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Professional Behavior to Promote Safe Nursing Care in Intensive Care Units: A Qualitative Content Analysis

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Abstract

Background and aim: Ensuring safe care is paramount to the delivery of quality healthcare services, especially in intensive care units (ICUs) where patients require specialized care. Despite the fact that the provision of safe care depends on nurses' professional behavior, the components of professional behavior in ICUs have received less attention from the researchers. Therefore, this study aims to clarify the components of professional behavior to promote safe nursing care in ICUs.

Materials and Methods: This study adopted a qualitative research design with conventional content analysis approach, and was conducted in Iran from January to June 2022. Participants were purposively selected and included 20 individuals consisting of nurses, intensivists, patients, and patients' family members. Data were collected through 20 semi-structured interviews. Data analysis was performed using the approach outlined by Lindgren et al. (2020).

Results: The research findings revealed a main theme called “professional behavior”, and three categories including compliance with policies (with 13 subcategories), organizing communication (with 5 subcategories) and professional ethics (with 3 subcategories).

Conclusion: According to the results of this study, the components of professional behavior include compliance with policies, organizing communication, and professional ethics. To ensure patient safety, education and training on these components must be provided to healthcare workers. The results of this study can be used for educational, research, and policy-making purposes to promote patient safety in ICUs.

Keywords: Safe care, professional behavior, intensive care units, qualitative content analysis.

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Introduction

The World Health Organization (WHO) defines patient safety as the absence of preventable harm to patients and the prevention of unnecessary harm to patients by healthcare professionals [1]. Safe nursing care is characterized by a holistic care that encompasses systematic and comprehensive care [2]. Patient safety is one of the fundamental pillars of healthcare, and in the healthcare systems of all countries, it involves adhering to principles that prevent or minimize patient harm [3]. The American Institute of Medicine (AIM) has identified six criteria for the provision of quality care, one of which is ensuring patient safety, which is regarded as the most important one [4].

Unsafe care significantly contributes to serious medical accidents worldwide [5]. It leads to prolonged hospital stays, a higher incidence of hospital-acquired infections, reduced income, increased complaints, and elevated healthcare costs. Beyond the ethical and human implications of unsafe care, its economic consequences are also substantial [6]. According to the WHO, the economic costs of patient injuries can reach to several trillion dollars annually [4]. In Iran, reliable statistics on the number of medical accidents and their associated costs are not available; however, experts estimate that billions of Tomans are spent annually on patient care due to medical errors. The rising number of public complaints against physicians and nurses further supports this claim [7].There is substantial evidence that patient safety is a global health issue that impacts individuals in both developed and developing countries [8].

Patient safety is especially important in intensive care units (ICUs), because these specialized hospital units provide care to critically ill patients. ICU patients require continuous monitoring and specialized care due to their complex medical conditions[9]. In these environments, critically ill patients undergo intricate medical procedures, which make them susceptible to adverse events and medical errors[10].

Research indicates that medical errors are more prevalent in ICUs[11]. The role of ICU nurses is vital in ensuring patient safety and delivering high-quality care[12]. They are responsible for providing hands-on care, monitoring vital signs, administering medications, and assisting medical procedures performed by physicians [13]. In addition to the acute condition of patients, nurses in these units are also required to deal with the emotional and psychological stress of caring for critically ill patients and their families [14]. However, providing safe care in these units can be challenging due to a number of reasons [15]. One of the main challenges for nurses in these units is the requirement for high precision and the management of complex care needs[16]. The special conditions of patients hospitalized in ICUs, the use of specialized equipment, and the care techniques used in ICUS increase the risk of medical errors[17]. Consequently, ICU nurses must possess the skills and knowledge necessary to provide specialized safe nursing care to their patients[18].

However, the foundation of patient safety and quality care lies in identifying its essential components. A study conducted in Iran by Vaismoradi et al. (2012) identified several key elements of safe nursing care, including prioritizing patients' needs,

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communicating nurses' concerns with other healthcare professionals, developing individualized care routines, adapting nursing practices to meet safety standards, and recognizing safety as a fundamental patient right[19].

In the study of Panthulawan et al. (2016), safe nursing practice was defined in two dimensions and six domains. The first dimension involved the implementation of nursing tasks, which included the domains of protection, prevention, adaptation, and promotion. The second dimension focused on nursing performance, encompassing the domains of facilitating interpersonal communication and engagement [20]. Atashzadeh-Shoorideh et al. (2022) identified several components of safe care in the ICU, including the medication process, accurate patient identification, effective communication during patient transfers, adherence to correct procedures, hand hygiene, proper use of equipment, avoidance of improper connections in regard to catheters and tubes, maintenance of fluid input-output and electrolyte control[11].

Despite the existing research on patient safety components, few studies have specifically addressed the elements of safe nursing care in critical care units, such as ICUs. It is crucial to conduct targeted studies in these critical settings. By employing qualitative research methods, we can explore the perceptions and experiences of relevant stakeholders within the cultural contexts and healthcare systems of various countries. The findings of this study, in conjunction with other focused research, can offer valuable insights into the healthcare organizations and policymaking processes regarding strategies to enhance patient safety in ICUs. Therefore, this study aims to clarify the components of professional behavior that promote safe nursing care in these critical environments.

Methods

This study employed a qualitative research design with conventional content analysis approach. The purpose of content analysis is to achieve a comprehensive and succinct description of the phenomenon [21]. Qualitative content analysis is a widely used method in nursing research and is suitable for various contexts and types of data [22].

This study was conducted in five hospitals affiliated with three universities of medical sciences in Tehran, the capital of Iran, and two hospitals associated with Kermanshah University of Medical Sciences in western Iran. The researchers selected these two cities to offer a comprehensive perspective on hospitals in both the capital and other regions. Data collection took place between January and June 2022.

Through purposive sampling, a total of 20 individuals were selected to participate in this study. This group included 7 nurses, 2 head nurses, 1 clinical supervisor, 1 nurse responsible for patient safety, 5 intensivists (anesthesiologists), 2 patients, 1 family member of a patient, and 1 patient safety officer from the Ministry of Health and Medical Education, all of whom met the inclusion criteria.

The inclusion criteria for healthcare professionals included a minimum of two years of work experience in the ICU or in units related to patient safety. The two-year

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threshold was established based on the completion of a mandatory medical service program and the attainment of adequate experience and knowledge. Patients were eligible for inclusion if they had a Glasgow Coma Scale (GCS) score of 15, exhibited clear speech abilities, and received approval from the ICU intensivist to participate in the interview. First-degree family members of patients who consented to participate in the study were also included.

The first participant was a nurse who met the inclusion criteria, possessed extensive experience, and demonstrated effective communication skills. Subsequent participants were selected based on the data collected from each participant and the research team's decisions. Interviews with intensivists were conducted because nurses consistently emphasized that providing safe nursing care relies on the cooperation, skills, and knowledge of intensivists. Additionally, interviews with patients and their family member were conducted based on the insights gained from the interviews conducted with several nurses and intensivists.

All participants agreed to take part in the study, and written informed consent was obtained from each of them. Participants were selected to ensure maximum variation in terms of job position, age, gender, work experience, and education level. Variation in sampling is one of the strategies used in purposeful sampling. It shares the same objective as extreme case sampling but places less emphasis on extremes [23].

The primary method of data collection in this study involved individual semi-structured interviews conducted by the first author (a PhD nursing student with expertise in qualitative research, qualitative interviews, and qualitative data analysis). Additionally, field notes and memos were also utilized to enrich the data. The interviewer was not affiliated with the hospital staff and had no conflicts of interest with any of the participants.

During the initial meeting or telephone conversation, the study's objectives were clearly explained to the participants. In a subsequent communication, participants communicated their decision to either accept or decline their participation. Upon acceptance, interview schedules were arranged with them. All interviews were conducted either at the hospital or the workplace, and were recorded using a mobile device. Initially, the interviews and field notes were transcribed using Word processing software. The interviews consisted of three parts; initial open-ended questions, main questions, and closing questions. The initial open-ended questions prompted participants to describe their work history, while the main section of the interview focused on exploring the actions, experiences, and thoughts of healthcare providers. For instance, participants were asked about the actions they take with their patients during each shift. Follow-up questions were also used after each participant's response to encourage further discussion [Table 1].

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Table 1. List of initial, main, and closing questions for healthcare providers

Initial open questions	Main questions	Closing question
Please provide information regarding your demographics.	What nursing interventions are performed by nurses during each shift?	Any additional information you want to include?
Please provide a detailed explanation of your work history.	What is the priority of nursing interventions?	
Please describe your department.	How do you think the safe care can be provided? What unsafe care have you observed in relation to patient care?	

At the conclusion of the interview, participants were given the opportunity to provide any additional information. The interview questions were crafted based on the research objectives and the interview guide. These questions were reviewed and revised by two nursing professors. A pilot interview was subsequently conducted to identify any weaknesses, leading to further revisions by the research team. The interview questions were refined after each interview based on data analysis. Data collection and analysis continued until data saturation was achieved and no new codes could be emerged. A concluding interview was also conducted to validate data saturation. It should be noted that 20 interviews were conducted over 20 sessions. The interviews lasted an average of 38.85 minutes, with a maximum duration of 80 minutes and a minimum of 20 minutes.

Data analysis was conducted by the research team, which consisted of a nursing doctoral candidate (first author) and two nursing professors (second and third authors). The first author performed the data analysis, while the other authors reviewed and revised the codes, subcategories, and categories. The analysis utilized conventional qualitative content analysis as introduced by Lindgren et al. (2020). At first, decontextualization was carried out as follows: The texts of interviews were transcribed and read multiple times to grasp the main idea. The semantic units were then identified and coded. For recontextualization, the generated codes were compared and grouped into subcategories based on their similarities and differences. In the next step, the categories were extracted from the integration of subcategories, and finally, the main theme was extracted from the integration of categories. The study's design and reporting adhered to the Consolidated Criteria for Reporting Qualitative Research (COREQ).

In this study, the data trustworthiness was ensured by employing the Lincoln and Guba's criteria for qualitative research [24],

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including: Credibility, Transferability, Dependability, and Confirmability.

Credibility: The credibility of data was confirmed by the extensive experience of the first author in the research topic. She conducted her Master's thesis on medication errors in critical care units and had accumulated several years of experience working in the ICU as both a nurse and head nurse. The data collection period was appropriately extended to ensure the researcher's ongoing involvement in the study process. Data collection methods included in-depth interviews and field notes, with participant selection reflecting maximum diversity. The interviews and initial coding were reviewed and approved by the participants, with any ambiguities promptly addressed. The complete transcripts of the interviews, along with the coding, were initially reviewed by the first author. After incorporating the feedback, the revised text was shared with the other authors for further input. The process of assigning codes to subcategories, identifying categories, and developing themes was carried out consistently throughout.

Transferability: This criterion relates to the depth of descriptive data. To enhance transferability, participants were intentionally selected from diverse roles across various ICUs, including internal medicine, neurology, surgery, and trauma.

Dependability was ensured through the use of various data collection methods, including interviews and field notes, as well as ongoing analysis and meticulous documentation of all stages of the analysis. Since this research is part of a doctoral thesis, all research phases, data analyses, and findings were documented in six-month reports and reviewed by four referees.

Confirmability: To ensure confirmability, the researcher documented their preconceptions about the study subject to distinguish them from the data interpretation and prevent bias. Additionally, during data collection, the researcher refrained from reviewing the findings of related or similar studies.

The Ethical Committee of Tehran Islamic Azad University of Medical Sciences approved the study protocol (IR.IAU.TMU.REC.1399.481). Written informed consent was obtained from all participants, and data confidentiality was ensured in accordance with applicable rules and regulations, as well as the requirements set forth by the Ethical Committee that approved the study. Adequate explanation was given to the participants about the expected duration of the interviews, their right to terminate the interview at any time, the measures taken to maintain the confidentiality of their information, and how the results of the study would be utilized.

Results

The average age of the participants was 42.55 years. The healthcare workers participated in this study had a work experience of 17.23 years on average. Table 2 presents the demographic characteristics of the participants.

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Table 2. Demographic characteristics of the participants

No	Participants	Age (yrs)	Gender	Educational level	Work experience(yrs)
1	Nurse	27	Male	Bachelor	5
2	Head nurse	34	Male	Master	11
3	Nurse	32	Female	Bachelor	11
4	Intensivist	50	Male	Doctoral	24
5	Nurse responsible for patient safety	34	Female	Bachelor	12
6	patient safety officer	55	Female	Bachelor	24
7	Nurse	36	Male	Master	12
8	Supervisor	55	Female	Bachelor	25
9	Nurse	36	Female	Bachelor	13
10	Nurse	33	Female	Master	7
11	Nurse	36	Female	Bachelor	13
12	Patient	32	Female	Bachelor	-
13	Nurse	30	Male	Bachelor	8
14	Head nurse	36	Female	Bachelor	14
15	Patient' family member	53	Male	Doctoral	-
16	Intensivist	65	Male	Doctoral	35
17	Intensivist	55	Male	Doctoral	25
18	Intensivist	60	Male	Doctoral	30
19	Intensivist	50	Male	Doctoral	24
20	Patient	41	Female	Master	-

After conducting the data analysis, a total of 835 primary codes were extracted and organized into 21 subcategories. Subcategories were further integrated to form 3 categories, and a main theme (Table 3).

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Table 3. Theme, categories, and subcategories of professional behavior

Theme	Categories	Subcategories
Professional Behavior	Compliance with Policies	Appropriate execution of nursing procedure
		Safe mechanical ventilation
		Proper medication administration
		Safe blood transfusions
		Appropriate use of restraints
		Adequate care of patient connections
		Pain management
		Fall prevention
		Delirium prevention
		Deep vein thrombosis prevention
		Adherence to infection control protocols
		Safe patient transfers
		Obtaining informed consent
	Organizing Communication	Shift delivery with ISBAR* technique
		Proper utilization of identification wristbands
		Accurate documentation
		Communication with the patient
		Inadequate team communication
	Professional Ethics	Respecting patient privacy
		Human dignity
		Conscience and work commitment

* ISBAR Technique: ISBAR (Identify, Situation, Background, Assessment, and Recommendation) is a mnemonic designed to enhance safety during the transfer of critical information.

Professional Behavior

The main theme of professional behavior emerged from the integration of three categories, including compliance with policies, effective communication, and professional ethics.

1. Compliance with Policies

During the interviews, the majority of participants referred to the compliance with policies as the most essential aspect of professional behavior in the ICU setting. All participants identified adherence to these policies as a vital element in ensuring safe patient care, and this point was frequently mentioned throughout the discussions. This element encompassed various aspects, including the appropriate execution of nursing procedures, safe mechanical ventilation, safe medication administration, safe blood transfusions, appropriate using restraints, adequate care of patient connections, pain management, fall prevention, delirium prevention, deep vein thrombosis prevention, adherence to infection control protocols, safe patient transfers, and obtaining informed consent. Given the extensive range of subcategories and the limitations that this study has in relation to presenting all the details, we will

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highlight select quotes from some of these subcategories.

For example, regarding the **appropriate execution of nursing procedures**, a nurse with 12 years of work experience in the ICU stated:

"In my opinion, if care is provided according to established standards, it will ensure safe nursing practice. There is no need to engage in unusual or extraordinary measures, nor should we attempt to perform the duties of physicians. We should focus on the skills and knowledge we acquired in university to benefit our patients. By adhering to these principles, we truly provide the greatest service to those in our care". (Participant No. 7)

Another nurse in regard to ensuring **safe mechanical ventilation** stated:

" Sometimes, colleagues adjust ventilator settings based on respiratory conditions but fail to consider the patient's other health issues, so they put patient at risk. " (Participant No. 13)

Regarding **proper medication administration**, one of the head nurses stated:

" One of the most common errors in the ICU is administering the wrong medication. This often occurs because colleagues have insufficient drug knowledge or they administer medication carelessly. In our department, administering the wrong medication is a frequent occurrence." (Participant No. 14)

Participants in the study emphasized on the importance of **appropriate use of restraints**. A nurse shared her recollection:

" We had a patient who suffered severe skin damage due to the use of a bandage instead of standard restraints. We dealt with the patient's complaint for an extended period. Safe care protects not only the patient but also the caregiver." (Participant No.9)

ICU patients often have multiple connections, including drains, tubes, and catheters, which require meticulous care to ensure safe patient management. One of the head nurses talked about the **adequate care of patient connections**:

" I remember admitting an elderly patient from the emergency room who had a decreased level of consciousness. After admission, we discovered that his urinary catheter had been clamped. Initially, we thought this was done for a bladder ultrasound. However, we then realized that the patient had undergone an ultrasound the day before. This meant the urinary catheter had been clamped for 24 hours without nurses noticing." (Participant No. 14)

Regarding **pain management**, one of the patients participating in this study described his unpleasant experience as follow:

"I remember telling the nurse several times that I was in a lot of pain. Finally, she angrily injected me with a painkiller that had little effect and said, patient in the next bed had the same level of pain as you, but he didn't even ask for painkillers once. This comparison is unfair. Patients have different pain thresholds, and a good nurse

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should take this into account." (Participant No. 20)

Participants in the study also emphasized on the importance of preventing delirium in ICU patients. One intensivist highlighted the following recommendations for **delirium prevention**:

"Delirium hinders the patient's recovery process and causes significant suffering. Due to delirium, patients are at an increased risk of self-harm. They may become disoriented, attempt to get out of bed, sustain injuries, and, in some cases, may even be mistreated by staff as a result of their condition". (Participant No. 18)

Both nurses and intensivists underscored the importance of **safe patient transfers**. One intensivist referred to the critical nature of decision to transfer a patient from the ICU to the ward.

" Sometimes, nurses delegate the task of transporting patients in relatively stable conditions to nursing assistants. If I observe this happening improperly, I will definitely reprimand the nurse. " (Participant No. 16)

2. Organizing Communication

Another important aspect of professional behavior is the organization of communication. The following section will introduce several subcategories, including shift delivery with ISBAR technique, proper use of identification wristbands, accurate documentation, communication with the patient, inadequate team communication.

The participants believed that a fundamental component of professionalism is the **proper use of identification wristbands.**

"Patients wear identification wristbands, which I check at the beginning of my shift. I verify the patient's first name, last name, and date of birth. If these details match, I also confirm the father's name. We attach tags to the identification bracelets to indicate specific conditions. For issues such as deep vein thrombosis, and risk of suicide, fall or seizure, we use a yellow label. For allergies, we use a red label. These labels are designed to attract attention and ensure that staff remain vigilant when they see them." (Participant No. 11)

Many participants believed that **accurate documentation** is essential for delivering safe patient care.

"One of the nurses mistakenly recorded the doctor's orders, causing the patient to receive a different medication instead of antibiotics for three days. As a result, the patient developed sepsis." (Participant No. 14)

According to the study, **communication with patients** is a crucial aspect of professional behavior.

"I remember we had a colleague with only two years of experience who was not yet an expert. Due to his limited experience, he often made mistakes during shifts. However, he maintained an excellent relationship with the patients and their families, earning their trust. He used to tell us that if you have the best communication with the patient, they will believe that you provide the best care for them." (Participant No. 7)

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In regard to **inadequate team communication**, one intensivist shared the following perspective:

"*When the patient developed a fever in the middle of the night, the nurse failed to report it. Later, I discovered that she was hesitant to wake me up".* (Participant No. 4)

3. Professional Ethics

This category encompassed several subcategories, such as respecting patient privacy, human dignity, conscience and work commitment.

In regard to **respect for patient privacy**, one of the ICU patients shared her experience as follows:

"First night, the nurses were gentle and very careful not to make me feel uncomfortable. When the blanket was removed, I felt exposed. However, they instinctively covered me without me having to ask. Whenever the doctor needed to examine the surgical site, he would simply push the blanket aside to ensure I wasn't exposed. In that moment, nothing made me happier. This is what safety means to me; feeling secure." (Participant No. 12)

One of the intensivists referred to the importance of **human dignity** and stated:

"When I examine and visit a patient, I make it a habit to greet them first and introduce myself, even if the patient has a low level of consciousness. I learned this from a nurse outside of Iran. Once, when I examined an anesthetized patient without greeting, she reminded me that the person lying on the bed is a human being and deserves respect for their dignity." (Participant No. 4)

Conscience and work commitment were regarded by some participants as additional component of professional behavior, particularly when dealing with end-stage patients who have a low level of consciousness. In this context, one of the nurses remarked:

"Nurses may neglect to care for patients in the final stages of life or those with diminished levels of consciousness, failing to provide appropriate care to them." (Participant No. 13)

Discussion

This study aims to clarify the components of professional behavior that promote safe nursing care in intensive care units. The findings revealed three critical components, including compliance with policies, effective communication, and professional ethics. In this section, the results are compared and discussed in relation to other studies.

1. Compliance with policies

Compliance with policies emerged in this study as a critical aspect of professional behavior that promotes safe nursing care in intensive care units (ICUs). Strict adherence to these policies minimizes complications and ensures the safe implementation of care. The World Health Organization has introduced safe and evidence-based clinical services as a fundamental component of patient safety in hospitals that prioritize safe care, underscoring the significance of this element[25]. In a grounded theory study

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conducted by Vaismoradi et al. (2012), the development of care routines and the adaptation of nursing skills to meet the safety needs of patients were identified as essential components of safe nursing care[19]. Additionally, a study by Rashvand et al. (2017) highlighted that measuring nursing skills is a key factor in evaluating nurses' safe performance [26]. Bignami et al. (2023) in Italy showed that adherence to policies ensures safe clinical care, enhances patient safety, and improves the overall quality of care in ICUs [27]. Baccolini and colleagues also in Italy revealed a significant correlation between adherence to policies and implementation of health standard precautions in ICUs [28]. However, some argue that rigid compliance with policies may hinder nurses' autonomy and limit their ability to effectively manage unforeseen situations. Therefore, in addition to adherence to established policies, nurses should be equipped with knowledge, skill and autonomy in order to identify and manage such situations [29].

Although adherence to policies is essential for ensuring patient safety, several factors may impede the effective implementation of these policies. Personal willingness, cultural influences, economic and social conditions, and varying levels of knowledge can significantly affect nurses' adherence to guidelines and recommendations[30]. Individual factors, including nurses' attitudes, perceptions, knowledge, and information-seeking behaviors, are thought to either promote or hinder the application of clinical guidelines, potentially jeopardizing patient safety [31, 32] due to inconsistent adherence to patient safety principles [33].

The present study identified compliance with policies as a crucial component of professional behavior that promotes safe nursing care in intensive care units (ICUs). The significance of adhering to guidelines has been corroborated by previous research. However, as noted, achieving compliance necessitates the removal of related barriers.

2. Organizing Communication

Organizing communication in this study emerged as a crucial aspect of professional behavior. Proper shift delivery, accurate information transfer, correct use of identification wristbands, precise documentation, and effective communication are essential factors in ensuring safe care delivery.

In a grounded theory study conducted by Vaismoradi et al. (2012), effective communication of nurses with other team members was identified as a crucial component of safe nursing care [19]. Another study by D'Lima et al. (2018) highlighted interdisciplinary tension as a significant element in the staffs' perception of risk and patient safety [34]. In a content analysis study by Naderi et al. (2019), interaction and teamwork emerged as key factors influencing patient safety[35]. A Swedish study found that improved communication between healthcare professionals and patients is one of the most important factors in achieving safer care [36]. Burgener (2020) examined the utilization of SBAR and AIDET communication frameworks, and how they can enhance the consistency of communication among medical staff and improve communication and listening skills between healthcare providers and their patients [37]. Wibrandt (2020) in Denmark

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demonstrated that using a handout, which is based on ISBAR technique, enhances safety during patient transfers [29]. The correct use of identification bracelets [38], accurate recording of all information related to examinations, interventions and evaluations [39], and effective communication with patient [40], are crucial factors in improving patient safety. The results of present study, which demonstrate that a lack of effective communication can negatively impact patient safety, have also been confirmed by previous studies. For instance, Abdi et al. (2015) in a study concluded that poor communication and teamwork negatively affect patient safety[41]. In a study by Graan et al. (2016), the main finding was related to the prevalence of practices in handover interventions and the presence of gaps in that regard [42].

The results of present research, align with previous studies, highlight the importance of effective communication in enhancing patient safety. However, the use of standardized methods for information exchange and communication skills training for all healthcare providers should not be overlooked.

3. Professional Ethics

The results of this study revealed that adherence to professional ethics is an important component of professional behavior. Respecting privacy, human dignity, conscience, and work commitment are key ethical principles that promote safe nursing care.

In the study of Rashvand et al. (2015), which focused on the design of safe nursing care tools, the assessment of ethics was identified as a critical factor [43]. A review of literature highlighted the most relevant ethical principles in promoting patient safety, which included patient privacy, obligation to report errors to patients or their families, and the necessity of informed consent [44]. Another review showed that factors, such as organizational and team factors, communication with patients, incident reporting, beneficence and non-maleficence, justice, autonomy, and various ethical elements, are correlated to patient safety [36]. Research has indicated that respecting privacy [45], upholding human dignity [46], maintaining a strong sense of conscience, and demonstrating work commitment [47] are essential principles in providing safe care. Mohammadi et al. (2022) found a significant correlation between moral courage and the principles of safe care [48]. Additionally, Kangasniemi et al. (2016) identified that a primary challenge of nursing is to bring visibility to the ethical issues associated with patient safety [49]. A further study involving nursing staff leaders recommended that institutions should offer education and develop policies and practices to foster ethical actions and enhance teamwork [50].

Consistent with previous research, the present study highlights professional ethics as a key component of professional behavior and emphasizes on its importance in enhancing patient safety in ICUs. Applying the principles of professional ethics ensures patient safety; however, a critical factor in this regard is to identify these principles, educate nurses about them, and monitor their implementation.

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The researcher's extensive background as a nurse and a senior nurse in the ICU, along with her familiarity with unsafe care practices, posed a risk of bias. To mitigate this bias during the interviews, the researcher endeavored to adopt a listening role and formulated questions in accordance with the interview guide. To suspend assumptions, the researcher avoided extensive review of the texts, aimed for unbiased interpretation, focused on the participants' perspectives, and employed bracketing.

A significant proportion of patients admitted to the ICU did not qualify for inclusion in the study due to their diminished level of consciousness, dependence on mechanical ventilation, and the administration of sedative and hypnotic medications. Detection of suitable participants proved to be challenging and necessitated extensive consultation and careful follow-up by the researcher.

The present study was conducted in adult intensive care units; however, pediatric ICUs may also be included in future research.

Conclusion

Based on the findings of present study, implementing professional behavior through adherence to policies, effective communication, and commitment to professional ethics is essential for ensuring safe nursing care in ICUs. To foster professional behavior, comprehensive policies should be developed for the procedures used in ICUs. Training programs focusing on these policies, effective communication techniques, and the principles of professional ethics should also be provided to nurses, and those who are knowledgeable and dedicated to this training should be employed in ICUs. The results of this research can be utilized for educational, research, and policy-making purposes aimed at enhancing patient safety in ICUs.

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The present study is part of a doctoral thesis, which was completed after obtaining the necessary permissions from Tehran Islamic Azad University of Medical Sciences. The research team would like to thank the staff of this university and all the participants in this research.

Conflict of Interests

Researchers declare that the authors have no competing interests as defined by knowledge of nursing, or other interests that might be perceived to influence the results and/or discussion reported in this paper.

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