Patient safety culture from the perspective of emergency nurses

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Abstract

Introduction: Research conducted in the area of patient safety suggests that the probability of occurrence of medical errors in the emergency unit is more than other units. Therefore, evaluating the factors, which are probably associated with occurrence of these problems in the emergency unit, is essential. The current research was conducted to evaluate patient safety culture status from the perspective of nurses working in emergency units of educational and therapeutic centers affiliated to Tabriz University of Medical Sciences.

Methodology: This research is a descriptive study. It was conducted using convenience sampling method. The research subjects included all nurses working in emergency units of educational and therapeutic centers affiliated to Tabriz University of Medical Sciences(N=192).All subjects completed the HSOPSC (Hospital Survey On Patient Safety Culture) questionnaire and the collected data were analyzed using SPSS software.

Findings: Based on the research findings, 78.6% of nurses working in emergency units did not report any error during the last 12 months, and 52.1% of nurses working in emergency units reported that observing the safety principles in the units is at the acceptable level. Based on the research findings, the score of 8 dimensions out of 12 dimensions of the patient safety culture is under 50%. Then team work dimension in units with 66.15 was found as the most powerful dimension and the non-punishment response to errors with 18.57% was found as the weakest dimension of the patient safety culture in this research.

Conclusion: As one of the most important findings of this research was lack of reporting errors by emergency unit nursing staff, it seems that some actions need to be taken so that employees can report their errors without fear of being reproached. Paying attention to the role of management and leadership plays a key role in creating such a climate.

Key words: patient safety culture, emergency unit, patient safety

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Introduction

As the emergency unit is the first line of providing the service and one of the most important units of a hospital, its staff performance would have a high impact on the performance of other staff members and patients' satisfaction (1). This unit admits about 30 million patients annually and provides urgent health care for them. This large number of admissions limits the communication between the patient and the nursing staff and medical errors and waiting time of patients to receive medical care will be increased (2-2). Research conducted on safety suggests that the probability of occurrence of medical errors and mistakes in this unit is higher than that in other units (6). Thus, evaluating the factors associated with occurrence of these problems in the emergency unit is essential (2-5). Experts argue that the patient safety culture plays a vital role in improving the safety level of patients in the treatment centers (7). The safety culture as one of the most important factors in patient safety in hospitals and is a set of attitudes, beliefs and values of employees, determining the necessity of the safety management practices of the organization. Additionally, safety culture has been defined as a set of norms, attitudes and actions taken on general precautions among people working at a specific place and time (8). It is a culture in which the employees of an organization have an active and dynamic knowledge on the potential of occurrence of errors and both employees and the organization are able to identify errors and to learn from them, and take actions to perform their affairs well (9). The index of strong safety culture of management commitment to learn from errors, encouragement to team work, identification of potential risks, using the reporting system and the analysis of adverse events occurring in a hospital are related to patient safety and evaluation of the patient safety culture among the employees (10). Based on research conducted in the United States, the biggest challenge to move toward a safer health system is the change of culture, so that organizations are recommended to examine the errors that have occurred instead of reproaching the people due to their errors and mistakes and viewing them as an individual deficiency. As a result, this approach will provide the opportunity to improve the system and prevent harm (11). However, the relationship between desirable safety culture and safer care is not clear (12-13). For this reason, many studies have been conducted recently in the safety culture area, based on health staff perspective (14). The release of reports on the effects and costs of the health system due to lack of patient safety in the world makes it necessary to take actions in this regard and it requires the health system to identify the events threatening patient safety, analyze the events, develop solutions, and reform the practices. There are various mechanisms to reduce adverse events and enhance patient safety, but implementing them requires studying the current situation. Hence, this research was conducted to evaluate the patient safety culture status from the nurses' perspective in the emergency units of educational and therapeutic centers affiliated to Tabriz University of Medical Science.

Methodology

This research is a descriptive study, conducted on all nurses working in emergency units of educational and therapeutic centers affiliated to Tabriz University of Medical Sciences. The inclusion criteria of the study included having bachelor degree in nursing and work experience of at least six months in the emergency unit, in which all nurses working in the emergency unit met the inclusion criteria of the study. In this research, HSOPSC (hospital survey on patient safety culture) questionnaire was used. This questionnaire includes 42 questions in 12 dimensions of patient safety. These dimensions include: overall employees' perception of patient safety, employees' perceptions of level of reporting of the errors and non-punishment response to errors, employees' perception of their managers' activities with regard to enhancing the safety in their units and hospitals, and employees' perception of information related to enhancing the quality in the organization, employees' perception of level of team work within the unit and at the hospital, and employees' perception of open communication in the working unit and hospital, employees' perception of feedback and dealing with errors, employees' perception of the consistency of nurses and workload, employees' perception of transfer of a patient from one unit to another unit, and so on. It includes also two questions on the score given by respondents for patient safety and the number of errors reported during the last 12 months. Finally, information related to work experience in hospital, work experience in the unit, working hours per week, specialized work experience, job and type of communication with patients, gender, age, and type of employment were examined. In this questionnaire, a 5-point Likert scale was used to obtain the respondents' views. The responses of strongly agree / agree and often / always are considered as positive answers to positive questions and the responses of strongly disagree/disagree and never / rarely are considered positive responses to negative questions. Finally, the level of each dimension or area was calculated and extracted by aggregating the percentage of positive responses to each question and dividing it by number of questions of dimension or area. The level of each of these dimensions is compared with that of the dimensions in the standard released by American Agency for Quality and Health Research, and accordingly, the areas of the system that are strong in terms of patient safety culture or the areas that are required to be enhanced are determined. Descriptive statistics such as frequency distribution tables, percentage, and ratios are used in analyzing the data.

Findings

The population of the current research included all nurses working in emergency units of educational and therapeutic centers affiliated to Tabriz University of Medical Sciences (n=192). The research findings on demographic characteristics and background information of the subjects are summarized in Table 1.

Table 1: Frequency distribution and percentage of respondents (nurses) based on demographic characteristics

Variable	Level of variable	f	%	variable	Level of variable	f	%
Gender	Male	59	30.7	Working hours per week	Less than 20 hours	4	2.1
	Female	133	69.3		20-39 hours	44	22.9
					40-59 hours	113	58.9
					60-79 hours	16	8.3
					80-99 hours	11	5.7
					Over 100 years	4	2.1
marital status	Single	64	33.3	Organizational position in hospital	Formal	84	43.8
	Married	128	66.7		Contractual	47	24.5
					Project	33	17.2
					Conventional	28	14.6
Education	Bachelor	188	97.9	Direct communication with patient	Yes	190	99
					No	2	1
Work experience in hospital	Less than 1 year	35	18.2	Working duration related to expertise	Less than 1 year	21	10.9
	1-5 years	51	26.6		1-5 years	62	32.3
	6-10 years	56	29.2		6-10 years	59	30.7
	11-15 years	31	16.1		11-15 years	30	15.6
	16-20 years	14	7.3		16-20 years	15	7.8
	Over 21 years	5	2.6		Over 21 years	5	2.6
Work experience in emergency	Less than 1 year	37	19.3				
	1-5 years	76	39.6				
	6-10 years	54	28.1		Total respondents	192	100
	11-15 years	18	6.4				
	16-20 years	6	3.1				
	Over 21 years	1	0.5				
Lowest age= 22				Highest age=88	Mean of age=32.23	SD of age= 6.61	

In the current research, 190 nurses reported that that they had direct communication with patients. The mean age of the participants was 32.23 years, and 69.3% of the participants were female and 66.8% of them were married and 97.9% of them had bachelor degree. Most of the participants in this research had work experience of 6 to 10 years and 43.8% of the participants in this research have a formal organizational position. In this research, the mean percentage of positive responses to various dimensions of the patient safety culture was from 18.57% to 66.15%. The mean percentage of positive responses to various dimensions of patient safety culture is shown in Table 2 (next page).

Based on the research findings, 78.6% of the participants did not report any event during the last 12 months. Observing the safety principles in the unit was at the acceptable level from the perspective of 52.1% of the participants. The number of incidents reported by staff during the last 12 months is illustrated in Table 3 and the rate of observing the safety principles in the unit from the staff perspective is illustrated in Table 4.

Based on the research findings, the dimension of "teamwork in units" with 66.15% was found as the strongest dimension and the dimension of "non-punishment dealing with errors and mistakes" with 18.57% of the positive response was found as the weakest dimension in the current research. Based on the research findings, 8 dimensions out of 12 dimensions (66%) of the patient safety culture are poor and need to be enhanced. Four dimensions out of 12 dimensions of the patient safety culture, obtained the highest score, included teamwork in units, improving the continuous organizational learning, issues related to employees, and manager expectations and actions to enhance the safety. Table 5 illustrates the mean total score of safety culture of the patient hospitals affiliated to Tabriz University of Medical Sciences.

Table 2: The general view of respondents on each of the dimensions of patient safety culture and mean percentage of positive responses

dimensions	Strongly disagree	disagree	No idea	agree	Strongly agree	Mean percentage of positive responses
1- Open communication channel	5.73	15.6	4.27	26.9	11.47	38.37
2- Feedback and informing others on errors	3.47	17.33	34.03	33.33	11.8	45.13
3- Frequency of reporting the unwanted incident	7.67	23.6	32.97	26.4	6.37	35.77
4- Transfer of patient information among the units and work shifts	6	23.18	29.3	32.83	8.73	41.56
5- Management support of patient safety	6.07	22.4	33.17	32.8	5.57	38.37
6- Non-punishment of errors	14.4	35.4	31.6	16.3	2.27	**18.57**
7- Improving continuous organizational learning	3.8	11.8	28.67	42.37	13.33	55.7
8- General understanding of patient safety	5.87	20.97	33.3	33.85	6	39.85
9- Issues related to employees	6.52	20.6	19.3	42.7	10.92	53.62
10- Manager expectation and actions to enhance safety	4.03	15.48	27.73	41.26	11.33	52.59
11- Work team among the units	5.32	22	30.5	35.55	6.77	42.32
12- Team work within units	2.35	14.6	16.9	52.85	13.3	**66.15**

Table 3: Frequency distribution of the number of incidents reported during the last 12 months

Number of incidents	f	%
0	**151**	**78.6**
1-2	28	14.6
3-5	11	5.6
6-10	2	1

Table 4: Frequency distribution of respondents' views on observing the safety principles in the unit

observing safety principles in unit	f	%
Excellent	15	7.8
Very good	49	25.5
acceptable	100	52.2
poor	26	13.5
very poor	2	1

Table 5: mean percentage of positive responses of total score of the patient safety culture in 15 studied hospitals

Hospital	Mean percentage of positive responses to total score of patient safety culture
Imam Reza	**40.12**
Shahid Madani	47.44
Sina	**53.82**
Children	43.57
Shohada	49.26
Razi	**34.34**
Taleghani	43.12
Alzahra	51.81
Alavi	48.73

Discussion

Based on the research findings, 78.6% of nurses did not report any errors and incident during the last 12 months, which this percentage suggests intimate cultural atmosphere governing on organization. Humans can learn from their past errors and share their lessons with others, which will enhance the knowledge of people. Thus, if people can learn from the experiences of others, they can effectively prevent similar errors and mistakes in the future. An effective system, which reports the safety events of patient, is crucial part of a comprehensive patient safety culture (15). Based on the research conducted by Aljar Nadi et al in Lebanon, a significant correlation was found between a positive safety culture and an error reporting (16). Based on the research findings, the non-punishment response to errors and mistakes was found as the weakest dimension. In the research conducted by Heling et al in the Belgian hospitals, this dimension also obtained the lowest score in the patient safety culture (17). One of the factors involved in creating a positive safety culture is the non-punishment positive response to the error (15). Based on the research findings, teamwork in units has the highest score in patient safety culture. This dimension also obtained the highest score in the research conducted by Chi Chen et al (9). Each person has a specific role in the teamwork, which it is coordinated with goals of the team or other team members (21). Health care team members take important and vital decisions daily on complex and different therapeutic actions in providing the care for patients, which these decisions affect the life and well-being of patients (22). The advantages of teamwork include reduced medical errors, improved health care quality, increased patient satisfaction, improved satisfaction of employees in dealing with work issues, and reduced burnout in healthcare experts (23). Based on the research findings, the dimension of "issues related to employees" is one of the dimensions obtained the score over 50%, while in the study conducted by Chi Chen, this dimension obtained the lowest score (20). Other dimensions with over 50% in this research were related to "the manager expectations" and "actions to enhance the safety", which these findings

are parallel to the findings of the research conducted by Rezaeian et al (24). The management and leadership to enhance the patient safety plays key role, which positive score in this dimension can suggest the positive actions of manager to enhance the safety. Based on the results, the overall safety score of emergency staff in 8 hospitals from 15 hospitals investigated in this research is below 50%. The lowest score was related to staff working in the Emergency Unit of Razi Hospital, which is regarded as a specialized psychiatric center. Given the specific sensitivities and risks, threatening the patients with psychiatric disorders, it is important to pay more attention to safety of these patients. However, the staff working in the emergency unit of Sina Hospital, operating as a poisoning and burning specialized center, obtained the highest score related to patient safety culture, and the positive safety culture in this center might decrease the number of these errors, leading to improved patient safety. Moreover, patient safety culture in the emergency unit of Imam Reza Hospital obtained the score lower than 50%, while this units operates as the largest emergency unit in the northwest of Iran and admits patients from different cities and neighboring provinces, and it is very important to pay attention to the safety issue and serious actions are needed to be taken to create a positive safety culture in this area. In the current research, dimensions, which the mean percentage of their positive response is under 50%, were 8 dimensions out of 12 dimensions of patient safety culture. Team work in emergency units, improved learning, examining the patient safety culture status from the perspective of nurses working in the emergency units affiliated to Tabriz University of medical sciences, issues related to employees and managers' expectations and actions to enhance the safety were some of the dimensions obtained the highest score.

Conclusion

Based on the current research findings, the rate of reporting the error by emergency staff was very low and the majority of them did not report any error during the last 12 months. However, factors such as reporting the error, leadership / management, and non-punishment response to error have a key role and particular attention needs to be paid to them in order to create a positive safety culture in health care organizations (15). In this regard, management and leadership play important role in creating a positive safety culture for reporting errors, since managers should create a type of psychological safety, in which employees are completely sure on disclosure of errors, so that health care providers ensure that they will be treated with respect when they disclosure an error (18).

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