

Original Article**A study of the Severity of some Occupational Stresses in Nurses***T. Mehrabi*, N. Parvin**, M. Yazdani***, N. Asman Rafat*******Abstract**

BACKGROUND: Occupational stress is one of the most important occupational hazards in modern life which could lead to decrease in productivity, work absence, workforce transfer and high costs for the personnel. American National Association for Occupational Safety has placed nursing at the top of the list of the first forty high-stress jobs. There are various factors known as stressors in nursing. The current study was carried out to evaluate the severity of some of them.

METHODS: This is a descriptive, correlative study. 170 nurses in various wards of Isfahan University of Medical Sciences hospitals who met the inclusion criteria took part in the study. The data was gathered using standardized Toft-Anderson questionnaire and then was analyzed using SPSS soft ware with Spearman correlation test, mean and frequency distribution.

RESULTS: Findings demonstrate that most of the nurses (73.47%) experienced stress at the medium level. In addition, a positive statistical correlation was found between the overall and fractional stress scores. Conflicts with physicians have the greatest relationship with the overall severity of occupational stress in nurses. Among the demographic parameters, only marital status and work hours had significant statistical correlation with the severity of stress. ($p < 0.001$)

CONCLUSIONS: Regarding the findings of the study, it is recommended to employ appropriate methods in preventing and handling occupational stresses at the personal and organizational level.

KEY WORDS: Occupational stress, nurse, stressor

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Occupation fulfills different needs of people such as getting money, seeking opportunity to communicate with others, purposeful physical and psychological activity, and enhancing self-esteem and usefulness ⁽¹⁾. Hospitals and other health centers; just like an industrial unit consists of production factors such as capital, workforce, technology and management. Their activities are oriented toward the main product which is saving, restoring and improving the human's health. Nurses are the workforce of these centers ⁽²⁾.

In our country, almost eighty percent of employees of the health system are nurses while they are expected to do about the same

proportion of work in the system ⁽³⁾. American National Association for Occupational Safety placed nursing at the top of the list of the first forty jobs with high prevalence of stress associated disorders among the employees. It is believed that regarding the occupational stress, nursing is probably at the top of the list of health professions ⁽⁴⁾. Cole believes ninety-three percent of nurses experience occupational stresses frequently which may affect their physical and psychological health ⁽⁵⁾.

Nurses encounter various occupational stressors such as working in shifts, work load, conflicts with co-workers, occupational responsibilities, frequent meeting of patients experiencing pain and death, lack of suppor-

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tive supplies and not having enough time to support the patients emotionally ⁽⁶⁾. In addition, type of stressors and level of stress is different in nurses of different wards. This is caused by diverse working environment and responsibilities in various wards ⁽⁷⁾. So, regarding containing various sources of stressors by it, nursing could produce many occupational stresses. Some of these stresses originate from interpersonal or organizational relationships ⁽⁸⁾. Besides, stress at the workplace would cause undesirable effects on the individual and organization and the health of personnel as the main factor in production would be endangered. As physical and psychological health of nurses directly affect the quality of patients' care, the current study carried out to evaluate the severity of some occupational stressors in nursing environment.

Subsidiary goals are scoring the stress resulting from pain and death of patients, unpreparedness, and conflict with physicians, workload, shortage of supportive supplies, and not being sure of the effect of therapy in nurses of hospitals of Isfahan University of Medical Sciences. Finally, the relationship between stressors scores and the overall score was assessed.

Methods

This is a descriptive, correlative study. The target population was nurses working in hospitals of Isfahan University of Medical Sciences. Sampling was done using random stratification method and the cases were randomly assigned in proportion to the volume of the layer. In this method, target population would be divided into relatively homogenous layers and then, cases regarding the inclusion criteria would be selected randomly from the layers. Inclusion criteria were working as a nurse at the time of research, having at least three year background working as a nurse, being the permanent staff of the ward and living in Isfahan.

Exclusion criteria were experiencing a major life stress according to the Holmze and Rahee table in the past year and scoring

higher than 150 and having physical or psychological diseases. Regarding the nurses' responses to above-mentioned questions and the sample size formula, the number of cases was determined to be 170. Cases were selected from all wards of the hospitals.

Data was collected using Toft- Anderson nurses' stress questionnaire. It contains 34 items which covers seven fields of pain and death of the patients, conflicts with physicians, unpreparedness, shortage of supportive supplies, conflict with other nurses, workload, and not being sure of the effect of therapy with 3, 5, 3, 3, 5, 6, and 5 questions respectively.

Scores of 39 and lower was mentioned low stress while 40 to 62 and higher than 62 were mentioned medium and high stress respectively. The questionnaire was used by Payami and his colleagues in another study in Iran and had the reliability of eighty five percents. The study was carried out over a period of three months (Ordibehesht to Tir 1382). The researcher attended the hospitals 20 to 30 minutes after the start of morning, afternoon and night shifts and after explaining the aims, the questionnaires were handed in to collect the data. The data was analyzed by SPSS software using frequency distribution and dispersion indices. In addition, Spearman correlation test was applied to assess the probable correlation between the overall and fractional stress scores and also demographic parameters with occupational stress.

Results

According to the results of the study, cases were within the range of 26 to 59 years old with the highest frequency in the range of 26 to 35 years old (73.5%). Eighty percent of the cases had three to nine years experience in nursing. 89% were women and 64.7% were married. Most were at the level of staff (87.2%) and 68.2% worked at rotational shifts. Most cases (59.82%) worked 170 to 199 hours per month.

Results showed that most of the cases (76.48%) experienced stress at the medium

level while only 16.4% and 7.05% experienced stress at low and high level, respectively. Among the fractions of occupational stress, pain and death of patients (mean: 12.59, standard deviation (SD): 4.18), and workload (mean: 9.47, SD: 2.59) got the highest occupational stress scores. In addition, applying Spearman correlation test, showed a positive statistical correlation between the overall and fractional stress scores. ($p < 0.001$)

Among the stressors, conflict with physicians had the highest statistical correlation with overall occupational stress ($r = 0.753$, $p < 0.001$) (Table 1).

Table 1. Defining the correlation of occupational stress fractions with overall occupational stress score

Stressor	Mean	SD	Statistical results
Pain and death of the patients	12.59	4.18	$r = 0.615$ $P < 0.001$
Conflicts with physicians	5.88	2.93	$r = 0.753$ $P < 0.001$
Unprepared ness	3.06	1.53	$r = 0.5$ $P < 0.001$
Shortage of supportive supplies	3.66	2.03	$r = 0.501$ $P < 0.001$
Conflict with other nurses	5.37	2.76	$r = 0.1622$ $P < 0.001$
Workload	9.47	2.95	$r = 0.702$ $P < 0.001$
Not being sure of the effect of therapy	6.02	2.59	$r = 0.682$ $P < 0.001$

Besides, among the demographic parameters only marital status and work hours had significant statistical correlation with the severity of occupational stress; while single employees and those working more than 230 hours per month experienced higher level of stress. No significant statistical correlation between occupational stress and other demographic parameters were observed.

Discussion

Concerning the findings of the study, pain and death of patients, and conflicts with physicians and colleagues are the main stressors in nursing.

Other studies demonstrated people experience higher level of stress and anxiety in working environments with high tensions, role conflicts, and intergroup conflicts ⁽¹⁰⁾. In another study, Atar described workload and

low proportion of nurses to patients as occupational stressors in nursing ⁽¹¹⁾.

Lee and Wang in a study on the evaluation of nursing occupational stress and its relevant factors noticed workload and occupational responsibilities as the main sources of stress ⁽¹²⁾. These stressors always accompany nursing and their management requires organized planning.

Frenchi and Kaplan believe that conflict with colleagues is the chief stressor in nursing ⁽¹³⁾. Supportive environment supplies employees with sufficient autonomy and help them to use occupational supplies appropriately. In contrast, staff encounter serious problems working in environments without enough support, and may experience frustration. So, asking for help, empathy and cooperation of colleagues in stressing circumstances, and taking about the problems could be helpful ⁽¹⁴⁾. Piko believes that supports of colleagues would reduce occupational stress and its consequences in nurses ⁽¹⁵⁾.

In addition, Ross suggests that support of co-workers would lead to reduce the occupational stress ⁽¹⁶⁾. Anyhow, positive and negative stresses are just part of occupational life of each person. Some stressors are so serious that require rapid responses.

To cope with such problems, employee and the organization should recruit the appropriate strategy. In these cases, harmony between the organizational and personal needs is necessary.

Also, putting proper time management methods into practice would solve problems related to workload and shortage of time. From the organizational point of view, modification of management system and involving the staffs in decision making would solve the problems. In addition, receiving consult from professionals and carrying out their experiments in health system would improve the physical and psychological health of nurses.

In conclusion, regarding the crucial role of nurses in maintaining and restoring the health of patients, authorities should follow the re-

duction of occupational stresses in nursing, seriously.

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