Relationship between Healthy Work Environment, Job Satisfaction and Anticipated Turnover among Nurses in Intensive Care unit (ICUs)

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Abstract

Background and Aim: Shortage of nursing workforce and tendency to quit job are among major problems of health systems all across the world. They also have a negative impact on the quality of care. Intensive care nurses work in specialized and highly stressful workplaces, and their perceptions on the health of their workplace can affect their job satisfaction and their tendency to quit work. The purpose of this study was to determine the relationship between the Healthy Work Environment, job satisfaction and anticipated turnover among ICU nurses. Methods: This cross-sectional study was descriptive - correlational, and was conducted on 270 nurses working in intensive care units of teaching hospitals affiliated to Tehran University of Medical Sciences, who had been selected by simple randomized method. Data collection tools included demographic information form, Healthy Work Environment (AACN, 2005), Minnesota job satisfaction questionnaire and Anticipated Turnover Scale, ATS, to determine Intention to leave. Data analysis was done in SPSS-16 software using Pearson correlation, ANOVA, Chi-square and linear regression tests. Results: Healthy Work Environment had a significant and positive relationship with job satisfaction (r = 0.831, p < 0.001), and a significant but inverse relationship with intention to leave (r = -0.558, p < 0.001). Marital status had the greatest correlation with job satisfaction and Healthy Work Environment (β = 0.25, p = 0.01), as well as intention to leave job (p <0.001, β = 0.223). **Conclusion:** Given that healthier workplace is associated with higher job satisfaction and less tendency to quit job, managers can adopt appropriate strategies to improve the health of workplace in intensive care units, and promote job satisfaction and reduce the intention of nurses to leave their job.

Keywords: Healthy Work Environment; Job Satisfaction; Intention to Leave; Nurse; Intensive care unit

Introduction

The shortage of nursing staff has become a global problem. [1] In addition, the work difficulty in nursing, aging nurses, increased tendency to quit job, and reduced job satisfaction have exacerbated this problem.[2-4] The shortage of nursing staff is particularly significant in the intensive care unit. Nurses working in intensive care units are more likely to quit job, because they work in difficult work environment that is associated with futile care and ethical dilemmas.^[5] This exacerbates the shortage of nurses and decreases the quality of services and the safety of patients in intensive care units. Quitting is one of the factors that contribute to the shortage of nursing staff. Studies have shown that shortage of nursing staff is associated with the Intention to Leave. The Intention to Leave is defined as the subjective evaluation of a person's probability to leave the organization in the short term.^[6] It is also defined as planning to quit in less than one year.^[7] Due to the strong correlation that exists between the Intention to Leave and the high turnover, it is an indicator that can be used to assess the tendency of nurses to quit job.

[8,9] The high prevalence of tendency to leave among nurses prevents healthcare organizations from achieving their goals. [10] The tendency to quit nursing is a global problem and many studies have been done on this subject. For example, the results of a study by Lutzen et al conducted on nurses working in psychiatric ward showed that, 71.42% of nurses were thinking about leaving the nursing profession every day. [11] According to the results of a study conducted in Iran, 52.2% of nurses tended to quit their job and 40% of them had very high tendency to quit their job. [12]

Job satisfaction is one of the factors that can be associated with Intention to leave the job. It is defined as the feeling or emotional

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response that a person has towards all aspects of his/her job. [13] In many theories related to job leave, low job satisfaction has been suggested as a factor that has high correlation with the Intention to Leave. It has also been mentioned that, the correlation between these two variables is between 25% and 42%.[14] In the study conducted on Iranian nurses, there was a direct and negative relationship between Intention to Leave and job satisfaction.^[2] Job satisfaction in critical care units, that require high sensitivity and accuracy, in addition to high workloads, is a key to nurses' retention in the unit and delivery of quality care. Various studies show that, despite higher level of salary in intensive care unit, the rate of quitting, dissatisfaction, and organizational conflicts among ICU staffs are higher in ICUs.[15,16] Such behaviors increase absenteeism, delay, and error, which in turn can compromise patient safety, cause injury to personnel and create inappropriate working conditions.^[17]

Aside from the unchanging aspects of nursing profession, such as constant ethical stress in intensive care units, some aspects of nursing can be taken into consideration by nursing managers and changing them may affect nurses' job satisfaction and their Intention to leave job.[18,19] Creation of healthy work environment is one of these aspects. A healthy work environment is an environment in which, policies and procedures are designed in such a way that employees can simultaneously respond to organizational goals and achieve job satisfaction in the workplace. [20] A healthy work environment is a place that has several components, including communication skills, true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership. [21] Today, the role of healthy work environment in increasing nurses' retention in their profession has been addressed by nursing managers, [22] who can support their staff by creating a healthy workplace. [23] A healthy work environment improves staff performance and ultimately facilities the provision of better services to clients.[24] The American Association of Critical care Nurses (AACN) recommends healthy work environment for increasing staff satisfaction and retention. [25] Studies show that healthy work environment is effective improving nurse-physician collaboration/relationships, building a trust-based communication culture, reducing medical errors, increasing job satisfaction and attractiveness, reducing stress and burnout, increasing patient satisfaction, and improving treatment outcomes.[26,27] Also, lack of healthy workplace not only increases medical error, verbal and nonverbal abuse, disrespect, resistance to change, conflict among health care workers, and poor care delivery, but also leads to job dissatisfaction and intention to leave job which leads to shortage of nursing staff.^[28] A report of AACN shows that lack of healthy workplace contributes to quitting of staffs.[25] The purpose of this study was to determine the relationship between healthy work environment, job satisfaction and intention to leave work among nurses working in intensive care units.

Methods

This cross-sectional study was descriptive-correlational. It was conducted in the intensive care units of hospitals affiliated to

Tehran University of Medical Sciences including ICU, CCU, neurosurgery ICU, Cardiac Surgery ICU, kidney & liver transplant and dialysis units. To determine the sample size, the correlation between workplace health, and nurses' job satisfaction and willingness to quit job were calculated together and in pairs, with r=0.25 and 95% confidence level based on the following formula. Finally, 270 subjects were estimated.

$$n = \frac{\left(z_{1-\alpha/2} + z_{1-\beta}\right)^2}{w^2} + 14$$

Inclusion criteria were; having at least a bachelor's degree in nursing, having at least six months of intensive care unit experience, not having any managerial position (ward manager nurse / nurse manager executive), and being a clinical nurse. Sampling was done by convenience method after obtaining informed consent. Sufficient time was allocated to completion of the questionnaires.

Four questionnaires were used for data collection. The first questionnaire collected demographic information including age, sex, education, type of employment, experience in intensive care unit, type of intensive care unit, shift work, overtime, tendency to overtime work, and interest in the organization. "Healthy work environment" was the second questionnaire designed by the American Association of Critical Care Nurses, [25] that contained 18 questions in 6 sections with 5-point Likert scale. Score 1 indicated complete disagreement and score 5 indicated complete agreements with the item. The scores of all questions was summed up and divided by the number of questions (18 questions), so that the sum of each score ranged from 1 to 5. The score of 0.00 to 2.99 indicated poor workplace health that needed improvement, score of 3.00 to 3.99 indicated healthy workplace and score of 4.00 to 5.00 indicated very healthy workplace. This tool has been translated into Persian and its validity and reliability have been examined by ten faculty members of nursing and midwifery schools of Tehran and Iran Universities of Medical Sciences. Cronbach's alpha coefficient was used for reliability and internal consistency of the questions, and test-retest was used for repeatability. Also, after selecting 30 samples and completing the tool, necessary calculations were performed twice in three weeks interval. Cronbach's alpha coefficient for healthy work environment was 0.88 ($\alpha = 0.88$ and r = 0.92).

The third tool was the Minnesota Satisfaction Questionnaire (MSQ), which is one of the most valid tools used in this field. This tool was first designed in 1967 by Weiss et al^[29] in two long form with 100 questions and short form with 20 questions, which is the most used tool. This tool was used by Jalili et al ^[30] in a study conducted in Tehran School of Nursing and Midwifery, which in the process of validation, one item about the overall satisfaction of the job and two items about the relationship between managers and staffs were added, so that the number of questions reached 23 and its validity and reliability were confirmed. This tool uses a five-point Likert scale to rate the responses from 1 to 5. The overall score ranges between 23 and 115, and the total satisfaction score is considered to be 100 when analyze

the results. The score of below 50 indicates low job satisfaction, score of between 50 and 75 indicates moderate job satisfaction, and score of above 75 indicates high job satisfaction. The face and content validity of this tool was confirmed by eight faculty members of Tehran School of Nursing and Midwifery in Jalili et al Study. [30] Reliability and Cronbach's alpha coefficients of this questionnaire were calculated to be 0.83 and 0.91, respectively in Jalili et al study using test-retest method.

The fourth tool in this study was the "Anticipated Turnover Scale", which included 12 questions in 7-point Likert's scale so that, score 7 meant total agreement and score 1 indicated total disagreement. This tool was designed and validated by Hinshaw el al.[31] It was also reviewed by Liou and responses were scored in 5-pointed Likert's scale.[32] To reduce bias, questions were divided into two classes of positive and negative sentences, so that questions 1, 3, 6, 6, 8, 9, and 10 were scored reversely and the rest were scored positively. The scores ranged from 12 to 60, and classified in three levels; strong tendency to quit (score of above 39), moderate tendency to quit (score of between 29-39) and low tendency to quit (score of below 29). The validity and reliability of this tool were measured by content validity in the Hariri study in 2010 and were confirmed with high validity.^[33] The reliability of this tool was estimated to be $\alpha = 0.80$ and r =0.81, respectively using internal consistency and test-retest.

Descriptive statistics (frequency, mean and standard deviation) were used to analyze the data through SPSS-16 software and Pearson correlation test was used to measure the relationship between healthy work environment and job satisfaction. ANOVA, Chi-square and independent t-tests were used to determine the relationship between demographic factors, healthy work environment, job satisfaction and intention to leave (P < 0.05).

Results

The mean age of participates was 30.21 ± 4.83 years and the mean of their work experience was 5.52 ± 4.57 years. Full demographic information is shown in Table 1. The mean score of healthy work environment was 2.35 and most nurses (84.4%) believed that the health of their workplace needs improvement.

Pearson's correlation test showed that healthy work environment was directly related to job satisfaction, so that an increase in the score of workplace health increased the job satisfaction score of nurses (p<0.001, r=0.831). The healthy work environment was also inversely correlated with the intention to leave, so that increase in the score of workplace health reduced the nurses' tendency to quit (p <0.001, r=-0.582). The mean score of nurses' job satisfaction was 62.4 ± 16.88 . Nurses with moderate job satisfaction accounted for the majority of participants (39.3%). The mean score of intention to leave was 31.53 ± 9.27 and majority of nurses (52.2%) had moderate to high tendency to quit job [Table 2]. The relationship between the score of healthy work environment, job satisfaction and demographic variables was assessed by linear regression analysis and the results showed that, marital status was more correlated with workplace health and job satisfaction than other demographic variables, so that majority of single people found their workplace to be unhealthy and had lower job satisfaction [Table 3].

The relationship between healthy work environment, intention to leave and demographic variables was also analyzed by linear regression and the results indicated that, marital status was more correlated to healthy workplace and tendency to quit than other demographic variables, so that single people were more likely to leave their jobs and majority of single people believed that their workplace was unhealthy [Table 4].

Discussion

The results of this study showed that, there was a significant relationship between healthy work environment, job satisfaction and intention to leave job among ICUs nurses. Meaning that, nurses working in intensive care units who thought their workplace needed improvement were more dissatisfied with their job and were more likely to quit job. Baernholdt & Mark conducted a study on nurses in urban and rural hospitals of US state of Carolina in 2009 and showed that job satisfaction was related to characteristics of healthy work environment. [34] Wallace in his study of a hospital in the Midwest India found a significant relationship between healthy work environment and job satisfaction of nurses. [35] Study of Wieck et al conducted

Table 1: Demographic characteristics of study subjects.				
Variabl	es	N (%)		
Gender	Male	91 (33.7%)		
Gender	Female	179 (66.3%)		
Education Level	BSc	255 (94.4%)		
Education Level	MSc and Higher	15 (5.6%)		
Manifest Office	Single	121 (44.8%)		
Marital Status	Married	149 (55.2%)		
Interest in the communication	Yes	148 (54.8%)		
Interest in the organization	No	122 (45.2%)		
	Morning	51 (18.9%)		
	Afternoon	13 (4.8%)		
Object Toward	Night	36 (13.3%)		
Shift Type	Day Long	25 (9.3%)		
	Afternoon and night	77 (28.5%)		
	Rotation	68 (25.2%)		
Sum	Sum			

Table 2: Distribution of nurses based on healthy work environment, job satisfaction and intention to leave.				
Variables	Categories	No.	%	
	Needs improvement	228	84.4	
Healthy work environment	Good	42	15.6	
	Excellent	0	0	
	Lower than 50 (Low)	97	35.9	
Job Satisfaction	50-75 (intermediate)	106	39.3	
	More than 75 (High)	67	24.8	
	Lower than 29 (weak)	129	47.8	
Intention to leave	29-39 (Moderate)	86	31.9	
	More than 39 (Strong)	55	20.3	
	Sum	270	100	

Table 3: The linear regression of healthy work environment by job satisfaction and other predictor variables.				
Variables	В	Beta	t	P value
Job Satisfaction	0.267	0.586	11.473	<0.001
Marriage status	0.098	0.135	2.59	0.01
Shift Type	-0.013	-0.066	-1.308	0.192

Table 4. The linear regression of healthy work environment by intention to leave and other predictor variables.					
Variables	В	Beta	t	P value	
Intention to leave	-0.166	-0.357	-6.454	<0.001	
Marriage status	0.172	0.237	4.096	<0.001	
Shift Type	0.017	-0.084	-1.471	0.142	
Interest in the organization	0.029	-0.035	-0.639	0.523	

on nurses working in 22 large multi-state hospitals showed a significant relationship between healthy workplace and job satisfaction. [36] Considering the results of above studies, it can be concluded that healthy work environment and job satisfaction are positively and directly related to each other, but this relationship should be considered with caution due to the limited number of studies conducted on this topic. Tomey stated that healthy work environment enhances nurses' job satisfaction and organizational commitment, which result in increased quality of patient care and reduced nurses' tendency to leave healthcare system.^[37] Malloy and Penprase's study also showed that transformational and effective management had a positive impact on health of the workplace and management styles, which have positive effects on the workplace, job satisfaction, and commitment/motivation of nurses.[38] Since job satisfaction is one of the most important factors that affect retention of nurses in their careers, it should be taken into consideration by healthcare managers and policy makers. [39] Baernholdt & Mark concluded that high job satisfaction leads to increased commitment to patient care, independence in work, sense of responsibility, and ability to influence patient care. [34] Studies by the American Association of Critical Care Nurses have shown that, we can take the first steps toward improving quality of patient care and job satisfaction of nurses and reducing nurses' job leave by creating components of healthy workplace. Managers need to receive information and consult with nurses to understand the processes and strategies of the organization in order to realize which processes are working and which ones are not, and also what changes need to be made and which changes need to be reinforced. With the promotion of healthy work environment, job satisfaction is expected to increase and nurses along with their managers are expected to have more opportunity to improve the quality of services and improve hospital productivity. Concerning demographic factors, Thomas's study showed that none of the demographic factors had a significant relationship with workplace health and job satisfaction. American Association of Critical Care Nurses refers to several features that a healthy work environment must have, including communication skills, true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership. Additionally, factors such as work culture, type of society, and education and training system can be correlated to workplace health. Due to the limited number of study conducted in this area, further research and investigation should be carried out in order to address these possibilities with greater confidence.

Conclusion

According to the results of present study, the health of clinical workplace was correlated to job satisfaction and intention to leave job among nurses working in intensive care units. These results can be used to improve work condition and job satisfaction, and also reduce nurses' tendency to quit job. Results of this study showed that, there was a relationship between healthy work environment, job satisfaction and tendency to quit job among ICU nurses. Health care managers and policymakers should design measures to improve the condition of workplace in order to promote job satisfaction and quality of patient care, and also prevent nurses from leaving their job.

Implication for Nursing Management

Health administrators need to empower nursing managers with

skills to implement career development plans as part of hospitals' retention strategies for migrant nurses. Information should also be provided during recruitment campaigns to enable migrant nurses to make informed choices. This study was conducted in 2017 with the financial support of Tehran University of Medical Sciences, with ethical code: IR.TUMS.REC.1395.2840, and the participation of Iran University of Medical Sciences.

Competing Interests

The authors declare that they have no competing interests.

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