

Occupational Stress and Its Related Factors in Nurses Working in Intensive Care Units of Educational Hospitals in Ahwaz, Iran

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ABSTRACT: Background and objective: Nursing is an extremely stressful job and nurses face a variety of personal, organizational and communicational stresses which negatively affect their health and their job satisfaction. Accordingly, the present study was done to determine the level of job stress among nurses in intensive care units. **Methods:** In this analytical - descriptive and cross - sectional study, 175 nurses were randomly classified and studied at educational hospitals in Ahvaz in 2014. Demographic information collection tool was the job stress questionnaire of nursing by Toft Gary and Anderson. Data were analyzed by SPSS after collection by calculating descriptive statistics and Pearson correlation coefficient. **Findings:** The results showed that different job opportunities have a high stress for 50.5% of nurses, average stress for 41.6% of them and only for 7.9% it has low stress. Spearman correlation coefficient expresses a significant relationship between job stress and research findings (work shift, support of managers, workload, operation of specialty tools, lack of opportunity to share problems with other personnel, uncertainty in the nursing job description, utility of working with physicians, meeting the needs of patients and their families, patient death, painful medical procedures, work as an alternative force in other wards, difficulty of working with other nurses). **Conclusion:** According to the deleterious effects of job stress among nurses, it is recommended that the officials to take into action to reduce stressors such as work as alternative force in other wards, uncertainty in the job description of nursing, management support.

Keywords: job stress, nurses, ICU, Ahwaz.

INTRODUCTION

Job is one of the main reasons of stress in life. In businesses where human relationship is more, the stress is also more (1). In psychology, stress is defined as being pressured (2) According to Selye, stress is a common human reaction to external unexpected and adverse factors or in simpler terms, disorder in the system of compatibility of the human body to the external environment (3).

Human experiences the stress very soon, even before the birth (4). Stresses caused by job are those stresses that can cause physical and behavioral complications and endanger the health if it is too much. On the other hand, presence of these pressures can reduce the quality of the performance by threatening the organizational objectives. Nourian quoted from Karasak (1979) that jobs with high stress and low control cause psychological and physical distress (1). Although everyone has the capacity to adapt to stress, but none have the same response to a stressful situation (4). If stress is the body response to any perceived demand or threat, the stressor is a situation or event that stimulates the response. Job stress occurs when expectations of a person are more than his power and abilities (5). It is important to recognize that stress is a condition, not a disease that may be experienced as a result of contacting with a wide range of works (6).

Nursing provides a great job stress due to the need for high skill and focus, strong teamwork and providing 24-hour care (7). All stresses are not harmful to humans. (8) An acute and appropriate stress can enhance individual performance and therefore useful in certain cases. However, when stress is prolonged or repeated can be very harmful. (9) Individual responses to stress depend on his sensitivity to stress (genetic) and stress type (acute, chronic) and controllability of stress (10). Selye (1976) used the term Eustress (good stress) for useful stresses and distress for harmful ones (8). Job stress is associated with low job satisfaction and poor performance. (12) Nurses working in ICU may endure the highest stress because of the special circumstances arising from work environment and patients. ICU stressors include working relationship with other nurses and health care workers, communication and conversation with the patient and his entourage, high level of knowledge and skills needed to work in this ward, high workload, need to respond quickly and promptly to urgent situations and heavy responsibility caused by patient care (13). Heavy workload, low support from administrators of nurses, nurses' lack of control over work environment, lack of bonus and encouragement, ambiguity in the job description of nursing, low teamwork and conflict are the most important stressors. In the study by Korid (2008) in addition to the high workload, violence and aggressive behavior is among the major occupational stressors. Facing with the critically ill patients and their death and conflict with physicians are another job stressors (7) which in health - care professions can reduce the quality of patient care, reduce sound and timely decision making, reduce the ability, skill and commitment of staff as well as job dissatisfaction, feelings of inadequacy, depression, reduction of occupational values, weariness, exhaustion from work, absenteeism, delay at work and sick leave, thus threatening the lives of patients and the quality of services provided and in long term, it leaves chronic diseases such as hypertension, cardiovascular disease, asthma, etc. (2).

In addition to organizational and environmental factors that affect the quality of nurses' work, personal factors associated with them such as personality and emotional characteristics also affect their performance and thus patient satisfaction. According to the World Health Organization report, more than 50% of workers in industrialized countries complain about stress in the workplace (16). America National Institute of Occupational Safety has introduced nursing at the top of 40 stressful professions (17). 80% of workers in the health care system are nurses (18). According to statistics announced by the National nursing organization, 75% of nurses suffer from depression and various physical and mental ailments. Studies show that 7.4% of nurses are absent in the week due to fatigue or stress-related disability which is 80% more than other jobs (17). Diagnosing nurses' occupational problems and ways to overcome stressful situations can lead to increased job satisfaction (19). Recognizing the coping behaviors of nurses, we can reduce the impact of occupational stress based on their personality traits (20).

All the studies done on job stress identified the job stress factors, and some have introduced ways of coping and reducing stress, but despite offered strategies, the job stress is already seen in the nursing profession. Thus, the researcher conducted the study entitled "Review of the causes of job stress and its related factors in nurses working at ICU of Ahwaz educational hospitals" to understand the other stressors that are hidden from the view of other researchers and to reduce job stress.

MATERIALS AND METHODS

This is a descriptive, analytical and cross-sectional study. The research community consisted of all nursing staff working in ICU of educational hospitals in Ahwaz. Inclusion criteria were: clinical nurses that have no management experiences that have had at least 6 months of work experience. Sampling was done in random stratified method and each class was done according to sample size. First, the number of qualified nurses was determined and then based on the quota, 175 samples were randomly selected according to the criteria for admission. Sampling was performed at two months (August and September 2014).

Nursing job stress questionnaire (Toft Gary and Anderson) was used to collect data. The questionnaire consisted of 34 questions in the realm of patient suffering and death (7 questions), conflicts with physicians (5 questions), lack of adequate preparation (3 questions), lack of support (3 questions), conflict with other nurses (5 questions), work pressure (6 questions) and uncertainty about treatment (5 questions). This tool is measured based on the Likert scale as not stressful (1 point), rarely stressful (2 points), sometimes stressful (3 points) and always stressful (4 points). Total scores was between 34-136 and how to categorize it was as: less than or equal to 68 is low stress, 69-103 average stress and higher or equal to 104 is high stress.

In the study by Rezai et al., the reliability and validity of this tool has been approved ($\alpha = 0.854$) (21). Questionnaires were distributed among the samples that had inclusion criteria and consent to participate in the research and the questionnaires were collected at the end of the shift. Data was analyzed using descriptive statistics (mean and inferential deviation, (Pearson and Spearman correlation coefficient) and using SPSS.

RESULTS AND DISCUSSION

Frequency table of the relationship between demographic characteristics and job stress

Variable	Frequency	Percent	Mean (job stress score)	SD (job stress score)	P-Value
Gender	200	100	102.88	19.962	0.049
Age	181	100	102.88	19.962	0.117
Marital status	199	100	102.88	19.962	0.366
Number of children	62	100	102.88	19.962	0.927
Hospital	165	100	102.88	19.962	0.002
Department of service	183	100	102.88	19.962	0.279
Years of service	194	100	102.88	19.962	0.441
Employment type	201	100	102.88	19.962	0.382
Combined employment record	118	100	102.88	19.962	0.805

Table of Spearman correlation coefficient between variables and job stress

Variable	Job Stress	
	Correlation coefficient	P-Value
Work shift	0.622	<0.001
Managers' support rate	-0.634	<0.001
Workload	0.614	<0.001
Operation of specialized tools	-0.67	<0.001
No opportunity to share problems with other personnel	0.502	<0.001
Ambiguity in the job description of nursing	0.616	<0.001
Desirability of working with physicians	-0.733	<0.001
Meeting the needs of patients and his family	-0.518	<0.001
Patient death	-0.665	<0.001
Painful medical procedures	0.57	<0.001
Working as an alternative force in other wards	0.657	<0.001
Difficulty to work with other nurses	0.634	<0.001
Staff shortage	0.658	<0.001
Patient care (in difficult conditions)	0.714	<0.001

In this study, samples were aged 26 to 35 with a mean of 62.4 and a standard deviation of 19.41. 95% of nurses were women and the remaining 5% were men. Among the samples, 54.3% were single and the rest were married, and 64.5% had children less than 2. 54.2% of participants had a contracting employment. 45.9% had between 6 and 10 years of experience. Of the total sample, 65% worked in the ICU, 18.6 in the NICU, 14.8 in CCU, 1.1% in CVICU and 0.5% in Transplant ICU. 34.5% of participants were working in Imam Khomeini Hospital, 24.8% in Golestan, 22.4% in Abouzar, 6.7% in Taleghani, 3.6% in Razi and 2.4% in Shafa hospital.

Discussion

Results showed that job stress of nurses in terms of age, gender, marital status, education level, employment status, working shifts, work experience, workplace, number of children, 50.5% had high stress, 41.6% average stress and 7.9% had low stress that according to the criterion of low, medium and high levels, they are high. Since nursing is a stressful occupation, this result was not surprising.

In a study, it was mentioned that since nursing staff introduce the stress as an important reason for leaving their institution, it is one of the five causes stated by employers. When employees are satisfied with the balance of work stress and work-life balance, they tend to stay in the hospital and even they recommend others to work in their organization (18). In study by Rahmani et al., it was shown that in terms of job stress in various dimensions, 47.5% of nurses had high stress due to high task burden, and 59.3% due to physical environment (13).

Toft Gary and Anderson studied 122 nurses and analyze them showed seven sources of stress in the nursing profession in general. (22) We used a nursing job stress questionnaire, and found that the highest average is for management support among job positions. In the next places are work as an alternative force in other wards, working shift, personnel shortages, patient care, ambiguity in nursing job description, coping with the death of patient, compliance with doctors, painful care systems, difficulty to work with other nurses, specialized equipment performance, workload, lack of opportunity for sharing problems with personnel and meeting patient needs. In a study by Qasemi, the death factor of patients and high workload had allocated the highest degree of job stress (18). While, in a study by Vang et al., the Hong Kong Society of Surgical Nurses that were the population of this study identified the greatest source of stress as following: workload, lack of support, lack of preparedness and conflict with other nurses and conflict with physicians, lack of confidence in treatment and mortality were identified as the lowest stressor

(23). A significant relationship exists between job stress and patient death. So, improving the status of coping with patients' mortality, job stress is reduced. These differences can go back to this topic that in our study, since the nurses working in ICU have been studied and because of the diversity of health care due to patients' needs to different medical services, lack of management support in times of problem are introduced as stressful factors.

The data showed that 62.4% of nurses aged 26-35 had high job stress, 29.3% of nurses over 35 years had average job stress, 8.3% of nurses less than 25 years had less stress. Given these statistics, it seems that the age range 26-35 has the highest job stress. Although no relationship exists between the score of stress and age based on the Pearson correlation test and age and stress classification; in other studies, there was a correlation between age and stress. Thus, increasing the age, stress decreases. Aging may result in person's preparedness to deal with stressful situations. 95% of female nurses and 5% of male had high job stress. It seems that women had higher job stress. Given that there is a significant relationship between age and sex, numerous studies have shown that the majority of nursing staff are women. Being a woman and balancing between the responsibilities of housekeeping and work is a source of stress; because with additional work, being away from social and family life, they suffer depression and dissatisfaction with their work. In this study, no significant relationship could be seen between job stress and marital status, although in a study by Khaghani Zadeh, single nurses had higher stress; he stated that the reason for this result is the higher expectations of family, workplace and community (24). In this study, no correlation was between stress and work experience. In studies by Rezaei et al., also no significant relationship was found (21). Although Buck and Letvak reported a negative relationship between work experience and stress levels in relation to the sources of stress and its symptoms by nurses; that is, higher professional time or in other words higher personal experience reduces stressors (25). In this study, a significant relationship was found between job stress and unanticipated working shifts. In a study by Cavalheiro et al., a significant relationship was found between alternative night working shifts with stress. Thus, by increasing the working shift (unanticipated), job stress increases (26). Khaghani Zadeh considered also the working shifts as one of the factors affecting the stress in the staff of hospitals (24). Working at night is one of the factors that accelerate the development of job burnout. Works that are done at different shifts can impair the 24-hour rhythm, and follows physiological consequences such as increased incidence of digestive problems, sleep changes, persistent fatigue, cardiovascular problems and behavioral changes such as irritability and reduced performance. Increased divorce, family conflicts and accidents at work can be seen more in this type of work. In this study, a significant relationship exists between job stress and support of managers. So by increasing support of managers, occupational stress is reduced. The results showed that a significant relationship exists between job stress and hospital type. So that the average level of stress in nurses working in Shafa hospital is higher than others. The difference in level of stress can be seen in factors including individual features of staff, dominant leadership and management system (mental environment) and the characteristics of the physical environment. There is a significant relationship between job stress and workload. Thus, with increasing workloads, job stress increases. A significant relationship exists between job stress and performance of specialized equipment. So, by improving the performance of specialized equipment, job stress is reduced. A significant relationship exists between job stress and lack of opportunity to share problems with other staff. So with increasing the lack of opportunities to share problems with other personnel, job stress increases. In other words, we can decrease job stress by providing opportunities to share problems with other personnel. A significant relationship exists between the job stress and ambiguity in nursing job description. Thus, by increasing ambiguity in the nursing job description, job stress also increases. A significant relationship exists between job stress and desirability to work with physicians. Therefore, by increasing the desirability to work with physicians, job stress is reduced. A significant relationship exists between job stress and meeting needs of patient and his family. So, increasing the rate of meeting needs of the patient and his family, job stress is reduced.

A significant relationship exists between job stress and painful medical procedures and also between job stress and work as an alternative force in other wards. A significant relationship exists between job stress and difficulty to work with other nurses as well as the shortage of staff and patient care (in difficult situation).

Conclusion

The findings showed that generally, the level of stress among studied nurses is moderate to high. Among cases that induced job stress among nurses are little support from managers and work as an alternative force in other wards were identified and introduced as the highest stressors. In this regard, it is necessary to hold some courses by coordinating with officials of nursing affairs to talk about the dissatisfaction of nurses about little support of management, to reduce stress. On the other hand, in the case of work-related stress as an alternative force in other wards, we should talk to the relevant authorities about hiring more nurses if possible, to reduce the impact of this stressor largely. Using questionnaire may not provide in-depth data given the individuals' attitudes and

beliefs. Therefore, managers of health organizations need to pay more attention to signs of stress in nursing staff, including depression, alienating from patients, absenteeism and reduced quality of work and social and management support in the workplace to reduce the damaging effects of occupational stress in their agenda.

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