 58 (40%) were single, 86 (59.3%) were married and one (0.7%) of them was

divorced. Working section of nurses is demonstrated in Table 2.

Table2. Distribution of working section of nurses

Working section	Number	Percent
General	73	50.7
Emergency room	17	11.7
Burn centre	28	19.5
CCU	11	6.9
ICU	16	11.2

CCU= Coronary Care units; ICU= Intensive

The mean of GHQ-28 and NSS were 20 $\pm$ 15 and 60 $\pm$ 31 respectively. After uni-variate analysis, there was not significant correlation between GHQ-28 score and death or dying of patients ( $P=0.97$ ), conflict with physicians and other nurses ( $P=0.5$ ),lack of support ( $P=0.6$ ), and uncertainty concerning treatment and inadequate preparation ( $P=0.7$ ). But there was significant correlation between workload and shift work with GHQ-28 score ( $P<0.001$ ,  $r=0.243$  and  $P<0.03$ ,  $r=0.421$  respectively). Also GHQ-28 scores and NSS scores had a positive correlation with each other ( $P<0.001$ ,  $r=0.329$ ).

#### Discussion

Few studies have been conducted on the association between general and mental health status and occupational stress among teaching hospital nurses in Iran. In the present study, we investigated various contributing occupational factors to status of health among nurses working in hospitals in order to confirm or refuse the hypothesis that medical errors might be the result of nurses' poor health, which cause by occupational stress or other factors rather than their workload. The data of present study support the hypothesis that there is a significant relation between poor health status and job-related stress based on GHQ-28 and NSS questionnaires.

There are a couple of reports on the association between shift work and reduce of health status among nurses. In one of them Gold *et al.* reported that in comparison to nurses who worked only day/evening shifts, rotators were twice as likely to report an accident or error related to sleepiness and lowest health status(6).Suzuki *et al.* also reported that among night irregular shift worker nurses the strongest association with medical errors was exist(7).In addition, other authors have reported significant associations between shift works and low perceptions about physical health, particularly musculoskeletal pain (8-10). The results of the present study are in accord with these findings and

scores of GHQ-28 showed positive correlation with shift works. In the other part of this study a significant correlation was found between workload (hours of work per week ) and scores of GHQ-28, these results are in concordance with previous studies . Rauhala et al found that women working in the hospitals with a higher frequency of work—more than 100 nights a year, early morning work or late afternoon work—were exposed to a higher level of stress and showed lower level of healthiest, compared to other salaried women (11).

Our study reveals that stress which assessed by NSS questionnaires, had negative effect on health status (assessed by GHQ-28). But there are few similar studies for us to compare our results with them. In one of these studies, Arimura and his colleagues showed that in nurses who encountered with major stress had worse health status than those who encountered with less stress (12). This is in concordance with our results, but the difference between present study and Arimura study is that they did not use NSS questionnaires for evaluation of stress in their participants.

In the present study few limitations are exist. First, a self-administered questionnaire was used and, as such, there may be a reporting bias, so it may be better to do some other studies which assess health status by objective methods . Also one of the most important aspects of the nursing is occupational errors , but in present study we did not evaluate effect of stress and health status on occupational errors; so it may be better to do some studies with the purpose of the evaluating this effect.

### Conclusion

According to the present study positive association between occupational stressors and general health of nurses may exist, and because of the importance of their general health in their nursing care quality, it seems that paying attention to nurse occupational stressor and their general health in level of prevention and treatment is essential.

### Corresponding Author:

SHayesteh Haghighi  
Faculty of Nursing and Midwifery ,Medical and Surgical Department ,Ahvaz, Jundishapur University of Medical Science, Ahvaz, Iran  
Email : [shayestehh@ymail.com](mailto:shayestehh@ymail.com)

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