An Important Stage in the Development Process of the "Patient Safety Education Program": Needs Assessment (A Qualitative Study)[1]

Hasta Güvenliği Eğitim Programı Geliştirme Sürecinde Önemli Bir Aşama: İhtiyaç Analizi (Nitel Bir Çalışma)

Tuba ÖTÜN[2] ⓘ, Emine ŞENYUVA[3] ⓘ

Yazarların ORCID numaraları / ORCID IDs of the authors:
T.Ö. 0000-0002-5241-2010; E.Ş. 0000-0001-8855-6692

[1]Araştırma, İstanbul Üniversitesi-Cerrahpaşa Lisansüstü Eğitim Enstitüsü Hemşirelikte Eğitim Anabilim Dalı'nda doktora eğitimine devam eden Tuba Ötün'ün Doktora tez çalışmasının ilk aşamasıdır.

[2]Istanbul University-Cerrahpaşa Graduate Education Institute, Nursing Education Department, Istanbul

[3]Istanbul University-Cerrahpaşa Florence Nightingale Nursing Faculty Nursing Education Department, Istanbul

Sorumlu yazar / Corresponding author: Emine ŞENYUVA,
E-posta: esenyuva@iuc.edu.tr

ABSTRACT

Introduction: It is important to recognize the needs of nurses in order to develop their knowledge and skills about patient safety and to create an education program.

Aim: The study aims to recognize the needs of nurses in order to form a basis for structuring the "Patient Safety Education Program" based on the Constructivist Learning Model.

Method: The study is designed as a qualitative study. The participants were randomly reached. The data were collected by using a semi-structured interview form.

Results: The results of the study show that nurses are intertwined with patient safety in all fields of care. When structuring education programs related to patient safety, it is necessary to select subjects, teaching methods, materials, and assessment methods that will improve nurses' knowledge and skills related to patient safety.

Conclusion: In accordance with these results, it can be recommended to use the study results when structuring formal educational programs.

Keywords: Education; needs assessment; patient safety.

ÖZ

Giriş: Hemşirelerin hasta güvenliği ile ilgili bilgi ve becerilerini geliştirmek ve bir eğitim programı oluşturmak için ihtiyaçlarını tanımak önemlidir.

Amaç: Çalışma, "Hasta Güvenliği Eğitim Programı"nın Yapılandırmacı Öğrenme Modeli temel alınarak yapılandırılmasına temel oluşturmak için hemşirelerin ihtiyaçlarının belirlenmesini amaçlamaktadır.

Yöntem: Araştırma nitel bir araştırma olarak tasarlanmıştır. Katılımcılara rastgele ulaşılmıştır. Veriler "Yarı Yapılandırılmış Görüşme Formu" kullanılarak toplanmıştır.

Bulgular: Çalışmanın sonuçları, hemşirelerin bakımın tüm alanlarında hasta güvenliği ile iç içe olduğunu göstermektedir. Hasta Güvenliği ile ilgili eğitim programları yapılandırılırken hemşirelerin hasta güvenliği ile ilgili bilgi ve becerilerini geliştirecek konuların seçilmesi, öğretim yöntem ve teknikleri, materyal ve değerlendirme yöntemlerinin seçilmesi ve kullanılması gerekmektedir.

Sonuç: Bu sonuçlar doğrultusunda örgün eğitim programları yapılandırılırken çalışma sonuçlarının kullanılması önerilebilir.

Anahtar Kelimeler: Eğitim; hasta güvenliği; ihtiyaç tespiti.

Introduction

Patient safety encompasses the measures and care taken to create a safe environment for every patient visiting hospitals (Pronovost et al., 2005). In other words, patient safety is all the measures taken by health institutions and all healthcare staff members to prevent the damage that healthcare services can cause to people (Sayek, 2011; Sur, Palteki, & Yazıcı, 2019). As the most significant international organization working on patient safety, Joint Commission International (JCI) published the "National Patient Safety Goals" in 2003 (Sur et al., 2019). For the purpose of attracting attention to medical errors that emerge as serious health problems and achieving the systematic performance of work towards improving and facilitating patient safety, the World Health Organization (WHO) established the "World Alliance on Patient Safety" with member states in 2004 (WHO, 2005) and created the "Patients for Patient Safety" initiative for physicians, nurses, and other healthcare personnel working for health organizations and institutions, as well as for patients and their relatives (Engaging Patients and Families, 2018). In Turkey, patient safety is covered by the Quality Standards in Health (QSH) published and regularly updated by the Turkish Ministry of Health. Within the scope of the standards and contents specified in the latest QSH Hospital Guidelines (Version 6), healthcare organizations and institutions provide active personnel with patient safety education programs and issue inspections.

Today, the transformation of healthcare services into an increasingly complex structure, developing and changing healthcare needs, and rapid developments in health technologies bring about risks for both service providers and service receivers. Moreover, errors occasionally made by healthcare professionals in clinical practices may harm the patient (Pronovost et al., 2005; Sayek, 2011; Sur et al., 2019). These reasons make ensuring patient safety in healthcare services a prioritized issue.

Background

As important members of the healthcare providers, nurses are responsible for accurately identifying patients, protecting patients from infections and from falling, preventing/minimizing undesirable consequences of procedures and treatments to be applied to the patient, and reporting undesirable events, in other words, determining the situations that can put patient safety at risk. In this context, intertwined with patient safety in every field of nursing care, nurses play a key role in patient safety (Institute of Medicine, 2004; Sajadi, Ebadi, & Khaghanizadeh, 2015). In addition, patient safety is the priority of nurses in healthcare services and is the basis of quality nursing care (Sajadi et al., 2015). This necessitates the structuring of education programs to improve nurses' knowledge, attitudes, and skills regarding patient safety.

However, considering the existing patient safety education programs today, it is seen that, in general, educational objectives and goals are not clearly set, and a content-heavy educational environment is established. Moreover, instruction methods and materials that allow nurses' active participation are used to a limited extent, post-education assessments are either rarely made or not made at all and mostly, the educator takes an active role while the learner takes a passive role. This situation prevents patient safety education from becoming effective and efficient, and therefore, leads nurses to experience problems in transferring their knowledge to their practice. To eliminate these problems, it is needed to structure patient safety education programs by keeping in mind the main principles of education and that nurses are adult individuals who have knowledge and experience (West, 2016). Structured patient safety education programs provide an opportunity for nurses to utilize their prior knowledge and experiences and take responsibility. Such programs also enable nurses to achieve the desired changes by increasing their knowledge, skills, and awareness regarding patient safety. For this reason, patient safety education programs need to be based on models/approaches that will allow nurses to actively participate and learn by living. Furthermore, they should help them make inferences to improve themselves (Lenburg, Abdur-Rahman, Spencer, Boyer & Klein, 2011; West, 2016; Dikmen et al., 2017). One of these models/approaches is the *Constructivist Learning Model* (Lenburg et al., 2011; West, 2016).

Based on the views of Piaget, Vygotsky, Gestalt, and Barlett, which are based on psychology and philosophy, the Constructivist Learning Model is a learning philosophy that helps individuals construct their own understanding by reflecting on their own experiences. It is based on learners establishing their own world views and knowledge by experiencing things and thinking in depth about these experiences. In this way, whenever learners encounter new information or a new experience, by constantly updating their cognitive processes to reflect new information, they create their own interpretations of reality (Bhattacharjee, 2015). In addition, the constructivist learning model allows learners to learn how they can access information, how and where they can use the information, and how they can reach new information from existing information (analysis-synthesis). Furthermore, the model helps learners put new information into practice and improve it. Also, it helps individuals improve their communication, listening, creativity, synthesis, and problem-solving skills, all of which contribute to a better quality of life (Mbise & Lekule, 2020). Due to these benefits, it is important to structure "Patient Safety Education Programs" based on the Constructivist Learning Model.

The first and most important stage in structuring "Patient Safety Education Programs" based on the Constructivist Learning

Model is the "need assessment" stage. Need assessment is an important tool that positively affects decision-making and improves the current detected situation to the desired level (Demirel, 2015). It is an important stage in structuring education programs with its ability to direct the goals and objectives of the education program and with its content, teaching and assessment methods, and materials (Coban et al., 2017).

In the need assessment stage, the needs of society, the person, and the subject field are determined. To that end, the stakeholders of the subject field are the most important element (Coban et al., 2017). There is no study in the relevant literature that shows that the needs of subject field experts (e.g., nurse executives, nurses, and nursing instructors) are determined by taking their views as stakeholders. In this context, the present study is important in that it takes into account nurses' needs to form a basis for structuring "Patient Safety Education Programs" based on the Constructivist Learning Model and thus develop their knowledge and skills related to patient safety.

Aim

The study aims to identify nurses' needs to form a basis for structuring "Patient Safety Education Programs" based on the Constructivist Learning Model and thus develop their knowledge and skills related to patient safety.

Methods

Study Design

The study is designed as a qualitative study to achieve in-depth and detailed identification of nurses' needs to improve their knowledge and skills related to patient safety.

Data were collected using a semi-structured interview form that was developed by the researchers in line with the literature (Karatas, 2015). The form included five open-ended questions aimed at identifying participants' needs related to patient safety.

The questions in the interview form are as follows:

1. Why is it important for nurses to ensure patient safety?

2. What are the most common patient safety failures?

3. What qualities should nurses have for patient safety?

4. What can be done to improve nurses' knowledge and skills regarding patient safety?

5. How should education programs for patient safety be structured?

Setting and Participants

The stakeholders of nursing care are nursing instructors, nurse administrators, nurse educators, and clinical nurses. This study took care to select nursing instructors working at different institutions, with different positions, duties, experiences, and areas of expertise and with different titles and designations from among these stakeholders.

In the study, for the purpose of forming a small sample and reflecting the diversity of the individuals to the maximum variation (heterogeneous), the sampling method was utilized (Neuman & Robsen, 2014). The study included participants in different positions and with different duties in the field of nursing care, who had at least five years of experience.

The study was carried out with three nursing instructors, six nurse executives, seven nurse educators, three head nurses of the patient ward, and five patient ward nurses. The participants worked in different institutions, had different positions, tasks, experiences, specialties, and titles, and they all agreed to participate voluntarily in the interview.

In the interviews, the targeted number of participants was not predetermined, and data saturation was taken as a basis. Therefore, when data saturation was thought to have been reached, the interviews were concluded (Neuman & Robsen, 2014; Celik, Baykal & Memur, 2020). The participants were recruited with the simple random sampling method.

Ethical Considerations

The ethics committee approval for the study was obtained from the Ethics Committee of an Education and Research Hospital (Date: 24/07/2018, Issue: 937). The study was based on voluntary participation, and written consent was obtained from the participants who agreed to participate in the study.

Data Collection

The study was carried out between October and November 2018. The data were collected by the individual interview method using a semi-structured interview form. The interviews took between 30 and 50 minutes for each participant. In the interviews, care was taken not to deviate from the purpose of the responses and not to interfere with participants' opinions in order to obtain rich and deep responses. Interviews were carried out face-to-face in quiet, bright, safe, and easily accessible environments, and necessary materials were prepared in advance (Erdogan, Nahcivan & Esin, 2015; Squires & Dorsen, 2018). In order to prevent data loss, voice records and observation notes were taken during the interviews with the participants' permission. During the interviews, in addition to the main questions in the form, sub-questions were used when necessary to obtain richer data (Baltacı, 2018).

Data Analysis

The data were analyzed using the content analysis method. The audio recordings taken during the interviews were transcribed and transferred to the computer environment without making any changes or interventions and by including all details and

observation notes (Guven & Kabaran, 2021). For the data reliability, the consistency of the coding performed by the researchers was analyzed and confirmed. Afterward, codes, categories, and themes were created. In this study, coding was performed based on the concepts obtained from the data collected in the research process. The data were collected under relevant categories based on the codes. The categories were collected under themes in line with the objectives of the research. The data analysis yielded five themes and 27 categories (Table 2).

Participants' age, years of professional experience, and duties are indicated in parentheses at the end of the statements.

Results

Descriptive Characteristics of the Participants

The study was conducted with six nurse executives, seven nurse educators, three head nurses of the patient ward, five patient ward nurses, and three nursing instructors (Table 1).

Themes and Categories Related to Nurses' Needs for Improving Their Knowledge and Skills Related to Patient Safety

The analysis of the interviews with the participants yielded the following main themes and sub-themes: the importance of ensuring patient safety, the most common patient safety failures, competencies nurses should have regarding patient safety, what to do to develop their knowledge and skills, and their opinions on structuring education programs related to patient safety (Table 2).

Importance of Ensuring Patient Safety

Participants' views on the importance of ensuring patient safety are defined under three categories; patient (n=24), institution (n=20), and nurse (n=15) (Table 2).

Participants described the importance of ensuring patient safety from an institutional point of view as increasing the efficiency of the institution, reducing the length of hospital stay, and reducing health costs.

"*The nurse has a great function in ensuring patient safety for conducting the recovery process in a complete way.*" (42, 22, Nurse Educator)

"*We don't want to cause financial or emotional damage to the patient or the institution. Therefore, it is important.*" (38, 14, Nurse Executive)

Participants described the importance of ensuring patient safety by the nurse as increasing the quality of nursing care and service and ensuring proper communication with patients and other health staff members.

"*It is important to improve the quality of service the patient will receive in order to ensure that the patient's follow-up and treatment can be performed accurately.*" (40, 19, Nurse Educator)

Participants underlined the importance of ensuring patient safety with a reference to improving the quality of nursing care, ensuring medical safety, preventing possible health complications, preventing medical failures, ensuring the effectiveness and accuracy of treatment, shortening the length of hospital stay, returning the patient to normal life as soon as possible, and preventing hospital infections.

"*I think the safety of the patient is very important for ensuring patient safety, providing the treatment completely in the first place, preventing long-term hospitalization, preventing hospital infections, and ensuring that the patient's relatives do not stay in such an environment and are not deprived of their economic and social activities. Because the patient can be discharged and can return to his or her normal life in less time when there is safety.*" (41, 22, Patient Ward Nurse)

The Most Common Patient Safety Failures

The views of the participants on the most frequently encountered patient safety errors were collected under five categories; communication (n=21), inaccurate/incomplete medical treatments (n=21), failure to confirm the patient's identity (n=19), failure to implement the correct patient, correct side, correct procedure and correct surgery (n=17), patient falls (n=13), infection (n=9), (Table 2).

"*The most common patient safety failures happen when patients come for same-day surgeries. The patients are admitted at night, and they go into surgery early in the morning. These people cannot go into surgery with a nurse all the time. Sometimes the delivery does not happen. We always try to check the file and wristband of the patient but there are times where we can't because of the small number of nurses...*" (41, 23, Patient Ward Nurse)

"*Failure to confirm the patient's identity... Because sometimes, we can come back from the brink of incorrect blood transfusions or incorrect medical treatments.*" (38, 12, Nurse Executive)

Competencies Nurses Should Have Regarding Patient Safety

Participants' views on the competencies nurses should have regarding patient safety are collected under two categories; knowledge (n=24) and skill (n=19) (Table 2).

Participants described the knowledge that nurses should have regarding patient safety as procedures and instructions for patient safety, measures to be taken against falls, patient mobilization, the ways to prevent infection, 8R rule in medical treatments (the 8R rules in medication administration: the right patient, the right drug, the right dose, the right route, the right time, the right reason, the right response, and the right documentation), effective communication methods, and accurate identification of the patient.

"*No matter what knowledge and skills nurses have, they must confirm the information over and over, check it over and over,*

Table 1: Descriptive Characteristics of the Participants (n=24)

Participant	Age	Sex	Title	Academic/ Nursing Experience Years	Field of Study/Expertise or Care Process
Instructor-1	45	Female	Professor	10 years	Healthcare Management
Instructor-2	48	Female	Associate Professor	20 years	Internal medicine
Instructor-3	44	Female	Associate Professor	20 years	Education
Nurse (Executive)-1	34	Female	Specialist Nurse	13 years	Executive
Nurse (Executive)-2	38	Female	Specialist Nurse	12 years	Executive
Nurse (Executive)-3	38	Female	Specialist Nurse	14 years	Executive
Nurse (Executive)-4	46	Female	Specialist Nurse	28 years	Executive
Nurse (Executive)-5	43	Female	Specialist Nurse	23 years	Executive
Nurse (Executive)-6	49	Female	Specialist Nurse	31 years	Executive
Nurse (In Charge)-1	41	Male	Nurse	13 years	Operation Room
Nurse (In Charge)-2	44	Female	Nurse	26 years	Infection
Nurse (In Charge)-3	42	Female	Nurse	24 years	Internal medicine
Nurse (Education)-1	42	Female	Nurse	22 years	Education Unit
Nurse (Education)-2	35	Female	Specialist Nurse	9 years	Education Unit
Nurse (Education)-3	40	Female	Specialist Nurse	19 years	Education Unit
Nurse (Education)-4	34	Female	Specialist Nurse	9 years	Education Unit
Nurse (Education)-5	41	Female	Specialist Nurse	11 years	Education Unit
Nurse (Education)-6	40	Female	Specialist Nurse	19 years	Education Unit
Nurse (Education)-7	39	Female	Nurse	19 years	Education Unit
Nurse-1	40	Female	Nurse	19 years	Patient Ward Nurse---Stoma and wound care nurse
Nurse-2	41	Female	Specialist Nurse	22 years	Patient Ward Nurse
Nurse-3	41	Female	Specialist Nurse	23 years	Patient Ward Nurse
Nurse-4	38	Female	Nurse	16 years	Patient Ward Nurse
Nurse-5	40	Female	Nurse	9 years	Patient Ward Nurse

Table 2: Themes and Categories related to Nurses' Needs for Improving their Knowledge and Skills Related to Patient Safety (n=24)

THEMES	CATEGORIES
Importance of Ensuring Patient Safety	▪ In terms of the institution (n=20) ▪ In terms of the nurse (n=15) ▪ In terms of the patient (n=24)
The Most Common Patient Safety Failures	▪ Patient falls (n=13) ▪ Failure to confirm the patient's identity (n=19) ▪ Inaccurate/incomplete medical treatments (n=21) ▪ Failure to implement the correct patient, correct side, correct procedure and correct surgery (n=17) ▪ Infection (n=9) ▪ Communication (n=21)
Competencies Nurses Should Have Regarding Patient Safety	Knowledge (n=24) Skill (n=19)
Improving Nurses' Knowledge and Skills Regarding Patient Safety	Conducting in-service education specific to the unit-field-hospital (n=21) Adding patient safety-related courses to undergraduate curricula (n=17) Conducting education programs after graduation (n=16) Making inspections at certain intervals (n=3)
Structuring Education Programs Related to Patient Safety	▪ Subject/content (n=11) ▪ Teaching methods and techniques (n=24) ▪ Teaching materials (n=23) ▪ Assessment methods (n=15)

and check all kinds of information such as the patient's identity, barcode, file, medication, and treatment over and over." (34, 13, Nurse Executive)

"Nurses should know and thoroughly apply the procedures and instructions for patient safety." (49, 31, Nurse Executive)

Participants described the skills that nurses should have regarding patient safety as effective communication, accompanying patient mobilization, complying with the hand hygiene rules, treating the patient in accordance with his/her identity information, and applying the 8R rule in medical treatments, taking measures against falls, infection prevention, thoroughly applying the patient safety procedures and instructions, determining the institution, unit, and patient-specific risks, decision making, and problem-solving.

"Nurses should know the importance of patient falls and all such patient safety issues, they should be able to take measures for these issues and make nursing practices..." (40, 19, Education Nurse)

Improving Nurses' Knowledge and Skills Regarding Patient Safety

Participants' views on improving nurses' knowledge and skills regarding patient safety are defined under four categories; conducting in-service education specific to the unit-field-hospital (n=21), adding patient safety-related courses to undergraduate curricula (n=17), conducting education programs after graduation (n=16), and making inspections at certain intervals (n=3) (Table 2). Almost all participants stated that knowledge and skills regarding patient safety can be improved by education.

"A course on this subject needs to be added to school curricula to develop nurses' knowledge, skills, and attitudes regarding patient safety." (49, 31, Nurse Executive)

"It should be emphasized that even the smallest error or inattention can cost human life, therefore, continuous in-service education should be given to minimize possible failures, and people should be audited in their working environment." (38, 16, Patient Ward Nurse)

Structuring Education Programs Related to Patient Safety

Participants' views on structuring education programs related to patient safety are defined under four categories; teaching methods and techniques (n=24), teaching materials (n=23), assessment methods (n=15), and subject/content (n=11) (Table 2).

Participants stated that education programs related to patient safety should include topics such as patient safety standards, instructions/procedures, patient safety failures experienced in the world and Turkey, and measures that can be taken.

"Patient safety instructions/procedures and failures that cause patient safety and measures to prevent these failures should be explained in education programs." (38, 16, Patient Ward Nurse)

Participants stated that related to patient safety, interactive teaching methods such as case studies, Q&As, group discussion, role-playing, brainstorming, demonstration, showing and doing, and psychodrama should be used when structuring education programs.

"I don't think it's right to just read and pass monotonously, or just have a trainer explain and move on. ...getting them involved may include using their experiences or helping them integrate what they learn into their practice. The education will be more effective with the use of methods such as case studies, increasing awareness, Q&As, and brainstorming." (45, 20, Instructor)

Participants also noted that teaching materials such as simulators, guides, flowcharts, video demonstrations, and slideshows should be used when structuring education programs.

"I think that when you use a video to explain to people about the events that happened, they can better understand what is missing and where it is missing." (41, 23, Patient Ward Nurse)

Participants emphasized that assessment methods such as observations, interviews, number of failures/events (statistically), pre-tests/post-tests, security reporting systems, retests after six to 12 months, etc. should be used when structuring education programs.

"You have to do your retest after six months or one year." (45, 20, Instructor)

"Pre-tests and post-tests can be carried out for assessment. Again, these people can be observed by the head nurse in the unit they work. If there are shortcomings, I think that new education programs can be developed for them." (38, 16, Patient Ward Nurse)

Discussion

Importance of Ensuring Patient Safety

Participants' views on the importance of ensuring patient safety are categorized in terms of the institution, nurses, and patients (Table 2).

Participants described the importance of ensuring patient safety in terms of the institution as increasing the efficiency of the institution, reducing the length of hospital stay, and reducing health costs. Ensuring patient safety is an important and primary issue addressed within the scope of the Ministry of Health. It is also the basis for the parameters that determine and direct the quality of the health services offered (Sayek, 2011). Participants described the importance of ensuring patient safety in terms of the institution, patient, and nurse as increasing the efficiency of the institution, increasing the quality of nursing care and health services, ensuring medical safety, and preventing possible complications and medical malfunctions. It is emphasized in the literature that ensuring patient safety reduces the length of hospital stay, mortality and morbidity rates, and healthcare costs (Hansen et al., 2003;

Pronovost et al., 2005; Lenburg et al., 2011; Ozturk, Kahriman & Babacan, 2017; Sur et al., 2019). Consistent with the literature, these result shows that participants are aware of the importance of patient safety in terms of the institution.

Participants explained the importance of ensuring patient safety in terms of the nurse as increasing the quality of nursing care and health services and proper communication with patients and other health staff members. It is emphasized in the literature that ensuring patient safety increases the quality of service provided by nurses, reduces communication failures, and ensures effective communication among health staff members. This result suggests that nurses are aware of the benefits that patient safety provides, therefore they can implement the procedures and instructions made by institutions related to patient safety and provide quality nursing care by applying the procedure steps correctly.

Participants described the importance of ensuring patient safety in terms of the patient as improving the quality of care, ensuring medical safety, preventing possible complications and medical failures, ensuring the effectiveness and accuracy of treatment, shortening the length of hospital stay, returning the patient to normal life as soon as possible, and preventing hospital infections. It is emphasized in the literature that patient safety ensures patients' access to effective and quality healthcare, prevents medical failures, reduces the length of hospital stay, minimizes risks, and helps patients return to their normal life as soon as possible (Pronovost et al., 2005; Lenburg et al., 2011; Ozturk et al., 2017; Sur et al., 2019). Consistent with the literature, this result shows that participants are aware of the contributions of ensuring patient safety to the quality of healthcare.

The Most Common Patient Safety Failures

Participants' views on the most common patient safety failures are defined as patient falls, not verifying patient identity, inaccurate medical treatments, failure to implement the correct patient, correct site, correct procedure protocol, lack of communication, and risk of infections (Table 2). Issues related to patient safety, which have an impact on the most common and reported events in health institutions/organizations and are also the basis of JCI patient safety goals are failure to confirm the patient's identity, patient falls, problems in medical treatment/safety, infections, failure to establish effective communication, and failure to implement the correct patient, correct site, correct procedure protocol (Akalın, 2005; Lenburg et al., 2011; Ozturk et al., 2017; Sur et al., 2019). Consistent with the literature, this result shows that the participants are aware of the most common mistakes regarding patient safety and suggests that patient safety education programs should be structured to include these failures. In addition, this result reveals the need to identify and prevent failures that may endanger patient safety in order to improve the quality of nursing care.

Things Nurses Should Know Regarding Patient Safety

Participants' views on the things nurses should know regarding patient safety are categorized as knowledge and skills (Table 2). It is not enough for nurses to know the parameters related to patient safety. For this reason, it is necessary to integrate knowledge and skills and to transfer knowledge to practice for it to be more valuable and permanent. Nurses face the greatest risk of making mistakes while providing 24/7 healthcare. For this reason, it is important that nurses have sufficient knowledge and skills related to patient safety. Also, when healthcare is provided by nurses who do not have sufficient professional knowledge and skills, serious problems may occur, leading to a decrease in the quality of healthcare (Akalın, 2005; Sajadi et al., 2015).

Participants described the knowledge that nurses should have regarding patient safety as procedures and instructions for patient safety, measures to be taken against falls, patient mobilization, and the ways to prevent infection. It is emphasized in the literature that nurses should have knowledge and equipment related to procedures/instructions for patient safety, situations that put patient safety at risk, situations causing incident notification or near-miss incidents, and the measures to be taken to prevent/reduce failures (Akalın, 2005; Sajadi et al., 2015; Ozturk et al., 2017; Sur et al., 2019). This result shows that participants think that nurses should have information related to patient safety and that this information should be updated regularly.

Participants described the skills that nurses should have regarding patient safety as effective communication, accompanying patient mobilization, complying with hand hygiene rules, treating the patient in accordance with their identity information, attaching importance to medication administration principles, taking measures against falls, and infection prevention. This result suggests that participants are aware of the skills that can eliminate situations that may pose a risk to the patient by identifying institution- and unit-based risks to patient safety.

Improving Nurses' Knowledge and Skills Regarding Patient Safety

Participants' views on improving nurses' knowledge and skills regarding patient safety are identified as adding patient safety-related courses to undergraduate education programs, conducting unit/field/hospital-specific in-service education (remote/face-to-face), organizing post-graduation education programs, and performing inspections at certain intervals (Table 2). Ozturk et al. (2017) emphasize that education programs for nurses should be organized in order to ensure patient safety and prevent/reduce failures and that these education programs are important for increasing the level of knowledge and awareness of nurses. Considering that the knowledge and equipment of nurses in the post-graduation

period are not sufficient or equal, it is emphasized in the literature that orientation education related to patient safety and unit-based and field-specific in-service education should be conducted for nurses who have just started working in health institutions/organizations (Akalın, 2005; Sajadi et al., 2015). Consistent with the literature, this result shows that formal education programs are important for improving nurses' knowledge and skills related to patient safety.

Structuring Education Programs Related to Patient Safety

Participants' views on structuring education programs related to patient safety are identified as subject/content, teaching methods and techniques, teaching materials, and assessment methods (Table 2).

Participants stated that when structuring education programs related to patient safety, the program should include topics such as patient safety-related standards, instructions/procedures, patient safety failures experienced in the world and Turkey, and measures that can be taken. In a study, Hansen et al. (2003) conducted focus group interviews with nurses who stated that education programs should include patient safety failures caused by the individual or the health system, the medical causes of failures, and the reporting of these failures. This result is important for determining the education subjects needed in education programs related to patient safety. This result also shows that these subjects should be included in the education programs related to patient safety.

Participants also noted that related to patient safety, interactive teaching methods such as case studies, Q&As, group discussions, and role-playing should be used when structuring education programs. The use of interactive teaching methods in educational settings allows participants to work collaboratively and explore the weaknesses, strengths, and skills of both themselves and their peers (Mcglynn, 2001). It is also emphasized in the literature that using case studies about medical failures can make patient safety education more interesting and understandable (Feng et al., 2013; Vaona et al., 2018). This result suggests that the participants are aware that the inclusion of interactive teaching methods that will ensure participants' active participation is important for effective education.

In addition, participants explained that teaching materials such as simulators, guides, flowcharts, video demonstrations, and slideshows should be used when structuring education programs. The use of instructional materials that appeal to and activate multiple sensory organs increases the permanence of knowledge and skills, as well as allows them to be transferred to practice and thus produce effective and high-quality results (Sarmasoglu, Dinç & Elçin, 2016). This result shows the need to use various teaching materials to increase the permanence of the knowledge and skills to be acquired in patient safety education programs.

Besides, participants stated that assessment methods such as observations, interviews, number of failures/events (statistically), pre-tests/post-tests, security reporting systems, and retests after six months to one year, etc. should be used when structuring education programs. It is absolutely necessary to assess whether the education is effectively delivered. For this purpose, necessary regulations and parameters should be established. In order to evaluate the effectiveness of education programs in the literature; observing nurses by their colleagues, educators and managers, getting their opinions on whether the education is sufficient, monitoring the changes in the rates of statistically reported incidents or near misses on an institution basis, pre-test and post-test evaluations before and after the education, etc. need is emphasized. This result shows that participants have knowledge about the effective methods to use in assessing education programs related to patient safety. This result also shows that they can use these assessment methods in different educational activities.

Limitations

The results of this study are limited to the 24 nurses who voluntarily participated in the individual in-depth interviews and had at least five years of experience in different positions and under different duties. This situation limits the direct generalizability of the findings to a broader population in the field of education.

Strengths

The fact that the inductive approach was used in the qualitative data collection and data analysis processes is the strength of the study.

Conclusion

The results of the study show that

▪ nurses are intertwined with patient safety in all fields of care, and patient safety is an indispensable element of nursing and the basis of quality nursing care,

▪ achieving patient safety is important for the institution, the nurse, and the patient,

▪ nurses need to have knowledge and skills related to patient safety, and this knowledge should be updated regularly,

▪ when structuring education programs related to patient safety, it is necessary to account for frequently made mistakes, select topics that will improve nurses' knowledge and skills related to patient safety, and use appropriate teaching methods and materials and assessment methods.

In accordance with these results, it can be recommended to use the study results when structuring formal education programs to improve nurses' knowledge and skills related to patient safety.

References

Akalın, H.E. (2005). Yoğun bakım ünitelerinde hasta güvenliği. *Yoğun Bakım Dergisi, 5*(3), 141-146.

Baltacı, A. (2018). A conceptual review of sampling methods and sample size problems in qualitative research. *Journal of Bitlis Eren University Institute of Social Science, 1*(1), 231-274.

Bhattacharjee, J. (2015). The constructivist approach to teaching and learning. *International Research Journal of Interdisciplinary and Multidisciplinary Studies, 1*(4), 65-74.

Celik, H., Baykal, N.B., & Memur, H.N. (2020). Qualitative data analysis and fundamental principles. *Journal of Qualitative Research in Education - JOQRE, 8*(1), 379-406. https://doi.org/10.14689/issn.2148-2624.1.8c.1s.16m

Coban, A., Ozdemir, S.M., Beydogan, H.O., Ozbek, R., Sahin, A., Ocak, G., & Duman, B. (2017). *Öğretim ilke ve yöntemleri* (9. bs). Ankara: Pegem Akademi.

Demirel, Ö. (2015). *Eğitimde program geliştirme kuramdan uygulamaya* (24.bs). Ankara: Pegem Akademi.

Dikmen, Y., Ak, B., Usta, Y.Y., Unver, V., Korhan, E., Cerit, B., & Yonder, M. (2017). Effect of peer teaching used in nursing education on the performance and competence of students in practical skills training. *International Journal of Educational Sciences, 16*(1-3), 14-20. https://doi.org/10.1080/09751122.2017.1311583

Engaging Patients and Families. (2018). Agency For Healthcare Research and Quality, Rockville. Retrieved from (12.03.2020): http://www.ahrq.gov/patient-safety/engaging-patients-families/index.html.

Erdogan, S., Nahcivan, N., & Esin, N. (2015). *Hemşirelikte araştırma: Süreç, uygulama ve kritik* (2.bs). Ankara: Nobel Tıp Kitabevleri.

Feng, J.Y., Chang, Y.T., Chang, H.Y., Erdley, W. S., Lin, C.H., & Chang, Y.J. (2013). Systematic review of effectiveness of situated e-learning on medical and nursing education. *Worldviews on Evidence-Based Nursing, 10*(3), 174-183. https://doi.org/10.1111/wvn.12005

Guven, G., & Kabaran, G.G. (2021). The first step of developing instructional design on renewable energy at secondary school level: Needs assessment. *MSKU Journal of Education, 8*(1), 322-338. https://doi.org/10.21666/muefd.846829

Hansen, M. M., Durbin, J., Sinkowitz-Cochran, R., Vaughn, A., Langowski, M., & Gleason, S. (2003). Do no harm: Provider perceptions of patient safety. *Journal of Nursing Administration, 33*(10), 507-508. https://doi.org/10.1097/00005110-200310000-00004.

Institute of Medicine (IOM) Committee on the work environment for nurses and patient safety. (2004). Keeping patients safe: Transforming the work environment of nurses. National Academies Press. https://doi.org/10.17226/10851

Joint Commission International. (JCI). Inetrnational patient safety goals. Retrieved from (01.01.2020): https://www.jointcommissioninternational.org/improve/international-patient-safety-goals/.

Karatas, Z. (2015). Sosyal bilimlerde nitel araştırma yöntemleri. *Manevi Temelli Sosyal Hizmet Araştırmaları Dergisi, 1*(1), 62-80.

Lenburg, C.B., Abdur-Rahman, V.Z., Spencer, T.S., Boyer, S.A., & Klein, C.J. (2011). Implementing the COPA model in nursing education and practice settings: Promoting competence, quality care, and patient safety. *Nursing Education Perspectives, 32*(5), 290-296. https://doi.org/10.5480/1536-5026-32.5.290

Mbise, S., & Lekule, C.S. (2020). Constructivist teaching pedagogy: A strategy for innovation, industrialization and sustainable development. *International Journal for Research in Educational Studies, 6*(10), 1-26.

McGlynn, A.P. (2001). *Successful beginnings for college teaching: Engaging your students from the first day.* United States of America: Atwood Publishing.

Neuman, W.L., & Robsen, K. (2014). *Basics of social research qualitative and quantitative approaches* (3rd ed.). Pearson Canada.

Ozturk, H., Kahriman, İ., & Babacan, E. (2017). Medical errors and patient safety: Evaluation of the effeciveness of the trainings for nurses. *Sağlıkta Performans ve Kalite Dergisi, 14*(2), 57-72.

Pronovost, P., Weast, B., Rosenstein, B., Sexton, J., Holzmueller, C., Paine, … Rubin, H. (2005). Implementing and validating a comprehensive unit-based safety program. *Journal of Patient Safety, 1*(1), 33-40. https://doi.org/10.1097/01209203-200503000-00008

Sajadi, S.A., Ebadi, A., & Khaghanizadeh, M. (2015). Effectiveness and challenges of mastery learning in nursing education: A systematic review. *International Journal of Medical Reviews, 2*(4), 309-316.

Sarmasoglu, Ş., Dinç, L., & Elçin, M. (2016). Nursing students' opinions about the standardized patients and part task trainers used in the clinical skills training. *Journal of Education and Research in Nursing, 13*(2), 107-115. https://doi.org/10.5222/HEAD.2016.107

Sayek, F. (2011). Füsun Sayek TTB Raporları/ Kitapları- *2010 Hasta güvenliği: Türkiye ve Dünya* (1.bs). Ankara: Türk Tabipleri Birliği Yayınları.

Squires, A., & Dorsen, C. (2018). Qualitative research in nursing and health professions regulation. *Journal of Nursing Regulation, 9*(3), 15-26. https://doi.org/10.1016/S2155-8256(18)30150-9

Sur, H., Palteki, T. ve Yazıcı, G. (2019). Hasta güvenliği. Ankara: Palme Yayınevi, 1-547.

Vaona, A., Banzi, R., Kwag, K.H., Rigon, G., Cereda, D., Pecoraro, V. & Moja, L. (2018). E-Learning for health professional. 1-76. https://doi.org/10.1002/14651858. CD011736.pub2

West, E. (2016). Constructivist theory and consept- based learning in professional nursing ethics: Implications for nurse educators. *Teaching Ethics, 16*(1), 1-10. https://doi.org/ 10.5840/tej201633129

World Health Organization (WHO). (2005). World alliance for patient safety: Who draft   guidelines for adverse event reporting and learning systems: From information to action. Retrievent From (10.06.2019): https://apps.who.int/iris/bitstream/handle/10665/69797/WHO-EIP-SPO-QPS-05.3-eng.pdf?sequence=1&isAllowed=y