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Original Article

Education Section

A Study on the Occupational Stress, Job Satisfaction and Job Performance among Hospital Nurses in Ilam, Iran

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ABSTRACT

Introduction: Occupational stress and job satisfaction in nursing are issues that affect job performance and the quality of care provided by nurses.

Aim: The aim of this study was to assess occupational stress, job satisfaction and job performance and how they are influenced by personal and work characteristics among hospital nurses in Ilam, Iran in 2013.

Materials and Methods: In this descriptive cross-sectional study the sample included all nurses working in teaching hospitals in Ilam. All of the participants were chosen by census sampling method. The total number of nurses according to the inclusion criteria were 208, out of which 198 nurses completed the questionnaire. Study tools included Harris's Nurse Stress Index (NSI), Spector's Job Satisfaction Survey (JSS), Schwirian Six Dimension Scale of Nursing Performance (6-DSNP) and also a demographic questionnaire. Data were analysed using descriptive and inferential statistics such as ANOVA and Pearson correlation coefficient at the level of significance <0.05.

Results: The mean of occupational stress and job satisfaction of nurses was moderate and the mean job performance was at a high level. In this study, there was a significant relationship between occupational stress and job satisfaction (p=0.001) and also occupational stress and job performance (p=0.04). There was no significant relationship between job satisfaction and job performance.

Conclusion: The results of this study show the importance of nurses' occupational stress on their job satisfaction and performance. In addition, the demographic variables were influential on the main variables in this study.

Keywords: Job stress, Nursing care, Nursing services, Quality of care

INTRODUCTION

Occupational stress and job satisfaction in nursing are important factors affecting job performance and quality of care provided by nurses. Occupational stress is defined as harmful physical and emotional responses that occur when the requirements of a job do not match the resources, capabilities and needs of the worker [1]. Occupational stress is a common phenomenon among health professionals around the world. It has been reported that occupational stress imposes considerable financial burden on health care systems. Researchers have shown that causes, levels and effects of occupational stress largely depend on factors such cultural awareness, nature and field of work [2]. Occupational stressors and low job control lead to poor job performance, decreased quality of nursing care and less concern about the safety of patients [3].

Job satisfaction is a subjective phenomenon that is the result of synchronization between attitude and behaviour [4]. It has different elements including satisfaction for salary and potential for creativity, autonomy, nature of work satisfaction of organizational and individual promotion, co-worker's satisfaction and availability of continuing educational opportunities [3]. Shortage of workforce in one hand and high workload on the other hand cause occupational stress which may affect work performance and job satisfaction [5]. The results of a study showed that the dissatisfaction was a result of poor working conditions, lack of management support and resources, inequality in distribution of responsibilities, low wages and inflexible time schedule and manpower shortage [6].

Job performance is defined as the actions and behaviours of individuals in roles and responsibilities of their work that contribute to organizational goals [7].

It has also been shown that a high level of occupational stress reduces the quality of nursing care. Also poor work performance and reduced quality of nursing services as caused by occupational stress and lack of job satisfaction are risk factors for patient safety [8].

Considering that occupational stress and job dissatisfaction can increase the likelihood of quitting clinical environment by nurses, there was a need to address this issue in research studies. There is a few numbers of studies in Iran that have addressed the relationship between these variables and their influence by personal and work characteristics [9,10]. Therefore, this study aimed to assess occupational stress, job satisfaction and job performance and how they were influenced by personal and work characteristics, among hospital nurses in Ilam, Iran in 2013.

MATERIALS AND METHODS

The present study was a cross-sectional descriptive-analytical research which has been conducted on three educational hospitals (Imam Khomeini, Mostafa Khomeini, and Taleghani) of Ilam, during January to April 2013. Ethical Committee permission was taken. Inclusion criteria in this study were nurses with bachelor's degree or higher, working full-time in the hospitals and having had at least one year of experience. Nurses having bachelor's degree in nursing or higher working full time in hospital and one year of experience were included in study. Nurses having no interest to take part in the study, less than one year of experience and part-time working nurses were excluded from this study. After referring to the each wards, the questionnaire was given to the participants and they were explained how to fill it. All of the participants were chosen by census sampling methods. The participants were asked to complete and return the questionnaire to the head nurse of the ward. After 10 days, the questionnaires were collected from the head nurse of clinical ward.

The total number of nurses according to the inclusion criteria was 208, of which 198 nurses completed the questionnaire.

The questionnaire included four sections. The first section comprised of demographic information and other three sections consisted of NSI [11], JSS [12] and 6-DSNP [13]. Nurse Stress Index contained 30 items, Job Satisfaction Survey 36 items and Six Dimension Scale of Nursing Performance questionnaire contained 52 items. Nurse Stress Index is used to determine the sources of stress among nurses in hospitals and communicative environments. It consists of 30 items and 6 subscales and each of the subscales contains 5 items.

Participants are asked to rate their potential stressors on a 5-point Likert scale ranging from 1= no pressure to 5= extreme pressure. The NSI is self-reported and the respondents read and circle the selected score from 1= no pressure, 2= very little pressure, 3= moderate pressure, 4= high pressure, and 5= extreme pressure for each item. A total score was computed ranging from 30-150 and means of subscales was calculated to assess relative importance of sources of stress (30-60 no pressure, 60-90 very little pressure, 90-120 moderate pressure and 120-150 extreme pressure).

The Job Satisfaction Survey aims to assess the degree to which people like their jobs, through assessment of nine subscales: pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, coworkers, nature of work and communication. The respondents agree or disagree on a 6-point continuum for each item including; 1 much disagreement, 2 disagree moderately, 3 disagree slightly, 4 agree slightly, 5 agree moderately, and 6 agree very much. Each sub-scale has four items resulting in a total of 36 items; however, some items are worded positively while others are worded negatively. In general, the scores are from 36-216 (36-103: low satisfaction, 104-143: moderate satisfaction and 144-216: high satisfaction).

The Six Dimensional Job Performance Questionnaire consist of six sub-scales and 52 items. The subscales include leadership, critical care, teaching/collaboration, planning/evaluation, interpersonal relations/communications, and professional development. Respondents are asked to rate the items as to how often and how well they perform the behaviour/item to assess frequency and quality of performance respectively. The nurses rate the items on a 4-point scale with 1 = not expected in this job; 2=never or seldom; 3=occasionally and 4=frequently for column A, while column B is rated with 1=not very well; 2=satisfactorily; 3=well and 4=very well. However, the items on the professional development sub-scale are assessed for quality only. Since the sub-scales are of different lengths ranging from 5 to 12 items, their scores are calculated according to the average of ratings on behaviours/items per sub-scale. The number of items in each sub-scale are as follows: Leadership=5; Critical Care=7; Teaching/Collaboration=11; Planning/Evaluation=7; Interpersonal Relations/Communication=12; and Professional Development=10.

Content validity method was used to measure the validity of all three instruments. To evaluate the reliability of the instruments, 30 questionnaires were given to the 30 participants in a pilot study. The calculated Cronbach's alpha coefficient in this study was 0.81 for NSI, 0.80 for JSS and 0.90 for 6- DNSP.

The data were analysed, using SPSS, statistical software version 16 (SPSS, Inc., Chicago, IL, USA) with descriptive and inferential statistics. Descriptive parameters were calculated by descriptive statistics (frequency, percentage, standard deviation and mean) and to calculate the inferential parameters variance or its non-parametric equivalent was used. Relevant correlation coefficient test was used to investigate the relationship between occupational stress, job satisfaction and job performance among the participants. To assess the relationship between occupational stress, job satisfaction and job performance with demographic information with respect to the distribution of data was assessed using Kruskal-Wallis test and Mann-Whitney U test or independent t-test and in case of significance of relationship, post-hoc test was used to assess the nature of the relationship at the level of significance<0.05.

RESULTS

In the present study, 78(39.4%) and 120 (60.6%) of the participants were male and female, respectively. The mean age of the nurses was 31.59±5.48 years, and the average number of years of work experience was 6.84±5.24 years, respectively [Table/Fig-1]. The average score for job satisfaction was 107.62 (36-103: low satisfaction, 104-143: moderate satisfaction and 144-216: high satisfaction), showing that the level of job satisfaction among nurses was moderate.

In addition, the investigation of the relationship between job stress and demographic variables showed a significant correlation between

Socio-Demographic Characteristic		Frequency (%)
*Age	24-31	110 (55.5%)
	32-39	65 (32.9%)
	40-48	23 (11.6%)
Sex	Male	78 (39.4%)
	Female	120 (60.6%)
Marital Status	Single	60 (30.3%)
	Married	138 (69.7%)
Level of Education	BSN**	182 (91.9%)
	MSN***	16 (8.1%)
Nursing experience (in years)	1-7	129 (65.2%)
	8-15	47 (23.7%)
	16-22	22 (11.1%)

[Table/Fig-1]: The frequencies and percentages of socio-demographic characteristics of the participants.
* Mean = 31.59; SD = 5.48.

Demographic Characteristic		Occupational stress		Job satisfaction		Job performance	
		Mean± SD	p-value	Mean± SD	p-value	Mean± SD	p-value
Age	24-31	97.07± 19.76	p=0.01	107.9± 18.86	NS	145.26± 17.94	NS*
	32-39	100.78± 19.25		106.7± 19.85		145.72± 20.72	
	40-48	106.42± 18.54		107.3± 19.89		150.5± 17.02	
Sex	Male	98.24± 20.95	NS	110.23± 18.09	p=0.03	145.23± 22.26	NS
	Female	100.24± 18.70		105.58± 19.66		145.95± 16.66	
Marital Status	Single	94.52± 18.51	p=0.01	109.57± 17.68	NS	143.27± 18.62	NS
	Married	101.62± 19.79		106.78± 19.78		146.82± 19.17	
Level of Education	BSN**	99.06± 19.50	NS	107.47± 19.34	NS	145.01± 18.66	p= 0.01
	MSN***	108.75± 20.72		111.13± 15.59		161.38± 13	
Nursing experience (in years)	1-7	99.04± 19.68	p=0.01	107.24± 19.43	NS	145.26± 18.15	NS
	8-15	97.17± 18.75		109.62± 16.85		145.81± 20.18	
	16-22	106.77± 20.03		105.59± 22.66		147.77± 22	
Total		99.45± 19.59		107.62± 19.18		170.44± 17.10	

[Table/Fig-2]: Comparison of Mean and SD for occupational stress, job satisfaction and job performance by socio-demographic characteristics.
* Not significant
** Bachelor of Science in Nursing
*** Master of Science in Nursing

	Job Satisfaction		Job Performance			
			Column A (How frequent)		Column B (How well)	
	r	p-value	r	p-value	r	p-value
Occupational Stress	-0.4	0.001	-0.23	0.001	-0.14	0.04
Job Satisfaction			0.45	0.06	0.2	0.55

[Table/Fig-3]: Correlations for Job Satisfaction and Job Performance with Occupational Stress in nurses.

Characteristic		Occupational stress		Job satisfaction		Job performance	
		Mean± SD	p-value	Mean± SD	p-value	Mean± SD	p-value
Ward/ Unit	NICU	105.07± 14.21	p= 0.02	112.20± 16.14	p= 0.03	151.4±1 7.92	NS
	ICU	92.33± 22.31		110.53± 21.97		146.61± 22.87	
	CCU (Cardiac Care Unit)	89± 29.74		107.88± 30.33		189.38± 21	
	Post CCU	103.22± 17.22		100.44± 17.28		146.22± 16.14	
	Emer-gency Ward	109.36± 21.10		106.02± 19.44		145± 19.75	
	Internal Medical	102.50± 16.81		104.92± 16.12		144.13± 16.58	
	Surgical	98.45± 16.48		108.90± 14.43		145.05± 22.41	
	haemod-ialysis	87± 15.51		114.75± 12.52		134.5± 24.35	
	Burn Ward	100.29± 16.67		108.57± 19.20		152.14± 14.64	
	Psyc-hiatric	117.57± 9.88		88± 16.81		138.86± 13.38	
	Paediatric	103.67± 15.92		101.58± 16.46		141.92± 11.92	
	Operation room	107.21± 6.63		116.75± 5.12		137.5± 5.74	

[Table/Fig-4]: Comparison of mean and SD for occupational stress, job satisfaction and job performance by workplace.

occupational stress and age, marital status, work experience and the type of unit/ward. The average job satisfaction in men and women were 110.23 and 105.58, respectively, indicating greater job satisfaction in men. Average job satisfaction in single and married nurses was 109.57 and 106.78 respectively. There was a significant relationship between education level and job performance. (p =0.01) [Table/Fig-2].

A significant inverse correlation was found between occupational stress and job satisfaction among the nurses (r= -0.48, p=0.001). This indicates that higher job stress will lead to the lower job satisfaction. The inverse significant relationship was found (r = -.023, p = .001) between occupational stress and job performance as measured by the self-rated frequency of activities (how often the participants performed the nursing activities). Also, there was significant positive relationship between occupational stress and job performance, measured as how well the participants performed their activities (r = -0.14, p = 0.04). This indicated that higher stress levels were associated with lower levels of self-rated job performance quality. In this study, there was no significant relationship between job satisfaction and job performance [Table/Fig-3].

There was a significant relationship between job satisfaction and the workplace among nurses. According to the results the highest job satisfaction was related to the nurses working in operating room and the lowest job satisfaction was related to the psychiatric ward. The results showed that nurses had high levels of job performance.

Occupational Stress		Job Satisfaction		Job Performance	
Sub-Scales	Mean (SD)	Sub-Scales	Mean (SD)	Sub-Scales	Mean (SD)
Workload pressures related to insufficient time (Managing Workload 1)	17.02 (3.73)	Pay	11.71 (2.49)	Leadership	14.28 (2.46)
Workload pressures due to resources and conflicting priorities (Managing Workload 2)	16.67 (3.94)	Promotion	13.63 (3.55)	Critical Care	20.38 (3.19)
Organizational Support and Involvement	17.05 (4.20)	Supervision	13.11 (3.65)	Teaching/ Collaboration	28.79 (4.94)
Dealing with Patients and Relatives	16.67 (4.88)	Fringe benefits	8.68 (3.42)	Planning/ Evaluation	19.53 (3.18)
Home and Work Conflicts	15.89 (4.48)	Contingent rewards	10.35 (3.16)	Interpersonal Relations/ Communication	33.57 (5.41)
Confidence and Competence in Role	16.16 (4.18)	Operating conditions	11.26 (2.38)	Professional Development	29.86 (4.46)
		Coworkers	13.04 (2.96)		
		Nature of work	14.42 (3.90)		
		Comm-unication	11.47 (3.39)		
Total	16.57 (4.23)	Total	11.96 (3.21)	Total	24.4 (3.94)

[Table/Fig-5]: Mean and SD of occupational stress, job satisfaction and job performance sub-scales.

The greatest amount of stress was related to the psychiatric ward and the lowest was related to haemodialysis ward [Table/Fig-4].

The highest level of stress was related to workload associated with lack of time, organizational support and conflict and the lowest level of stress was related to the dimension of work-family conflict. In addition, based on this table, the highest job satisfaction was related to the nature of work and the lowest job satisfaction was related to the dimensions of the fringe benefits and contingent rewards. Moreover, the highest level of job performance was related to communication/ interpersonal relations and the lowest job performance was related to the dimensions of leadership [Table/Fig-5].

DISCUSSION

The results of this study showed that nurses had moderate levels of occupational stress. However, most studies have reported high levels of occupational stress [9,14]. In line with our results; other studies have also reported moderate level of occupational stress among nurses [15,16]. The reasons could be the necessary training given to the nurses, proper collaboration and good communication amongst nurses as well as high level of job satisfaction, which affect the level of occupational stress in the nurses. The findings also showed that nurses' job satisfaction was at the medium level. This result is consistent with many study results that showed medium level of job satisfaction [15-18]. Perhaps the reason of moderate nursing satisfaction in our study is due to lack of other employment opportunities and the changing jobs, and good relationship and cooperation with the supervisors in their work setting, which led them to cope with their jobs and working conditions.

The results of this study also showed that nurses have high levels of job performance. This is in contrast to the study by Nabirye RC et al., which reported that the nurses' performance to be low [15]. Also,

Fort AL et al., reported moderate level of job performance among nurses [19]. The result suggests that in this study Bachelor's Degree (BSN) or higher. In other studies, nurses with different education levels such as Nursing Assistant (NA), Registered Nurse (RN), and nurses with BSN were included.

In addition, there was a significant inverse relationship between occupational stress with frequency and intensity of job performance. Nabirye RC et al., also showed a significant relationship between occupational stress with intensity of job performance but in their study there was no significant relationship between occupational stress with frequency of job performance [15]. This can be due to the high workload and shortage of workforce which may cause change in frequency of nurses' job performance and may increase or decrease the frequency of some of their activities. In this study there was no significant correlation between mentioned reasons with occupational stress. Also, Jahangir M et al., reported an inverse relationship between occupational stress and job performance [10].

The study showed a significant inverse relationship between stress and job satisfaction among the nurses. These results are consistent with previous studies that have reported an inverse relationship between stress and job satisfaction [3,16,20]. This might be due to physical and mental stress caused by occupational stress and environmental pressure. This can result in less concentration at work place and disruption of one's personal life which subsequently can decrease job satisfaction of nurses.

The results of this study showed no significant relationship between job satisfaction and job performance. In contrast, some studies reported a significant relationship between job satisfaction and job performance [15,21]. Our result might be due to proper selection of nurses for each ward by managers as well as periodic training of nurses in the workplace. This can result in satisfactory job performance of nurses regardless of their job satisfaction. The results of investigating the correlation between nurses occupational stress and their demographic characteristics revealed that there is a meaningful positive relationship between the age of nurses with their occupational stress so that by increasing age, occupational stress also increases. In this study, younger nurses had less occupational stress than older nurse. This result is consistent with findings of earlier studies that reported a significant positive correlation between age and occupational stress [15,22]. In fact, with increasing age people encounter greater external pressures that may have an impact on their occupational stress. Moreover, the perception of people about life will change, their control over environment will change and also in terms of social standing they experience changes and all of these factors affect occupational stress.

Moreover, there was a significant relationship between marital status and occupational stress, which means occupational stress among married people was more than single people. This result was in line with findings of previous studies [20,23]. Considering the fact that marriage has an important impact on people's life, it might cause more external stress on individual and subsequently bring about more stress at work place.

In this study there was a significant relationship between occupational stress and the type of ward. This was inconsistent with the study by Nabirye RC et al., who reported no significant association between the type of ward and occupational stress [15]. Considering the fact that each ward is physically a different environment and working in each ward demands different expertise and duties, it can be concluded that occupational stress in some wards is higher, in particular in sensitive sections which requires higher level of expertise like Intensive care unit.

There was a significant positive relationship between occupational stress and work experience. Nabirye RC et al., came to the same conclusion in their study [15]. As work experience is obtained with increasing age and given the fact that problems and stresses of family life and environment outside the hospital increases, it may have a greater impact on occupational stress of experienced people compared with less experienced people. Furthermore, people with higher work experience have more responsibilities that causes increased occupational stress.

Furthermore, there was a significant relationship between gender and job satisfaction in the study population so that job satisfaction in men was more than women. This is in contrast to Nabirye RC study that showed no significant relationship between gender and job satisfaction [15]. Considering the fact that nursing is a demanding occupation and regarding the physiological systems of women in such a stressful environments, thereby the level of satisfaction is lower among women. Besides, the lower satisfaction in women also stems from low fringe benefits, working at night shift and being away from family and children for long hours.

In terms of workplace, there was a significant relationship between job satisfaction and the type of workplace. This result is in line with previous studies results [10,18,21,24]. However, Nabirye RC et al., reported no relationship between work experience and job satisfaction [15]. There was a positive significant correlation between level of education and job performance. Nabirye RC et al., reported in their study that there is a significant correlation between these two variables such that by increasing the level of education job performance also increases [15]. This might be due to increased level of scientific and technical knowledge of nurses with master's degree that can positively affect their performance. In terms of income, the results indicated a positive correlation between income and the job performance intensity which was in line with Nabirye RC et al., and Roud D et al., studies results [15, 24].

CONCLUSION

The results of this study indicated a significant association between occupational stress and job satisfaction as well as occupational stress and job performance. In addition, the demographic variables were influential on the main variables in this study.

In this regard, several approaches can be used to improve the level of performance and also reduce job-related stress among nurses. Such approaches include proposing training programs in order to familiarize the nurses with the problem and its causes, familiarize managers with occupational stress, job satisfaction and their effects on nurses, emphasis on its early detection in clinical environments, providing supportive services in the clinical areas for people at risk, and increasing job security of nurses.

LIMITATION

The study was based on self-reports by the participants; therefore, other methods of assessment should be utilized to obtain objective data such as using physiological measures, to assess occupational stress. Also, job performance should be assessed by observation and using a pre-determined checklist filled by researcher.

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