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ARTICLE

The Effect of Emotional Intelligence and Job Stress on Burnout: A Structural Equation Model among Hospital Nurses

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ABSTRACT

The Occupational burnout is considered as one of the most important problems that have numerous adverse effects on nurses' job. Various personal, psychological and social factors are effective in occupational burnout. Therefore, the goal of this study was to find out the relationship between emotional intelligence and job stress with occupational burnout of nurses working in public hospitals of Kerman. This descriptive-analytical and cross-sectional study, was conducted on 300 nurses working in Kerman hospitals who selected randomly by stratified method. Organizational and demographic questionnaire and occupational burnout, emotional intelligence and job stress questionnaires have used. Structural and confirmatory factor analysis models were used to measure the model of the study. Emotional intelligence and job stress affect occupational burnout. In addition, there were meaningful and negative relationships between emotional intelligence and job stress ($P<0.001$) and increasing emotional intelligence results in decreasing job stress. Based on the findings and the significance of occupational burnout and its adverse effects on nurses, one of the plans for decreasing the syndrome of occupational burnout in nurses could be concentration on improvement of psycho-personal factors of job environments including emotional intelligence and job stress.

KEYWORDS: *Emotional intelligence, Job stress nurse, Occupational burnout, Structural equation mode*

INTRODUCTION

Due to nature of job and broadness of the active environment of nurses, nurses face numerous problems and experience considerable stress [1], include sources include working for long periods, working with people in same job environment, problems of medical teams, struggles among colleagues [2], problems with job shifts, contradictions in life rhythms in societies because of rotating shifts and no interference in determination of shifts which result in occupational burnout [3-5]. The syndrome of occupational burnout which is the result of job pressures is defined as a process in which behavior and attitude of personnel become pessimistic about their jobs [6].

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The syndrome of occupational burnout which is the result of job pressures is defined as a process in which behavior and attitude of personnel become pessimistic about their own jobs [6].

This syndromes result in incapability in adjusting or long facing with job or emotional stresses as well as much-consuming energy or resources which result in feeling defeat, energy drain and fatigue [7].

The occupational burnout is considered as a kind of delayed reaction to chronic factors which brings tension in job environment and nurses are recognized as a group with high danger of facing with occupational burnout. The consequence of this syndrome results in physical and psychological symptoms like chronic fatigue, sleep disorders, various physical symptoms, pessimistic view regarding colleagues and visitors, feeling of guilt and decrease of job performance efficiency[8, 9] which result in badly nursing and increasing medical malpractice[10]. In fair circumstances, nurses do not experience occupational burnout equally. In the other words, burnout is the result of crash of personal and job factors and characteristics[11].

Job stress is one of the job factors affecting this syndrome; nowadays occupational burnout is not only the result of job stress, but also the emotional intelligence is effective[12]. Job stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker [13]. As a matter of fact, according to the American Institute of Stress, stress costs the American economy about $300 billion dollars a year related to stress and conditions aggravated by stress [14]. In Iran, job stress has been reported 23.4%-50% [15]. Job stress exists in all professions, compared to other workers, nursing profession due to job content and other factors are exposed to more stress [16].

The ability of people in evaluating, expressing and adjusting emotions and excitements of themselves and others as well as proper use of it in order to control and guide the thought and performance are the subject of the emotional intelligence [17]. Therefore, emotional intelligence is considered as a supportive factor against job pressures. Therefore, high emotional intelligence in nurses with emotional managements of personnel and facilitation of positive feeling exchange among them decreases the negative effects of job pressures and protects them from early burnout[18].

Even though burnout syndrome is detected in another professional, prevalence is particularly high in nurses[19]. In Europe studies about nurse's burnout, showed that approximately 30% of nurses due to work activities was exhausted or fatigued [20]. In studies on 5956 nurses in 302 health centers in Japan, showed that 56% of the subjects suffer from high levels of burnout[21]. Moreover, another internal research among female nurses of Yazd, Iran, indicated that 25% of female nurses had high occupational burnout[22].

The study of occupational burnout is important because of nurses, who experience it early, are usually physically, emotionally and mentally tired and this fatigue is very effective in the quality of caring patients. The decrease of quality of caring patients when a nurse experiences burnout, patients would not be cared well enough[23, 24].

Therefore, recognition and prevention of occupational burnout can be effective in increasing the quality of rendering diagnosis and medical services and satisfaction of them. On one hand, regarding the importance of above mentioned occupational burnout of nurses and also the important role of emotional intelligence and job stress in it and on the other hand lack of studies conducted in Iran for determining correlation and relationships among these variables in a structural model, this study aimed to answer to the following hypotheses regarding the nurses in governmental hospitals based on structural equation model.

Hypothesis 1: There is a meaningful relationship between emotional intelligence and job stress among nurses with their occupational burnout.

Hypothesis 2: There is meaningful relationship between emotional intelligence of nurses with their job stress.

MATERIALS AND METHODS

This descriptive-analytical study was done between Sep 2015 and Feb 2016 at three hospitals affiliated with Kerman University of Medical Sciences (public hospital), Kerman, Iran. The environment includes all sections of Kerman hospitals. The population of this study includes all nurses of hospitals supported by the Kerman University of Medical Sciences during the time of the study (1126 people). Based on this fact, sample volume was determined as 286 people, based on the Cochran formula and regarding the confidence

interval of 0.95 and significance level of 5 percent (Equation 1).

(Equation 1):

$$n=\frac{\frac{(z_{1-\frac{\alpha}{2}})^2 pq}{d^2}}{1+\left[\frac{1}{N}(\frac{(z_{1-\frac{\alpha}{2}})pq}{d^2}-1)\right]}$$

After determining the sample volume, for more certainty, 300 nurses (include Nurse, Supervisor and Head Nurse) were selected by simple random sampling (using a table of random numbers) regarding the ratio of number of qualified nurses in each hospital. Inclusion criteria of were, at least have a bachelor's degree in nursing, work in internal wards (or Hospitalization wards), having full-time job (only in one hospital), not having a second job, not having psychological or physical problems and having job experience for at least a year in current sections. In addition, exclusion criteria of were cancel continued cooperation and incomplete filling of questionnaires.

The instrument of gathering information:

A) Organizational and demographic information: In order to collect information, the questionnaires were used which included sex, age, marriage status, job experience, educational background and the schedule of job shifts.

B) Maslach Burnout Inventory—Human Services Survey Questionnaire-MBI-HSS (1981): This questionnaire has 22 questions and 3 dimensions of 1- Emotional fatigue as excitement feeling described by too much work resulting in fatigue (9 questions). 2- Depersonalization disorder (pessimistic and captious attitude with no feeling regarding jobs or patients) (5 questions) and 3-Not having self-efficacy (including the feeling of disqualification and unsuccessful in doing jobs and professional duties) (8 questions). The choices are marked based on the Likert scale which has 7 criteria ranged from never (0 points) to very much (6 points). Therefore, the range of achievable marks is from 0 to 132. Regarding the slicing points of 66% and 33%, people who score more than forty, experience occupational burnout. The reliability and validity of the questionnaire in the occupational group of nurses were tested and the Cronbach alpha of the questionnaire was reported as 0.83 via the method of internal consistency[25].

C) The Emotional Intelligence Questionnaire of Cyber or sharing-EI (1999): The original form of this questionnaire has 2 sections and 70 questions whose second section was not used because of disagreement with our culture. The first section of this questionnaire, there are questions about the dimensions of the emotional intelligence (33 questions) including self-motivating (7 questions), self-consciousness (8 questions) self-control (7 questions), social consciousness (empathy) (6 questions) and social skills (communicational) (5 questions). Each question got six separate marks one of which was the total mark and five were related to each of the parameters. Answers are five-degree and ordinal (always, often, sometimes, rarely, never). This questionnaire was tested by an internal study on the nurses of government hospitals and its reliability was measured using the Cronbach alpha method as 0.82 and its validity was reported as 0-78[26].

C) The questionnaire of job stress HSE (Health and Safety Executive-2004) : The standard questionnaire of job stress is related to HSE of England which includes 35 questions with 7 subscales of demand, control, support of officials, support of colleagues, relationships among colleagues, the role and change and also has a 5 choice range (never, rarely, sometimes, often, always). In this questionnaire, each of scales has marks from one to five. The mean of marks of statements in each subscale states the measured value having the changing range from 1 to 5. Number 1 has the pleasant mood and number 5 has the unpleasant one. The credit of the questionnaire was studied and the multiple–choice dominions were determined via internal consistency evaluation. The coefficient of Cronbach alpha was 0.78 which states that it was acceptably valid [27]. Moreover, the Cronbach's alpha coefficients in this study ranged, for subscales, from 0.76 to 0.81.

Moral considerations: The present study was approved by the ethics committee of Kerman University of Medical Sciences (No .KA/93/233). After getting the permission from Kerman University of Medical Sciences and giving it to hospitals of Kerman city, researchers visited hospitals during the week (Saturday to Thursday) and two job shifts of morning and afternoons in order to have access to all nurses of hospitals selected. After stating the goals of the study and getting permission, questionnaires were rendered to them. Spending necessary time according to demands of nurses because of jobs and speed in answering (average of 45 min), the questionnaires were filled by nurses and gathered by researchers.

The reported descriptive statistics in this study were mean and standard deviation. In addition, for studying the relationships among hidden variables and observed ones the structural equation model was used. The analysis of data was done using SPSS ver. 22 (Chicago, IL, USA) and AMOS ver. 22. The significance level was $P<0.05$

RESULTS

Based on demographic questionnaires, the mean and standard deviation of age and job experiences of nurses were 31.35 ±6.95 and 8.57 ±

6.76 respectively, the majority of them (85.66%) were women and 70.70% of them got married (Table 1). Total mean of the marks of job stress and occupational burnout and dimensions of each of them are mentioned in Table 2. That shows the detailed information regarding the means of various dominions of the three variables.

Regarding the findings, the nurses of the study had average job stress (57.78 out of 100 points). Among job stress parameters of nurses, dimension of communication with the mean of 72.4 and dimension of control with the mean of 65.6 had the highest means, respectively and among parameters of emotional intelligence of nurses, dimension of social skills and one of the social consciousness had the highest means (62.20 and 59.6 respectively); and the most effect on forming the emotional intelligence of nurses. In addition, the dimension of self-motivating had the lowest mean (52.6)

Table 1. Personal and professional features of nurses of Kerman public hospitals in 2015-2016 (n=300)

Features	Mean ± SD	Max	min
Age (yr)	31.35±6.95	47	23
Work experience (year)	8.57±6.76	27	1
	N (%)		
Sex	43 (14.34)		Male
	257 (85.66)		Female
Marital status	88 (29.30)		Single
	212 (70.70)		Married
Education	260 (86.66)		Bachelor's degree
	40 (13.34)		Master's degree
Shift work	61 (23.34)		Fixed
	239 (76.66)		Rotating

Table 2. Questionnaires and dimensions of Kerman public hospitals nurses in 2015-2016 (n=300)

Questionnaire	Dimensions	N	SD	Mean	Max	min
Job stress	Demand	300	14.80	52.80	80.00	26.60
	Control		12.00	65.60	80.00	33.40
	Support Of Officials		16.20	56.80	95.00	30.00
	Support Of Colleagues		11.80	50.80	80.00	40.00
	Relationships Among Colleagues		18.60	72.40	95.00	40.00
	Role		13.40	43.60	70.00	20.00
	Changes		11.20	62.50	78.51	34.25
	Total		7.00	57.78	75.00	40.44
Emotional intelligence	Self-Motivation	300	9.80	52.60	71.40	31.40
	Self-Consciousness		7.00	59.60	76.60	50.00
	Self-Control		10.00	58.60	58.80	42.80
	Social Consciousness		7.20	57.80	75.00	45.00
	Social Skills		8.20	62.00	84.00	40.00
	Total		6.40	58.20	69.80	45.80
Job burnout	Emotional Burnout	300	15.86	66.91	78.80	26.40
	Depersonalization		7.62	36.07	48.39	20.51
	Not Having Personal Qualification		13.25	45.07	51.68	28.22
	Total		11.54	49.35	58.49	26.56

In the study of occupational burnout, the mean of the population was 49.35 (out of 100 points, which shows that it was almost lower than the average level. In addition, regarding the dimensions of the occupational burnout of nurses, the mean of the emotional fatigue was the highest one (66.91) and the 1 of depersonalization disorder were the lowest (36.07).

Hypotheses of the study: The hypotheses of this study were studied in the form of Fig. 1. There is negative and meaningful relationship between emotional intelligence and occupational burnout (Increasing the emotional intelligence results in decreasing job stress). The regression coefficient of the emotional intelligence on occupational burnout was -0.51. This states that the effect of the emotional intelligence on occupational burnout was 0.51 and that increasing emotional intelligence decreases occupational burnout.

In addition, there is meaningful and positive relationship between job stress and occupational burnout. The regression coefficient of the job stress on occupational burnout was 0.49 that states that decrease of the job stress, decreases the occupational burnout by 49%.

In addition, there is negative and meaningful relationship between emotional intelligence and job stress. Besides, increasing the emotional intelligence resulted in decrease of job stress. The emotional intelligence determines about 63% of the variance of job stress.

Regarding the Fig. 1, the numbers that connect to subscales from each variable via arrows, state the degree of dependency of each variable to their subscales. Regarding this, the subscales of skills and self-consciousness had the biggest share and self-motivating has the smallest share in stating

the emotional intelligence.

In addition, regarding the job stress, the subscales of control and support of officials had the biggest share and changes had the smallest share in expressing job stress.

The subscales of emotional exhaustion and insufficiency had the biggest and smallest role in expressing occupational burnout.

The study of credibility of the model of the study: Regarding the results derived from AMOS, the Chi-square (234.51) with the degree of freedom (87) is 2.69 and fewer than 3 that is a proper number. This shows the low difference between the conceptual models of the study with the observed data. The mean of squares of estimated errors (RMSEA=0.066) was less than 0.08. CFI was 0.93, NFI was 0.94 and the NNFI =0.90, all of them are more than 0.9. Moreover, GFI=0.85 and AGFI=0.88 both of which are more than 0.80 which show that the conceptual model has acceptable fitness. The regression coefficients of each criterion of the nurses' job stress, the occupational burnout of nurses and the emotional intelligence of nurses state the relationship among variable and are mentioned in Fig. 1. The results of the fitness of the structural equation model showed that the regression coefficients of routes in the level $P<0.001$ were meaningful.

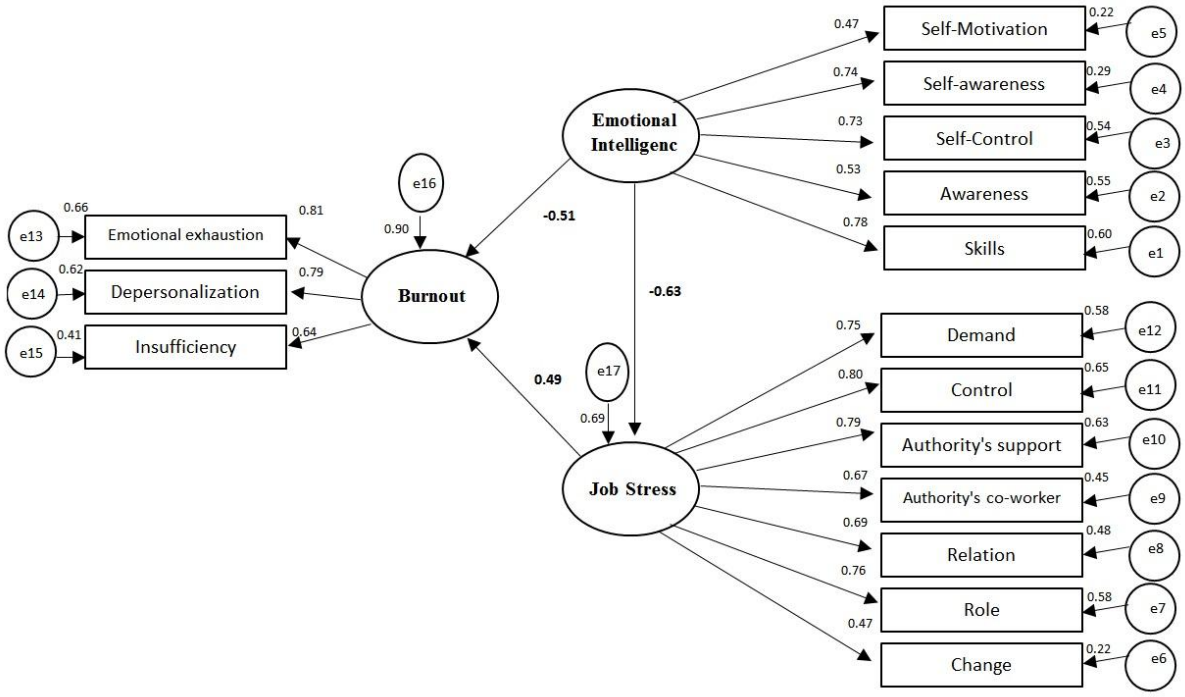

***Fig*. 1.** Relationships between variables in the model and their subscales using standardized numbers of evaluation

DISCUSSION

In recent years, the emotional intelligence and job stress are the psychological factors that affect professional features of people and have considered as salient and anticipatory factors in professional dominions. Therefore, this study was done with the goal of finding out the relationship between emotional intelligence and job stress in the form of a conceptual model.

The findings of this study showed that the mean of the marks of dimensions of the nurses' occupational burnout is high regarding emotional fatigue. In this study, an average of 78.8% of nurses reported emotional fatigue which agrees with the results of the study on 415 nurses working in Hamedan (Iran) hospitals [28] that do not agree with the results of another study. The occupational burnout was high in this dimension is that nurses participating in this study lose all positive feelings empathy and respect to patients while caring for them [29]. In addition, the depersonalization disorder had the lowest mean. In a study conducted on 501 nurses in Australia, were reported the low levels of depersonalization disorder which concords with this study [30].

Regarding the current study, the pessimistic and captious attitude and the cold reaction in nurses show not only expressing the existence of human relations inside organizations but also the optimistic attitude of the personnel to patients. This optimistic view can also be the result of responsibility affected by cultural and religious teachings (in Iran)[28].

The results of the current study regarding emotional intelligence showed that the nurses in the studied hospitals had average emotional intelligence which concord with the ones of the studies on nurses in Tehran and nurses of Rasht (Iran) [31-32]. On the other hand, the observation

of subscales of the emotional intelligence test showed a meaningful relationship among them. The subscale skills and self-consciousness in the emotional intelligence questionnaire had the most score compared to other ones. Because having skills not only increases emotional intelligence but also performance drop and tensions which bring stress about the future profession in job environment [26]. However, self-consciousness (awareness of emotions of oneself) was the main issue of the emotional intelligence whose one of the most salient features, is having more skills in controlling and organizing emotions and excitements which have a reverse relationship with depression [33].

The result of the first hypothesis showed that there was a negative and significant relationship between emotional intelligence and depression. This shows that people with high emotional intelligence (the ones who can resist against difficult events and situations) experience less occupational burnout. Although the results of this study concord with the ones of other studies done on nurses [31-32, 34] they contradict with the ones that studied the relationship between emotional intelligence and occupational burnout on 2223 male staff of public hospitals of Toronto. The reason of this contradiction can be gender (male) and participation in training courses of emotional intelligence; while the participants were of both genders and had no experience in participating in training courses of emotional intelligence[35]. Because of understanding excitements and worries of patients and giving empathy with them in caring and understanding and managing their own excitements, nurses need emotional intelligence not only for rendering proper care but also for keeping their mental and psychological health [36-37]. Nurses with higher degrees of emotional intelligence are more satisfied with their jobs and more successful with caring for patients. Naturally, these psychological features make nurses capable of tolerating more job stress in job environments and result in their less occupational burnout[38]. Compared with people with less emotional intelligence, these people can communicate well with their colleagues and their job environments, manager of their time and responsibilities, have better performance, have useful, healthy presence in job environment and other life environments and finally getting and giving positive feelings to their whereabouts[17, 39-40].

Based on the hypotheses of this study (the second hypothesis) there is direct and meaningful relationship between nurses' job stress and occupational burnout. This means that increasing the job stress results in increasing the occupational burnout. Our results are consistent with with some previous studies [11, 36, 41]. Nursing is an arduous and stressful job regarding its nature. Based on the demanding pattern (karassk model) if nurses face with very stressful job environments permanently, they will face with psychological and physical distress [42-43]. On the other hand, based on the high load of jobs in sections, nurses have relatively less time to do their duties. Consequently, they experience high degrees of stress while working [44]. Long facing with job stress causes anxiety, depression, exhaustion, ignorance to patients and colleagues in nurses and affects the interests in jobs and professional qualifications and increasing acquiring the occupational burnout syndrome [36, 45]. Probably, the resources of stress and strategies of facing with them can assist decrease of occupational burnout.

Based on the third hypothesis, the results show a negative and meaningful relationship between emotional intelligence and job stress. High degree of emotional intelligence results in decreasing occupational burnout. The results of this study are in line with some previous studies [46-48]. In South Africa, high emotional intelligence has meaningful relationship in decreasing the stress of nurses. Besides, high emotional intelligence has meaningful relationships with two dimensions of occupational burnout, emotional fatigue and depersonalization disorder of nurses [49]. Because of consciousness of their emotions and excitements, healthy and capable management, self-adjustment of emotions and self-motivating, empathy and social skills, people with high degree of emotional intelligence can resist better against various sources of stress whether professional, family or socio-communicational and solve problems more effectively[50-51].

This study had some limitations, which affect the generalizability of its results. This study was not without limitations like using self-reporting questionnaires for gathering information so that the psycho-emotional conditions of people while answering was one of the determining situations in answering questions. In addition, the model of this study was designed based on the researchers' opinions while there are other various variables affecting the occupational burnout of nurses and can be used in further studies.

CONCLUSION

There was meaningful relationship between emotional intelligence and job stress with nurses' occupational burnout. The emotional intelligence was effective on job stress. One of the interfering plans for decreasing the syndrome of occupational burnout in nurses could be focusing on improving psycho-personal factors of the job environment including emotional intelligence and job stress. Regarding that emotional intelligence and the control of job, stress should be learned, it is

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recommended that the nurse administrators of the hospitals under this study hold some courses to teach them. In addition, the emotional intelligence can be considered as one of the salient factors in selecting and employing nurses and job promotions during their services.

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