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Nurses' Perspectives on Factors Affecting Patient Safety: A Qualitative Study

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Abstract

Patient safety is a global concern that involves all healthcare members, so that achieving a high level safe care is responsibility of all healthcare services, particularly nurses. This qualitative study aimed to describe nurses' perspectives on factors affecting patient safety. We recruited 32 nurses working in teaching hospitals by purposeful sampling method. Data were collected by semi-structured interviews, and transcripts were analyzed by conventional content analysis approach. Two themes were extracted from data analysis including "Patient-Centered Care" and "Organizational-Based Factors", and eight categories delineated from participants' experiences with regard to the patient safety. Based on the results, complexity of patient centered-care is an obstacle for implementation in practice. Therefore, educating nurses for focusing on patient interaction and cooperation is essential for achievement to proper care and improving quality of care. Furthermore, improving facilities and equipment, providing sufficient and efficient personnel by the executive director are necessary in effective clinical services.

Keywords: Nurse, Patient safety, Qualitative research

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Introduction

All health professionals are responsible for ensuring the safety of their patients. Non-safety services such as burning in operating room, falling down bed, medication error, decubitus ulcer, nosocomial infection have resulted in much burden for patients safety damage in healthcare system(1). The failure rate of patient safety in Iran represents 7,000 medication errors (2), a surgical procedure complication rate of 66% (3), an average equipment failure rate of 4.58% (4), and an average hospital infection rate of 76% (5). More than 50% of the injuries sustained by hospital patients are associated with falling, and 1% to 15% of these incidents lead to fractures and hematomas (6). Despite new technology such as "Intelligent operative table " for complete check of necessary equipment before and after operation, the "Foolproof Medication Compliance Monitor" in patient safety promotion and error prevention, some errors still happen and damage patient safety (7). Improved patient safety in Iran healthcare depends on the patient safety culture, which comprises the values, attitudes, perspectives, and behaviors that determine an organization's commitment to safety management (8). On study found an overall patient safety culture of 50.1% in Iran; the highest score was related to teamwork (67.4%), and the lowest score (32.4%) was associated with non-punitive responses to errors (9). Other study in teaching hospitals in Rasht (a large city in Iran) reported that behavior of nurse and patient safety culture were at moderate level. The results also showed a significant and direct relation between professional behavior of nurses and patient safety culture (10). A qualitative study concluded that insufficient education is one of the most significant patient safety challenges faced by Iranian nursing students (11). Because nurses spend a great deal of time with their patients, they function as essential members of a health-care organization's professional staff in ensuring patient safety. However, high workloads, insufficient nurse staffing, and low levels of motivation in the Iran health-care system contribute toward an environment in which errors can occur and cause harm to patients (12). Therefore, determining the factors that have an effect on patient safety can help to recognize problems that need to be addressed in order to improve the quality of care. Studies showed that patient safety by nurses is a challenge in Iran as well as in other countries (13,14). Although there have been many quantitative studies on patient safety (8-10), little qualitative research has been conducted on this topic (11). The present study was conducted to investigate nurses' perspectives on factors affecting patient safety in Iran.

Methods

This qualitative study, which was conducted using a conventional content analysis method (15), took place in five educational hospitals in Tehran. The participants (32 nurses employed in emergency, nephrology, and gastroenterology departments and in ICU, CCU, and post-CCU wards) were selected by purposive sampling. For study in depth, logic and power of this sampling method lies in selecting information-rich participant (15). After referring to the ward, the first researcher explained the study objectives to the supervisors and asked them to introduce nurses who experienced patient injuries themselves or second-hand through colleagues. Those were who worked full time for at least two years in educational hospitals selected for interviews. Data were collected using semi-structured interviews. An informed consent letter was obtained from each participant prior to the interview, and participants were assured that their information would remain anonymous and confidential. Additionally, participants were informed that they had the right to withdraw from the study at any stage. The study was approved by the ethics committee in Shahid Beheshti University of Medical Sciences and authorities at each selected hospital (No. IR.SBMU.PHNM.1395.518). Two researchers participated in the analysis and interpretation of the data. Each interview lasted 30–45 minutes and was conducted by the first researcher in a private area based on the participants' willingness to answer the following general question: "What is the first thing that comes to your mind when you hear the words *patient safety*?" The following additional questions were then asked: What do you mean? Would you please explain further? What factors affect patient safety? What is your experience with patient safety and injuries in the workplace? Can you give an example? Interviews were continued until the point of data saturation, which occurred with participant 28; however, four additional nurses were interviewed in order to ensure data saturation.

Interviews were first written and then read several times by the researchers to gain an adequate understanding of the text. They then coded the transcripts in order to distinguish between separate

categories. Data were transformed from description to interpretation via a data analysis process that included the following four steps: 1) preparation, 2) data immersion, 3) organization, and 4) category generation (15). During the preparation and data immersion stages of this study, researchers transcribed interviews and read them several times to obtain an overall sense of perceptions of patient safety in their department or ward. In the organization phase, categories and subcategories were generated by open coding and grouping by the researcher. Finally, in the reporting phase, the themes were delineated.

A common feature of trustworthiness is reporting the process of content analysis (16). In the present study, credibility was achieved via the two most commonly used techniques (source triangulation and member checking). The source triangulation was applied to nurses that worked in different wards. For member checking, participants read transcripts that accurately captured their experiences in the interviews. The researchers also employed the use of prolonged engagement with the subject matter. Peer checking was performed by an associate professor of nursing. For dependability, recorded interviews were transcribed verbatim along with the other data collected. To gain a general understanding of the content, the subjects' statements were read several times, and meaning units and initial codes were extracted. The transferability of the data increased through the diversity of the participants' ages, full-time working experience, and employment in different hospital wards and collecting and analyzing data concurrently.

Results

Participants' demographic characteristics are displayed in Table 1.

Table 1. Participations demographic characteristics

Characteristics		Number (%)
Gender	Female	25(78.1)
	Male	7(21.8)
Work wards	Emergency	8(25)
	Gastroenterology	2(6.2)
	Nephrology	1(3.1)
	Post CCU	9(28.1)
	CCU	5(15.6)
	ICU	7(21.8)
Age	25-30	8(25)
	30-35	8(25)
	35-40	11(34.3)
	40-45	2(6.2)
	45-50	3(9.3)
	Mean± SEM	34.6±6.2
Work experience years	<5	8(25)
	5-10	11(34.3)
	10-15	7(21.8)
	15-20	6(18.7)
	Mean± SEM	8.6±4.3
Time of interview(min)	Mean	30-45

Two main themes emerged from analysis of the data including "Patient Centered Care" and "Organizational-Based Factors" (Table 2).

First Theme: Patient-Centered Care

The participants' experiences related to patient safety indicated that patient-centered care improves health-care outcomes and improves the quality of care. The theme of patient-centered care consisted of four categories, which are detailed in the following paragraphs:

Proper care and safety maintenance

The majority of participants stated that when patients are admitted, they are concerned about their

Table 2. Themes, Categories, Sub-categories founded in interviews

Main theme	Categories	Sub- category
Patient Centered Care	Proper care and safety maintenance	Proper treatment and not added problem to the patient Quick problem identification Physical safety
	Patient comfort care	Patient Communication Nurse availability Stress management
	Considering principles of medication safety	Correct patient identification Principle of medication process Attention to drug allergy
	Considering patient characteristics	Attention to patient independency in care Patient age Underlying diseases
Organizational - Based Factors	Considering principles of hospital infection control	Hand washing Environment hygiene Attention to the aseptic process in care
	Hospital facilities and equipment	Availability and efficient equipment Ward physical structure Controlling environmental factors
	Sufficient staffing	Maintain personnel safety Personnel satisfaction and motivation
	Staff empowerment	Sufficient staffing skills Patient education Personnel safety control

diseases and treatments without the addition of new problems. A participant working in CCU said, *"I had a patient who experienced a leg hematoma due to inappropriate care provided by a lessexperienced colleague after angiography. He was taken into surgery for hematoma evacuation" (Participant 1).* Another participant working in ICU ward explained: *"there was an old patient who was admitted in the ICU for monitoring after surgery. He fell down bed and became head trauma. So, he stayed in the ICU for a long time and finally passed away"(Participant 6).*

Patient comfort care

The nurses pointed out that comfort care, such as a patient's immediate access to relief, is essential. A nurse with 12 years of experience in ICU said, *"When I sit beside a patient, I feel that he or she is at peace and has no concerns, but when I go back to the nursing station, the patient's stress level and pulse rate increases (Participant 5).*

Considering principles of medication safety

Most participants expressed the opinion that incorrectly identifying patients results in mistakes such as medication and blood transfusion errors. A participant working in a post-CCU ward stated, *"In my early years of work, I once administered Lasix instead of dexamethasone. No harm to the patient resulted from my mistake, but I raised the issue of accuracy at work and shared the incident with the head nurse" (Participant 4).* Other participant pointed to her experience, *"I was a rotating staff in the Nephrology department 12 years ago. An error occurred in blood transfusion, and the patient had hematuria. Thank goodness it was managed. I was sent to the bone marrow transplant department as a punishment "(Participant 9).*

Considering patient characteristics

The majority of participants expressed the belief that individual differences, such as age, patient independency, and underlying diseases, are essential considerations in patient safety. A participant with five years of experience in an ICU ward said, *"We had an Alzheimer's patient who was really uncontrollable at night and had illusions, so we had to administer sedatives. In my opinion, I have to look at the conditions of all the patients; separate rooms should be considered for patients who have the potential to disturb others" (Participant 5).*

Second Theme: Organizational-Based Factors

This theme comprised four categories as follows:

Considering principles of hospital infection control

Participants pointed to this category as an important factor in patient safety. Hand washing is the first priority in patient care. For example, a participant with 13 years of experience in an emergency ward said, "*In a second bed in one of the room, there's, an 80-year-old man who had tongue cancer three years ago who has relapsed. The cancer has spread to his gums, so he's going to be here again. The flap brushes all the muscles of the jaw and neck flipping around, the flap does not move; the mouth was completely closed, and suction was not possible. The patient was transferable to the ward, but the amount of secretions was very high. We told the surgeon that the patient was sick. The doctor who attended the patient's bedside said that he had pneumonia" (Participant 18).* Other nurses in ICU pointed that "*I keep seeing that physicians do not wash their hand from the first to the last visit patients"* (Participant 6).

Hospital facilities and equipment

The majority of participants stated that a lack of properly working equipment can endanger patient safety and can even lead to patient death.

One participant working in the emergency ward stated, "*I remember that we needed an external pacemaker in order to administer CPR to a patient; the pacemaker was not in the ward. We treated the patient with atropine and transported the patient to the Cath lab" (Participant4).*

Sufficient staffing

The participants' experiences showed that patients suffer poor services when the number of nurses on duty is insufficient. According to patients' rights in all countries, qualified staff members have significant role in patient safety. According to one participant who worked in the gastroenterology ward, *"Staff shortage is our biggest problem, and we are unable to respond to the patients' needs appropriately. During some shifts, I am so busy that I respond to the patient calls but forget to go into the room and disconnect their IVs when scheduled to do so" (Participant 8).*

Staff empowerment

Regarding this category, a participant working in CCU stated that "*Some colleagues didn't explain to a patient how to lower the bed. They had just told him that he could lower it. He came down too quickly, and the patient experience vasovagal syncope" (Participant 10).*

Implications for Practice

According to the dimensions of patient's safety, patient is considered as the first priority in healthcare. Although the complexity of patient-centered care is an obstacle for implementation in practice, educating nurses to focus on interaction and cooperation is essential for improving the quality of patient care. Furthermore, improving facilities and equipment as well as providing sufficient and efficient personnel are necessary to achieve a high level of effectiveness in clinical services.

All participants may not have disclosed all their experiences due to concerns about potential consequences. However, an attempt was made to control this limitation as much as possible by assuring the participants of the confidentiality and anonymity of their information.

Conflicts of Interest

None declared.

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