

Determinants of the use of Occupational Stress Reduction Methods Among Nursing Staff Based on Protection-Motivation Theory

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Abstract: Nurses are one of the groups bearing the highest occupational stress. The present study is aimed to specify the determinants of the use of occupational stress reduction methods as well as the relevant factors among the nursing personnel in Social Security Hospitals in Qazvin Province based on the protection-motivation theory. In the present, cross-sectional study, 110 subjects were selected using the simple random sampling method from among the nursing staff of the Social Security Hospitals of Takestan and Razi in Qazvin Province. Data collection tools included demographic questionnaire, Toft-Anderson's Nursing Stress Scale (NSS) and the researcher-made protection-motivation theory questionnaire with 21 questions. Data analysis was performed using SPSS (Ver. 19) software as well as the analytical and descriptive tests. Different job positions were moderately stressful for 69.38% of the nurses. There was no relationship between occupational stress, age variables, working department and type of employment; however, there was a positive correlation between working shift ($r = 0.63, p < 0.01$) and education level ($r = 0.32, p < 0.01$) while the subject's stress level and job background ($r = -0.35, p < 0.01$) were negatively correlated. Furthermore, there was positive correlation between efficacy and perceived severity ($r = 0.57, p < 0.01$) and also between motivation and self-efficacy ($r = 0.58, p < 0.01$), efficacy ($r = 0.50, p < 0.01$) and behavior ($r = 0.31, p = 0.01$) while there was negative correlation between costs and self-efficacy ($r = 0.33, p = 0.03$), efficacy ($r = -0.33, p = 0.03$) and behavior ($r = -0.57, p < 0.01$). It is necessary to plan effective interventions based on the protection-motivation theory in order to use the occupational stress reduction methods among the nurses.

Key words: Occupational stress, nurses, protection-motivation theory, behavior, self-efficacy, reduction

INTRODUCTION

The WHO has considered mental health as one of the primary health principles in the agenda of the member countries. Based on the existing research findings, mental disorders are among the most important and the most significant components of the general load of the diseases and it is anticipated that in 2020, the nervous and mental disorder's share of the total load of the diseases will be increased by 50% and exceeding the current 10.5% will reach to 15% of the total therapeutic load of the diseases (Wu *et al.*, 2006). Stress is one of the major factors affecting the health, specifically mental health (Phipps *et al.*, 1999). In psychology, stress is defined as being under pressure. Quoting from Hans Selye, Rice assumes stress as the body's non-specific response to any kind of demand and believes that the aim of such non-specific responses is to create physiological balance and adaptability (Philip, 1999).

Among various types of stress, the job-caused stress is one of the most common types (Snelgrove, 1999). Occupational stress is caused by the interactions between the job conditions and personal characteristics of the employee so that the working environment's demands are beyond the resources and capabilities of the employee (Rezaee *et al.*, 2006). One of the most important areas of health development in societies is the health and treatment sector which is directly related with human health; accordingly, the staff working in hospitals, especially the nursing group is considered as one of the most stressful job groups (Lambert *et al.*, 2007). Nursing is one of the job groups with highest occupational stress. Based on Karasek's demand-control model, the jobs with high occupational stress and low control lead to emergence of mental and physical distress; furthermore, such working environments eventually discharge the mental and emotional resources of the nurses and might be a starting point for the burnout syndrome

(Tummers *et al.*, 2002). This syndrome wears out the individual's mental and physical power and causes negative responses by the individual against himself/herself and others; moreover, job burnout has negative effects on the Quality of Life (QoL) (Mehrabani *et al.*, 2005).

The American National Occupational Safety Association (NOSA) has introduced nursing at the top of 40 professions with high prevalence of stress and believes that nursing is probably at the top of the health-related stressful jobs (Mehrabani *et al.*, 2005). Nurses work at different departments of hospitals including, emergency, clinics and operation rooms. Studies have shown that constant confrontation with patients having the responsibility of human's health, performing the clinical procedures, dealing with patients in death throes, encountering with emergency conditions and working on rotational shifts are among the professional stressors which can lead to reduced quality of patient care, depression, job burnout, absence and delayed work and also may result in sick leave (Bahri *et al.*, 2003). Poor working along with malignant physical conditions such as hypertension, sleep disorders and drug and alcohol misuse (abuse) are some of other causes of high occupational stress. The effects of stress can be transmitted from an environment to another one or from an area to another one; besides, the effects of stress can even weaken the relationships between the individuals, especially the relationships between the spouses. The parent's discomfort and grieves are transmitted to the children and damage their QoL (Ross and Ltmayr, 2014). In a study, entitled "uncertain occupational conditions and health status of nurses", Wendy and Nortchoti expressed that the stressors in nursing profession include working on shift-basis, role confliction, job dissatisfaction, fear from losing the job, contact with patient's death and unspecified professional responsibilities. A descriptive cross-sectional study by Ghasemi *et al.* (2011) on 155 subjects from the nursing staff of the educational hospitals in Zanjan showed that different job positions had high, moderate and low levels of stress for 57.4, 40 and 2.6% of the nurses (Ghasemi *et al.*, 2011). In Iran, the nurses account for 80% of the population working in the health and treatment system; furthermore, 80% of the tasks are relegated to the nurses. Mental and physical health of the nurses and stress severity are among the determinant factors in qualitative and quantitative reduction of the nurse's working efficiency and are also related with the quality of their performance in taking care of the patients; furthermore, decreased occupational performance causes

numerous mental and physical problems for the nurses and gradually leads to job burnout among them (Ghasemi *et al.*, 2011).

Based on the statistics released by the Iranian Nursing Organization, 75% of the nurses are suffering from depression and different types of mental and physical problems and it is also less likely to find a nurse who has not been afflicted by physiological disorders, infectious diseases or mental problems after 12 years of working (Ghasemi *et al.*, 2011). In recent decades, many institutes in developed countries have seriously attempted to deal with and overcome the occupational stress through various strategies and measures such as the programs for helping their personnel. Proper diet and exercises, benefitting from holidays, enhancing the religious fundamentals, moderateness, relaxation training and changing the behavioral reactions are some of the actions proposed for protection against stress and tension (Farahmand, 2001). Moreover, studies have shown that stress management based on the cognitive-behavioral processes would have significant effects on the improvement of QoL of the individuals. The study conducted by Arjmand *et al.* (2013) on 64 nurses in Shahid Lavasani Hospital in Tehran, entitled "Investigating Effect of Stress Management on Occupational Stress and Life-job Confliction of Nurses", showed that training stress management could reduce the occupational stress and life-job confliction (Arjmand *et al.*, 2013).

Another solution is to inform and train the staff about the nature of occupational stress as well as its causes and complications. Today, the health promotion and health training theories are used to change the individual's cognition and behavior. The WHO has defined health education as: "creating structured and informed (conscious) opportunities for learning". In health education, theory guides the instructors. "In social and behavioral sciences, theory provides a framework for understanding why people are involved in the health-threatening risks or unhealthy risky behaviors and why (and how) they choose the health-protecting behaviors" (Saffari *et al.*, 2009). Among the theories presented for health education is the protection motivation theory which is for perceiving and predicting the health-related intentions and behaviors that protect the individual against the harmful events.

In 1975, this theory was developed by Rogers in order to explain the effects of fearing from health risk on the health behaviors and attitudes and explain the fact that stimulating the fear has significant effect on the behavior selection. In this model, it is assumed that

accepting the recommended health behavior (protective behavior) against the health risk is a direct action of the individual's motivation for protecting himself. Rogers declared that the fear affects the protection motivation (or the intention for performing the protective behavior against the health risk) through five constructs and finally leads to stimulation of the health behavior. These 5 constructs include:

- Perceived vulnerability: the individual's belief in his vulnerability against health risks
- Perceived severity: the individual's belief in seriousness of the risk
- Response efficacy: the individual's expectation from an adaptable response (protective behavior against risk) to eliminate the risk
- Response costs: the individual's estimation of any cost (time, money, person, effort) associated with the protective behavior
- Self-efficacy: the individual's belief in the fact that he/she can perform the protective behavior successfully

Apropos of the health promotion and health education theories (Hosseini *et al.*, 2011) used the "precede-proceed" model for occupational stress management among the nurses in Shahid Beheshti Hospital in Hamadan. The mean score of occupational stress before the intervention in the intervention and control groups was 109.28 which was not statistically significant; however, after the intervention, the mean score of occupational stress in the intervention group was reduced to 94.03 while the same score in the control group was 109.2 (p = 0.001) (Hosseini *et al.*, 2011). In the study by Arabtali *et al.* (2015) entitled "Factors related to the use of earmuffs among the researchers of SHOGA Co. Based on protection-motivation theory", there was a significant positive correlation between the scores of protection-motivation and behavior ($r = 0.56$, $p = 0.03$) while the scores of perceived costs and adaptation assessment were significantly and negatively correlated ($r = 0.84$, $p = 0.002$) (Arabtali *et al.*, 2015). In a study entitled "protection motivation among youths and smoking behavior" which was conducted on 494 female students aged 11-16 years old in 2013, Johannes and Thrul showed that adaptation assessment, especially self-efficacy was the best predictor of the healthy behaviors compared to the threat assessment (Thrul *et al.*, 2013). Moreover, the study by, entitled "using modified protection-motivation theory to identify healthy food consumption behavior among adult consumers", showed that the response efficacy has the highest predictive

power compared to intention but it couldn't predict the behavior and only self-efficacy had the same predictive effect as intention on the behavior (Park *et al.*, 2011).

The present research is aimed to specify the determinants of the use of stress reduction methods as well as the relevant factors among the nursing staff of the Social Security Hospitals in Qazvin Province in 2015. The obtained results can be applied in designing the educational interventions with an appropriate strategy in order to promote the behavior of using the occupational stress reduction methods among the nursing personnel.

MATERIALS AND METHODS

The present descriptive-analytical cross-sectional study was conducted on the nursing staff of the Social Security Hospitals in Qazvin Province, including Razi and Takestan Hospitals. The statistical population included 350 subjects from the nursing personnel including the nurses, paramedics (nurse aide), emergency unit's patient carriers, hospitalization and intensive care units, technicians and experts of operation room and midwives. The sample size was determined using the Cochran formula with regard to the mean and standard deviation of stress management in a similar study 14.27 (Alavi Arjmand *et al.*, 2013), coefficient of confidence 1.96 and considered accuracy 3. By considering 27% additional samples, the sample size was estimated as 110 subjects. The samples were selected using random sampling method.

The data collection tools included a demographic questionnaire (with 7 questions on age, gender, working background, education level, type of employment, working shift and department) and Toft-Anderson's SNN (with 24 questions on 7 areas including 7 questions on patients' discomfort and death, 5 questions on confliction with physician, 3 questions on lack of preparedness for dealing with needs of the patients and their families, 3 questions on the shortage of supportive resources, 5 questions on confliction with nurses and supervisors, 6 questions on workload and 5 questions on distrust). The answers were based on the likert scale in four ranges including "at all" (1 point), "sometimes" (2 points), "often" (3 points) and "strictly" (4 points); furthermore, there were two other answers including "that is not my duty" (5 points) and "I've never faced such situation" (0 point). The scores of less than or = 68, 69-103 and 104 and above indicated low stress, moderate stress and high stress, respectively; besides, another data collection tool was a researcher-made protection-motivation theory questionnaire with 21 questions including 20 questions on measurement of the

theory constructs perception and a single question on measurement of the stress reduction behaviors. Validity of this questionnaire was obtained using the content test (panel of 10 experts) and calculating the validity ratio (0.81) and validity index (0.83); furthermore, reliability of the questionnaire was obtained in a primary study through re-test and Chronbach's alpha test as well as recompleting the questionnaire by 15 nurses out of the research sample in 10 days. The correlation coefficient obtained through re-test for the constructs of the protection-motivation theory was above 0.75; besides, the Cronbach's alpha coefficient for reliability of the questions of the questionnaire was considered above 0.70.

In the researcher-made questionnaire, 3 questions were considered for investigating the perceived vulnerability. The maximum and minimum obtainable scores for this construct were 1 and 15. In order to investigate the perceived severity, 4 questions were designed so that the maximum and minimum obtainable scores for this construct were 1 and 20. The response efficacy, self-efficacy and response costs were investigated using 3 questions for each so that the maximum and minimum obtainable scores for these constructs were 1 and 15. The questions of the perceptions were presented in a 5-grade likert scale.

Based on the (mean±SD) criterion, all the perceptions were divided into three categories of good, moderate and poor (weak) on this basis for the perceived vulnerability, these three categories included poor (<4), moderate (between 4 and 8) and good (above 8). Apropos of the perceived severity, these categories included poor (<11), moderate (between 11 and 15) and good (above 15) while for the perceived costs, these categories included poor (<8), moderate (between 8 and 12) and good (above 12). As for the perceived self-efficacy, the perceptions were categorized as poor (<10), moderate (between 10 and 12) and good (above 12) while perceptions of the perceived efficacy were categorized as poor (<10), moderate (between 10 and 14) and good (above 14). Moreover, categorization of the perceptions of working motivation included poor (<8), moderate (between 8 and 10) and good (above 10); besides, apropos of the working intention, these categories included poor (<7), moderate (between 7 and 10) and good (above 10).

The working motivation and working intention were investigated using two questions for each of them so that, the maximum and minimum obtainable scores for these two constructs were 1 and 10. The question "have you

ever used the occupational stress reduction methods in your department?" was used to investigate behavior, so that, the question had a two-choice answer (including yes and no) and the results were presented in percentages.

The obtained data were imported in SPSS Software; then using the Kolmogorov-Smirnov test, the variables were investigated in terms of normality. Regarding the normality of the variables, data analysis was performed using the descriptive tests (mean, SD, number and percentage) for describing the ground and independent variables and the Pearson's correlation coefficient test for investigating the relationship between the variables.

RESULTS AND DISCUSSION

The average age of the participants was 31.47 years old with SD of 4.47. Among the participants, 34.5% (38 individuals) were male and 65.5% (72 individuals) were female. In terms of education level 20% (22 individuals) of the subjects had high school diploma while 24.5% (27 subjects), 53.6% (59 subjects) and 1.8% (2 subjects) had undergraduate, BA and MA and higher degrees, respectively. Among the participants, 20% (22 subjects) were working on fixed shifts and 80% (88 subjects) were working on rotational shifts. In terms of department, 33.5% (38 subjects), 27.3% (30 subjects), 22.7% (25 subjects) and 15.5% (17 subjects) were working in emergency unit, operation room, hospitalization departments and intensive care units (special units), respectively. Among the participants, 35.5% (39 subjects) had a job background of 1-5 years while 26.4% (29 subjects), 22.7% (25 subjects) and 15.5% (17 subjects) mentioned working backgrounds of 5-10, 10-15 years and above 15 years, respectively. Finally, in terms of the type of employment, 47.3% (52 subjects), 20.9% (23 subjects) and 30.9% (34 subjects) were of official employment, experimental employment and contractual employment, respectively.

The highest and lowest stress was observed among the females (63.7%) and males (36.3%), respectively. The maximum stress was among the subjects with BA degree (49.3%) and the minimum stress was observed among the subjects with MA degree (0.9%); moreover, the maximum and minimum levels of stress were among the subjects with working background of 1-5 years (33.8%) and the subjects with working background of 15 years and above (12.5%), respectively. the subjects with contractual (44.3%) and experimental (26.5%) employment had the

Table 1: Mean and SD of stressful job positions and relationship of each position with the total score

Stressful positions	SD±mean	Statistics and significance of pearson's correlation coefficient
Discomfort and death of patients	18/45±4/72	p<0.01, r = 0.634
Confliction with physician	15/06±4/88	p<0.01, r = 0.798
Lack preparedness for dealing with emotional needs of patients	7/33±2/93	p<0.01, r = 0.798
Shortage of supportive resources	7.74±3.04	p<0.01, r = 0.739
Confliction with other nurses	11.58±4.44	p<0.01, r = 0.579
Distrust in treatment	13.81±5.45	p<0.01, r = 0.854
Workload	17.01±5.53	p<0.01, r = 0.844

Table 2: Mean and SD of constructs of protection-motivation theory

Constructs of protection-motivation theory range of obtainable scores	SD±mean
Perceived vulnerability (4-8)	6.81±2.45
Perceived severity (11-15)	12.75±2.73
Response efficacy (10-14)	12.75±2.73
Perceived self-efficacy (10-12)	11.79±1.39
Perceived costs (8-12)	10.31±1.65
Motivation (8-10)	9.09±1.05
Intention (7-10)	8.15±1.35

maximum and minimum stress, respectively. Regarding the working shift, the subjects working on rotational shifts had the maximum stress (72.5%); furthermore, the subjects working at emergency department (34%) and the subjects working at special units (14.4%) had the highest and lowest stress, respectively (Table 1).

Among all the stressful situations, the distrust in treatment had the highest correlation with the total stress (r = 0.85). The level of stress among the studied nursing staff was at moderate level (69.38%). There was no significant relationship between the total stress score and demographic variables including age, gender, working department and workload while the total stress and variables of the type of working shift (r = 0.63, p = 0.00) and education level (r = 0.32, p = 0.00) had a statistically positive relationship. Furthermore, there was a statistically negative relationship between the total stress and the working background of the subjects (r = 0.35, p<0.01). The mean and SD of the scores of the protection-motivation theory's constructs are presented in Table 2.

Apropos of the perceived vulnerability, 70.5% of the nurses were moderately vulnerable while 59.8% of them had high level of perceived severity. Furthermore, 67.3% of the perceived costs, 77.9% of the self-efficacy, 58.4% of the response efficacy, 66.2% of the motivation and 60.1% of the intention were at moderate level. In the present study, 79.1% of the subjects had never used any of the occupational stress reduction methods. The mean and standard deviation of the behavior of using the occupational stress reduction methods were 1.20 and 0.40, respectively. The level of correlation between the

protection-motivation theory's constructs and the occupational stress reduction behavior is presented in Table 3.

Using the Pearson's correlation coefficient, a significant positive correlation was obtained between the response efficacy and perceived severity (r = 0.57, p = 0.00), self-efficacy and response efficacy (r = 0.38, p = 0.00), motivation and response efficacy (r = 0.50, p = 0.00), motivation and self-efficacy (r = 0.58, p = 0.00) and motivation and intention (r = 0.42, p = 0.04). Furthermore, a significant negative correlation was observed between the perceived costs and self-efficacy (r = 0.33, p = 0.003) and perceived costs and response efficacy (r = 0.38, p = 0.04). Moreover, there was a statistically positive and significant correlation between the response efficacy and intention (r = 0.41, p = 0.03) and self-efficacy and intention (r = 0.43, p = 0.03); however, there was statistically negative significant correlation between behavior and working costs (p = 0.00, r = 0.43) while motivation and behavior (r = 0.31, p = 0.01) and behavior and intention (r = 0.29, p = 0.02) were positively correlated.

Moreover, in order to investigate the correlation between the constructs of the protection-motivation theory and ground variables, the Pearson's correlation coefficient test was used. This test indicated positive correlation between gender and perceived vulnerability (r = 0.33, p = 0.02), education level and motivation (r = 0.37, p = 0.01), gender and self-efficacy (r = 0.39, p = 0.003) and working background and self-efficacy (r = 0.41, p = 0.002).

Findings of the present study showed that 69.38% of the nursing staff of the Social Security Hospitals in Qazvin province had experienced a moderate level of stress. In a study (Yaghoobian and Parhizgar 2002). showed that the level of occupational stress was moderate among most of the nurses (72.85%) working at hospitals in the east of Mazandaran (Yaghoobian and Parhizgar 2002). This result is consistent with the result obtained in another study on the stressor factors among the nurses working in the hospitals of Isfahan University of Medical Sciences. In Noorian's study, 76.48% of the nurses had experienced moderate levels of stress (Noorian *et al.*, 2010) accordingly, it is recommended to design the promotional interventions in order to reduce the stress level among the nursing staff.

By investigating 122 nurses and performing factor analysis, Toft and Anderson showed 7 stressors in nursing profession (Gray-Toft and Anderson, 1981). In this research, using the Toft-Anderson questionnaire, they showed that, among various stressors, the patient's discomfort and death caused the highest level of stress and other factors including workload, confliction with the

Table 3: Investigating correlation of components of protection-motivation theory and stress reduction behavior

Variables	1	2	3	4	5	6	7	8
Perceived vulnerability	1							
Perceived severity		0.17						
Response efficacy	0.15	0.57**	1					
Self-efficacy	-0.21	0.09	0.38**	1				
Perceived costs	0.12	-0.12	-0.38*	-0.33**	1			
Motivation	-0.12	0.01	0.50**	0.58**	0.09	1		
Intention	0.12	0.04	0.41*	0.43*	0.03	0.42	1	
Behavior	0.09	0.06	0.11	-0.08	-0.43*	0.31*	0.29	1

*p<0.05, **0.01

physician, distrust in treatment, confliction with other nurses, shortage of supportive resources and lack of sufficient preparedness for dealing with emotional needs of the patients were at the next ranks. In other studies by Ghasemi *et al.* (2011) and Rhezaei *et al.* (2006), discomfort and death were specified as the highest stressor situation. Furthermore, Crickmore believes that the nurse’s daily confrontation with the patient’s discomfort and pain, death and mourning could have considerable mental effects on the nurses (Crickmore, 1996). Such stresses and tensions are harmful and may reduce the nurse’s ability to support the patients and also can lead to declined care. The job-related factors such as working in the hospitalization department and dealing with the patient’s discomfort and pain, shortage of supportive resources, high workload, inappropriate organizational relationships with colleagues and lack of response to treatment by the patients are considered as the stressor factors in the working environment. In another study on the nurses in Canadian Hospitals, Sawatzky showed that the department’s space and workload were considered as the most important occupational stressor factors. Based on the obtained findings, it seems that the promotional intervention could be effective in this regard.

In the present study, distrust in treatment had the highest correlation with the total stress score ($r = 0.85$). This result is consistent Mortaghi Gahsemi’s result indicating the highest correlation between the distrust in treatment and total stress score ($r = 0.83$). Moreover, Attar showed that the lack of coordination between the physician and nurse and the nurse’s decision-making due to the lack of access to the physicians were among the factors causing the most severe stress among the nurses working in the emergency units (Attar and Mohammadi, 2009).

In the present study, there was an inverse correlation between the perceived costs and behavior which is consistent with the results obtained by Shahoodi in Mashhad (Shahroodi *et al.*, 2013) and Baghianimoghadam *et al.* (2011). In Shahroodi’s study, there was a significant correlation between the perceived costs and behavior ($r = 0.09$, $p < 0.01$) while in the study

conducted by Baghiani Moghaddam, the perceived costs and behavior were inversely correlated ($r = 0.23$, $p < 0.01$). In the study, conducted by Holms on 331 women, entitled “applying protection-motivation theory to perform genetic test for diagnosing breast cancer”, the perceived costs could predict the motivation of performing the test which is consistent with the present study (Helmes, 2002).

Moreover, in this study, a positive correlation was observed between motivation, intention and behavior which is consistent with Vahedian Sharhroodi’s result indicating the correlation between motivation and behavior ($r = 0.49$, $p < 0.01$). In Madox’s study, the subject’s motivation and intention had positive effects on their health-related behaviors (Maddux and Rogers, 1983). Arabtali’s research also indicated that there was a positive correlation between motivation and behavior ($r = 0.56$, $p = 0.03$) (Arabtali *et al.*, 2015). Furthermore, Baghiani Moghadam’s study indicated a positive correlation between the constructs of motivation, intention and performing the job (Baghianimoghadam *et al.*, 2011). In this study, the perception of vulnerability, perceived costs, self-efficacy and response efficacy were at moderate level which is consistent with the results obtained by Morowatisharifabad *et al.* (2012) and Arabtali *et al.* (2015). On this basis, it is necessary to design and implement appropriate interventions in order to promote these perceptions. In this research, there was positive correlation between the perceptions of perceived vulnerability and gender, indicating that the females had higher perception of the probability of being afflicted by the stress complications. Moreover, there was positive correlation between working background and self-efficacy, so that the subjects with higher working background had higher perceived self-efficacy; besides, it was observed that the total stress score and working background were inversely correlated, so that the higher the working background, the lower the total stress score.

In another study, Letvak and Buck reported a negative relationship between working background and stress levels in relation with the stress resources as well as its symptoms among the nurses; meaning that, the

higher the working background or in other words, the personal experience, the less the stressor factors (Cavalheiro *et al.*, 2008). On this basis, a combination of the young and experienced personnel can be useful for improving the individual's efficacy and reducing the stress at each working shift.

CONCLUSION

There was a positive correlation between the constructs of motivation, job intention and education level; besides, the education level and total stress score were positively correlated. In the study conducted by Ghasemi *et al.* (2011) the education level and tension were correlated (Ghasemi *et al.*, 2011). The highest level of stress was observed among the subjects with BA degree (49.3%), indicating that, due to having numerous responsibilities, the subjects with higher educational degrees had higher levels of stress as well as higher motivation for reducing the occupational stress level in the working environment. Furthermore, there was an inverse correlation between the perceptions of response efficacy and self-efficacy with perceived costs; meaning that, the lower the costs of stress reduction methods, the higher the subject's perception of the effectiveness of the occupational stress reduction methods as well as the higher perception of their own abilities to reduce the stress level.

On the whole, majority of the nurses (69.38%) had moderate levels of stress; furthermore, the perception of perceived severity was at high level while the perceptions of vulnerability, costs, response efficacy, self-efficacy, motivation and job intention were at moderate level among these subjects. On this basis in order to reduce the stress level in the nurse's working environment, it is necessary to design and implement appropriate interventions both in the dimension of the individual education on the nature, causes, complications and morbidity rate of occupational stress and in the organizational dimension through promotional methods.

ACKNOWLEDGEMENTS

The present study is a research MS dissertation established by the Research and technology Deputy of Iran University of Medical Sciences with No. 27367.

The researchers would like to acknowledge all the authorities of the Social Security Hospitals in Qazvin Province, namely Takestan and Razi Hospitals as well as all the nursing staff participating in this study.

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