

Iranian nurses perspectives on assessment of safe care: an exploratory study

FARNOOSH RASHVAND MScN, BScN¹, MAHVASH SALSALI PhD², ABBAS EBADI PhD, MScN, BScN³, MOJTABA VAISMORADI PhD, MScN, BScN⁴, SUE JORDAN MB.BCh. PhD, PGCE (FE), FHEA⁵ and PAULINE GRIFFITHS PhD, RN, PGCE (FE)⁶

¹PhD Candidate, Faculty of Nursing & Midwifery, Tehran University of Medical Sciences, Tehran, ²Professor Emeritus, Faculty of Nursing & Midwifery, Tehran University of Medical Sciences, Tehran, ³Associate Professor, Behavioral Sciences Research Center, Nursing Faculty of Baqiyatallah University of Medical Sciences, Tehran, Iran, ⁴Researcher, Faculty of Professional Studies, University of Nordland, Bodø, Norway, ⁵Reader, College of Human and Health Sciences, Swansea University, Swansea and ⁶Associate Professor (Honorary), College of Human and Health Sciences, Swansea University, Swansea, UK

Correspondence

Mahvash Salsali
Faculty of Nursing & Midwifery
Tehran University of Medical
Sciences
Touhid Square
Tehran
Iran
E-mail: m_salsali@hotmail.com

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Aim To explore the perspectives and experiences of nurse instructors and clinical nurses regarding the assessment of safe nursing care and its components in clinical practice.

Background Safe nursing care is a key aspect of risk management in the healthcare system. The assessment of safe nursing care and identification of its components are primary steps to establish patient safety and risk management and enhance the quality of care in clinical practice.

Methods This was an interview study, with qualitative content analysis. Semi-structured interviews were conducted with 16 nurse instructors and clinical nurses including nurse managers chosen by purposive sampling based on theoretical saturation. Data collection and analysis were carried out simultaneously until data saturation was reached.

Results Data analysis led to the extraction of four main themes: holistic assessment of safe nursing care; team working and assessment of safe nursing care; ethical issues; and challenges of safe nursing care assessment.

Conclusion Identifying these four components in the assessment of safe nursing care offers a contribution to the understanding of the elements of safe care assessment and the potential for improved patient safety.

Implications for Nursing Management Safe care management requires the accurate and reliable assessment of safe nursing care and the need for strategies for reporting actual or potential unsafe care and errors to ensure patient safety.

Keywords: assessment, nurses, nursing, patient safety, qualitative research

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Introduction

Patient safety is the main component of quality within health delivery. Nursing is the largest professional

group delivering healthcare, and it is essential that nurses are competent in the delivery of safe care. Moreover, safe practice is of utmost importance to nursing management to maintain nursing's power and

autonomy in the workplace and enhance nursing's scope of practice (Meretoja & Leino-Kilpi 2003). The World Health Organization (WHO) has defined patient safety as the level of care at which there are no negative effects on the patient's health in the process of delivering healthcare services (WHO 2014). There is no exact quantitative estimate of the risk of adverse events per day spent in Iranian hospitals. Internationally, it has been reported that adverse events during hospital admission affect nearly one in 10 patients (Abdou & Saber 2011). The rate of adverse events among surgical patients is reported as 82.8 per 1000 hospitalisations in the USA (Zeeshan *et al.* 2014) and 53.33 per 1000 in Brazil (Paranaguá *et al.* 2013), and 24.3% for elective and 19.7% for emergency surgical patients in Australia (Hauck *et al.* 2012). Data from European Union Member States consistently show that healthcare-related adverse events occur in 8% to 12% of hospitalisations (WHO 2015). A study in New Zealand has reported the occurrence of adverse events in 10% of hospitalisations (WHO, 2004).

Nursing's responsibility in patient safety has been defined as avoiding medication errors and preventing patient falls (WHO 2014). While these dimensions of patient safety remain important, the breadth and depth of patient safety and quality assurance has grown. The contribution of nursing to patient safety has extended to managerial duties such as the ability to coordinate and integrate the multiple aspects of quality care, especially the surveillance and coordination that reduce preventable adverse events. A starting point for achieving improved nursing care is to assess what is safe care and determine how nursing care then affects patient safety (Hughes 2008). There is limited evidence with regard to the assessment of the knowledge, skills and attitudes of healthcare professionals to determine how well health care professionals are prepared for their promotion of patient safety (Attree *et al.* 2008). This paper reports findings from a small exploratory qualitative study of Iranian nurse instructors' and clinical nurses' perspectives and experiences regarding the assessment and components of safe nursing care.

Background literature

The pervasive problem of medical errors and adverse events in healthcare has made improving patient safety an international priority (Onge & Parnell 2015). The Iranian healthcare system is in transition in terms of quality of care and patient safety. The Ministry of

Health issued a statement in the form of the 'clinical governance principle' that mandated the collection of data on adverse events and mortality rates in order to develop strategies to enhance patient safety (Ministry of Health and Medical Education of Iran 2015). Iranian nursing has begun to advance the quality of both education and practice. While the Iranian healthcare system is mainly physician-dominated, nurse policy-makers and administrators have tried to narrow the gap between theory and practice by incorporating current international nursing knowledge into policies and procedures and developing practice guidelines for nurses. Despite these advances, there is room for improvement in terms of patient safety. Iranian nurses are classified as either nurse instructors or clinical nurses, including head nurses and supervisors or junior nurses. A Bachelor's degree in nursing is the minimum requirement for employment in both public and private healthcare settings. The head nurses and supervisors monitor the activities of junior nurses and directly guide their interventions to provide high-quality care to hospitalised patients (Vaismoradi *et al.* 2014).

The WHO defines an adverse event as the injury caused by medical/healthcare management rather than the underlying condition of the patient (WHO 2014). Identification of adverse events is critical for improving patient safety, yet adverse events can be difficult to measure (Onge & Parnell 2015). The assessment of patient safety is a prerequisite for identifying adverse events. The assessment of patient safety from both patient and staff perspectives is influenced by the extent to which safe nursing care is delivered (WHO 2014). 'Assessment of patient safety' is a relatively recent concept in the Iranian health sector (Ministry of Health and Medical Education of Iran 2015). In a given institution, Nieva and Sorra, (2003) suggest that it helps identify the most problematic areas and guides healthcare managers to incorporate patient safety strategies in the norms of healthcare improvement systems. Patient safety assessment tools, such as the Safety Attitudes Questionnaire (SAQ), Hospital Survey on Patient Safety Culture (HSOPSC) and Manchester Patient Safety Assessment Framework (MaPSaF) (Nieva & Sorra 2003, Sexton *et al.* 2006, Kirk *et al.* 2007) provide structures for assessment and team working. The Patient Safety Climate Healthcare Organization (PSCHO) tool also considers support to assess patient safety (Singer *et al.* 2007).

The perspectives of nurse educators, who are familiar with academic knowledge and ideal, safe practice have rarely been heard (Vaismoradi 2012a,

Vaismoradi *et al.* 2012b). The National Council of State Boards of Nursing (2012) in the US, reports a high level of agreement among nurse educators in the identification of selected safety assessments and the most important knowledge for clinical nurses. Understanding the importance of the interactive connection between academic and clinical education is recommended (Hughes 2008, Vaismoradi 2012a, Tella *et al.* 2014), but patient safety is seldom assessed using the perspectives of those who are involved in nursing education.

Aim

This study explores nurse instructors and clinical nurses' perspectives and experiences of safe care assessment.

Methods

Design

We adopted a qualitative exploratory approach, utilising interviewing techniques and inductive content analysis.

Participants and setting

Purposive sampling was used to choose participants. To obtain a broad and heterogenic perspective on the study phenomenon, maximum variation in sampling was sought through key informants (Marshall 2003, Streubert & Carpenter 2010), such as head nurses and supervisors. The purposive sampling approach sought to obtain heterogeneity in terms of the number of years of nursing work experience.

The setting for this study was a large tertiary referral teaching hospital in Tehran, with more than 1000 beds in surgery and internal medicine wards to provide specialised care to patients with cardiac, endocrine, pulmonary, gastrointestinal and neurological disorders. The hospital receives patients from across Iran, within a radius of 1000 kilometres. Different high-tech medical and surgical interventions are conducted in this hospital by nursing and medical staff that collaborate with university-based medical scientists in educating healthcare students.

The study sample comprised 11 nurse instructors from a nursing faculty and five nurses including clinical nurses, head nurses and supervisors. The first author (F.R.) approached the nursing office at the hospital and requested introductions to likely partici-

pants. The nursing office introduced the student by phone to head nurses of five medical and surgical wards and requested full collaboration. After the student's initial visits to the wards, invitation letters containing information about the aims of the study, estimated duration of the interviews and ethical aspects of the study were given to the head nurses to be passed to potential participants. The participants who agreed to be contacted by the first author after this initial call were asked to suggest a convenient time for their interview. The first author approached each nurse instructor in her office and presented the same invitation letter. Those agreeing to participate were asked to suggest a time for their interview.

Data collection

Face-to-face, individual semi-structured interviews were scheduled daily. As a result of the sensitivity of the study topic, and the necessity of providing a safe psychological environment for participants to share their understandings, semi-structured interviews were used in preference to focus groups. Focus groups were felt to be less appropriate in this study, because the participants were of varying seniority and might not share the same emphases and the group dynamics might generate misleading emphases, based on consensus rather than individual concerns (Streubert & Carpenter 2010). Data collection and analysis were conducted concurrently until theoretical saturation was achieved. All clinical nurses, nurse managers and nurse instructors approached agreed to be interviewed. However, after five interviews with clinical nurses and nurse managers and 11 interviews with nurse instructors interviews were discontinued. Therefore, this study was finalised with 16 nurse instructors and clinical nurses including nurse managers, because no new data emerged to add to the variation of findings of the study phenomenon.

The main questions of the research focused on the way of assessing safe nursing care. Before the interviews, the authors developed an interview guide focused on the study phenomenon. Following some questions on demographics, such as age, gender and years of experiences, questions focused on the study were asked:

- 1 Will you please share your perspectives of the provision of safe care in clinical practice?
- 2 What are your experiences of assessment of patient safety in nursing practice?
- 3 What do you teach your students with regard to the assessment of patient safety in nursing care?

Probes in terms of 'what', 'how', 'please provide some examples' so on were used to obtain more in-depth answers.

The duration of each interview ranged between 30 and 70 minutes. All interviews were conducted in private locations, where participants were comfortable (e.g. nurse instructors' offices and clinical nurses' common rooms).

Data analysis

A qualitative inductive content analysis was performed (Graneheim & Lundman 2004). Content analysis aims to cover latent and manifest levels and in most cases a combination of the two. The manifest level concerns the surface of the text focusing on the more visible and obvious parts. The latent level comprises an interpretation in which deeper aspects of meaning are sought in the text (Vaismoradi *et al.* 2013). Participants' responses were recorded in the form of an audio file in Farsi and were transcribed *verbatim*. Translations from Farsi to English were done by the first and third authors, compared and back-translated by the fourth author. Discrepancies were resolved by discussion. Data analysis started with the first interview and was continued simultaneously with data collection in an iterative process. The first author wrote analytical notes with regard to her own perceptions, initial ideas and understandings of the study subject obtained during data analysis that were used for the classification of codes to themes (Table 1). The interviews were coded, and the analysis was conducted primarily by F.R. and A.B. Next, they were reviewed and corrected by M.S. and M.V. The themes were compared again with all datasets as codes and transcriptions to ensure that the developed themes are comprehensive, and all codes have been covered in the analysis process.

Trustworthiness and rigour

Two members of the research team reviewed the interviews, codes and classification individually and held discussions to resolve disagreements. As peer checking, an overview of the transcripts, codes and classifications was provided to some qualitative experts from the research team to verify the accuracy of the analysis process (Polit & Beck 2006, Streubert & Carpenter 2010). Areas of disagreement were discussed, and feedback loops were used to ensure rigour. New codes were added as additional themes emerged from the second sessions, and some codes were eliminated. The

finalised code structure was applied to all transcripts by the researchers. All decisions taken during the research process were recorded to provide and audit trail for the analysis (Finfgeld-Connett 2010, Waltz *et al.* 2010).

Results

The 11 nurse instructors held Master's degrees, and the five nurses, including two clinical supervisors and three clinical nurses, held Bachelor's degrees. The participants were all female, with a mean age of 38.93 years [standard deviation (SD) = 6.89] and work experience of between 3 to 22 years (mean = 10.31, SD = 6.01).

Four key themes emerged from the data: holistic assessment of safe nursing care; team working and nursing assessment of safe care; ethical issues; and challenges of safe nursing care assessment.

Holistic assessment of safe nursing care

Participants all stated that the physical aspect of patient safety should be considered during the assessment to ensure the provision of safe care.

Then, I mention what may endanger the patients' safety to the students. They all constitute patient safety in the physical aspect, and physical needs have to be taken care about according to the Maslow's pyramid

(Nurse instructor No. 3).

I think to assess safety of nursing care, physical needs of patients are required to be addressed, for instance, a right drug for the right patient prevents physical harm. With physical aspect of patient safety, we want that nothing bad happens to patients' well-being

(Clinical nurse No. 1).

Nosocomial infections, misdiagnoses, delay in treatment, damage owing to the improper use of medical devices and adverse events as the result of medication errors are common causes of preventable harms to the patient. Vaismoradi (2012a), Vaismoradi *et al.* (2012b) argue that the prioritisation of the patients' needs is the main starting point for the provision of safe care in clinical practice. Thus, it can be claimed that securing patient safety is important through the application of knowledge and scientific methods with the aim of attaining a reliable and sound care delivery

Table 1
A sample of data coding and theme development

<i>Transcriptions/meaning unit</i>	<i>Condensed meaning unit</i>	<i>Code</i>	<i>Theme</i>	<i>Practical outcome</i>
'I think to assess safety of nursing care, physical needs of patients are required to be addressed'. 'For instance, a right drug for the right patient prevents physical harm'. 'With physical aspect of patient safety, we want that nothing bad happens to patients' well-being'.	Physical needs Right drug Right patient Well-being	Patient's physical needs	Holistic assessment of safe nursing care	Assessment of physical preventable adverse events including hospitalisation-related risks to patient safety
'I think one thing that has to be assessed is the patient's satisfaction'. 'How much he/she is content with care'. 'How much the patient's opinion is taken care about'. 'We have to teach the newly qualified nurse about the standards of care and also ask him/her to follow care routines developed by the head nurse to facilitate provision of care'. 'We expect the new nurse to act according to the standards set, so that nursing students who come to the ward for being trained consider these nurses as role models to practice safely'. 'Work in harmony with other healthcare team members'.	Patient's satisfaction Patient's contentment Considering patient's opinions Act according to the standard role models and collaborate with healthcare team members	Patient's psychological needs Collaboration based on standard care routines		A holistic look at the patient, including consideration of humanistic values Consideration of standard care routines for collaboration with healthcare staff
'If the nurse believes that God is observing him/her, s/he does his/her job correctly'. 'We need to prepare a checklist and ask questions with regard to the ethical considerations of care during practice. This also can be used as a guide by nurses to do their jobs according to ethical aspects of care'. 'Reliable insurance coverage leads the individual to reporting the error with confidence'. 'The system should support the nurse'. 'Taking care about patient safety during practice gives the nurse peace of mind, because it prevents unnecessary patients' suffering related to care'. 'We cannot expect a nurse to treat patients respectfully, if s/he is not respected himself/herself and if s/he is given intensive shifts with a lot of patients'. 'The nurse's working conditions lead to errors such as medication ones as medication needs a lot of concentration and s/he can't be held responsible for those errors'. 'A number of safety issues are related to physical conditions that endanger patient safety for example falling down and nosocomial infection'. 'We can't ask the nurse to do something without providing him/her with the facilities such as enough staff, infection control facilities, and safe medication process equipment'. 'We do not punish nurses toughly and arrogantly'. 'The nurse reports the errors himself/herself'. 'The nurse should not be stigmatised by the punishment'. 'In our hospital, they have put boxes in which we can drop error reports anonymously'.	Beliefs Doing tasks correctly Insurance coverage Supporting the nurse in the system Nurse's peace of mind Intensive workloads and shifts Being treated respectfully Workplace conditions Physical conditions Providing facilities Providing equipment Not punishing nurses Reporting mistakes Anonymous reporting	Care according to human values Support Staff welfare Safe environment Reporting system	Ethical issues Challenges in assessing safe nursing care	Nurses' respect to patients' values and rights Provision of safety for nurses, through education and support, to be able provide safe care

system (WHO 2011). Furukawa *et al.*'s Japanese study (2003), demonstrated that of 78% of errors committed in hospitals, 50% were related to the non-observance of patients' physical safety.

When considering psychological patient safety, participants emphasised that nurses should consider the patient as a whole and value the humanistic aspect of patient care:

When one talks about patient safety, it means physical, psychological, social, and spiritual safety

(Clinical nurse No. 3).

I teach students that advocating for the patient in meetings with healthcare team members and being present at the patient's bedside make patients to feel safe'

(Nurse instructor No. 11).

Happ *et al.* (2011) in the US demonstrate that patient dissatisfaction was due mostly to the way care was delivered and that the largest proportion of complaints was related to psychological needs such as unfamiliarity with the hospital environment and a lack of an appropriate relationship between the nurse and patient. With regard to the feeling of safety, patients prefer that their individual preferences are considered during delivery of care, so that they are called by name and talked to about their problems (McCabe 2004, Vaismoradi *et al.* 2012b). Within available resources, if patients receive services from caring, compassionate and committed staff, they are relatively protected from avoidable harms (Francis 2013). Patient safety is a complex multidimensional concept and a comprehensive assessment of patient safety is essential. Nurses do, however, deliver care within healthcare teams.

Teamworking and nursing assessment

The assessment of patient safety required team-working abilities. Participants indicated that the nurse, who has a core coordinating role within the treatment team, should be familiar with and act according to standard care routines.

Standard care routines are like a thread by which healthcare professionals are connected together. The nurse is required to act accordingly and collaborate with other healthcare team members

(Clinical nurse No. 3)

The nurse needed to work harmoniously and respectfully with other members of the team and transfer information in a timely manner to guarantee patient safety:

The staff members should collaborate to deliver safe care and the nurse should treat other members of the team with respect

(Clinical nurse No. 2).

Finally, if the nurse can establish a good and friendly atmosphere, and if everybody works collectively and cooperatively, and information is conveyed timely and accurately, care becomes safe automatically

(Nurse supervisor No. 1).

The participation of nurses and communication with other members of the healthcare team plays an important role in the delivery of safe care. Abdou and Saber (2011) suggest that teamwork is the most important component of the assessment of safe nursing care. The nurse is a member and the coordinator of the healthcare team so by working harmoniously with other members of the team and treating them respectfully can reduce the errors that occur during individual work (Nieva & Sorra 2003). As Baker *et al.* (2007) and Manser (2009), likewise note that the nurse's duty while providing nursing care is to transfer the patient's health information in a timely and accurate manner and ask other members' opinions. Practical elements of patient safety assessment must, however, include an ethical consideration.

Ethical issues

The participants reported that to assess patient safety, nurses should care about patients' worries, and provide care based on human values. This includes valuing and respecting the patient's legal and ethical rights, without the need for surveillance or external supervision:

Ethics, conscience, and so on are not things to be measured objectively. These have to be checked by observing the nurse's behaviours and asking him/her indirect questions

(Nurse instructor No. 10).

Anyway, if the nurse believes that God is observing him/her, s/he does his/her job correctly whether there is someone to observe or not. Some things are human principles and are

beyond legislation. If one believes in conscience, one can observe safe nursing care

(Clinical supervisor No. 1).

Adherence to ethical principles was noted as an essential factor to be considered in the assessment of patient safety; however, during care delivery controversial ethical issues may arise. The nurse is required to deliver nursing care considering human principles and the patient's social and cultural values, customs, and religious beliefs.

One challenge of assessing safe nursing care identified was staff welfare. Most participants reported that creating a situation in which the nurse could work in ideal circumstances with a sufficient salary, a standard number of patients and peace of mind could lead to a reduction in errors and an improvement in patient safety:

Observing patient safety requires the nurse's peace of mind. We cannot expect a nurse to treat patients respectfully, if s/he is not respected himself/herself and if s/he is given intensive shifts with a lot of patients. Patient safety can't be secured this way. The nurse's working conditions lead to such errors and s/he can't be held responsible for those errors

(Clinical nurse No. 3).

Larijani and Zahedi (2007) likewise argue that the nurse should possess sufficient competence and knowledge for accomplishing safe and effective care without direct supervision and take responsibility for the care delivered. Nurses should assess their practice according to professional standards and their terms and conditions of service, and be aware of any professional, ethical, and legal violations, such as adverse drug events, disclosing patients' private information to unauthorised people and neglecting complaints. Educational initiatives on the ethics of care and patient safety are needed in undergraduate and continuous nursing educational programmes (Sanjari *et al.* 2008). The nurse works, however, within legal and organisational frameworks that can lead to challenges related to the delivery of safe care.

Challenges to the assessment of safe nursing care

It was believed that the nurses' ability to provide safe care to patients depended on their own feeling of security and safety in the workplace. Most participants considered hospital authorities' and businesses' liability

insurances as challenges when assessing patient safety and providing safe care. Support contributed to patient safety, especially if nurses were encouraged and supported to report errors:

Reliable insurance coverage leads the individual to reporting the error with confidence

(Clinical nurse No. 1).

At the same time, if there is any error, the punishment should suit the error. The system should support the nurse adequately. It should not be such that the next time, the nurse prefers not to report the error or prefers to hide it

(Clinical nurse No. 3).

Management and support systems that maintain open communications, provide training for staff, identify the roots of errors, provide sufficient workforce and provide staff with liability insurance were potential strategies identified by participants as to help ensure patient safety.

Nursing education provides students with only basic education with regard to patient safety. It is the responsibility of clinical authorities to improve their practical knowledge when they are employed

(Nurse instructor No.11).

Environmental safety improved patient safety. This included facilities and equipment, access to these facilities, and having enough knowledge to apply them.

I will be successful in educating students to practice safely, when the workplace is safe. The facilities for doing the task are according to the standards. We can't ask the nurse to do something without providing him/her with the facilities

(Nurse instructor No. 6).

Practice errors, problems relating to workload, inadequate time off and a lack of nursing staff reduced productivity; feelings of discomfort, illness or poor team performance could result in emotional exhaustion and aversion to patients. Therefore, managing workload and related problems were of high importance and relevance to patient safety. Allowing recovery periods after periods of high workload and ensuring adequate staffing levels and providing appropriate training were mentioned as some solutions by the participants:

If the nurse's workload is heavy, and if there is a shortage of workforce, the patient will not be satisfied with the nurse

(Clinical supervisor No. 2).

Andrews and Butler (2014) concur and suggest that more education and support is needed to educate staff about expressing concerns about work conditions to healthcare managers. In the SAQ (Safety Attitude Questionnaire) instrument, staff welfare and job satisfaction are noted as (Sexton *et al.* 2006) impacting on safe practice: a motivated and empowered workforce can improve patient safety (Stone *et al.* 2007). Likewise, Moghery (2010) argues managers should prioritise nurses' needs, get information about their expectations and try to improve the quality of services delivered to patients.

Discussion

Findings emerged in four main themes including holistic assessment of safe nursing care, team working and nursing assessment, ethical issues and challenges in the assessment of safe nursing care. Findings from this study support the value nurses place on patient safety throughout the patient journey. The need for a holistic assessment to understand the patient's needs and the underpinning ethical imperative of professional nursing practice were emphasised. Participants recognised the core coordinating role of the nurse and the essential nature of effective team working to provide safe care. A central barrier to providing safe patient care was identified as the concern that to report errors would lead to individual censure rather than enabling learning to take place. A reporting system for practice errors is vital for assessing safe nursing care. This requires suitable reporting systems, a central database that can be accessed and analysed easily, and a working culture where nurses report errors voluntarily. Ideally organisations learn from adverse events rather than seeking to apportion blame to an individual (Department of Health 2000). Such systems should possess the ability to receive, manage and analyse data, requiring suitable technical infrastructure and equipment, and the capacity to publish the results (WHO 2005). Iran is in the early stages of the implementation of clinical governance and patient safety programmes and has yet to develop such systems. One of the most important barriers to recording and reporting health care errors and events threatening patient safety is the fear of lawsuits, suspensions, fines and reprimands. For this reason, there is a need for

legal protection for those who report medical errors (Vozikis 2009). Sadoughi (2009) argues that in Iran there are as yet no well-defined regulations for the privacy of information or regulations in place for the protection of those who report medical errors.

Limitation

This is a small-scale exploratory study, and its findings were not intended to offer generalisation but rather to seek to describe a particular setting. However, these findings find resonance in established literature and lend support to policy demands. Although the researchers tried to recruit more male nurse participants for the study, they were unsuccessful because of the restricted number of male nurses in clinical practice and issues of scheduling the times of the interviews.

Conclusion

The experiences and perspectives of clinical nurses in the development of assessment criteria of patient safety are important. Moreover, nurse instructors are in the best position to provide information to nursing students with regard to the criteria for provision of safe care, professional commitments, collaboration between healthcare professionals and leadership in removing obstacles to nurses' efforts to making the healthcare system safer. Investigation of the current situation is necessary before implementation of the change. In other words, the delivery of safe nursing care necessitates the determination of criteria for safe practice so that both nurses and nurse managers can address any skill-related and knowledge-based shortcomings and deficits to facilitate provision of safe care (Singer *et al.* 2007, Armstrong *et al.* 2009). While safe nursing care is a key index of clinical governance and risk management programmes, the assessment of safe nursing care and the identification of its components are the primary steps to enhance quality of care and plan for the development of patient safety in clinical practice.

Implication for Nursing Management

We identified four dimensions for improved patient safety: holistic assessment of safe nursing care; team working and nursing assessment of safe nursing care; ethical issues; and challenges in the assessment of safe nursing care. These can be added to future instruments developed to provide a comprehensive assessment of patient safety by nurse managers, especially in terms of humanistic and psychosocial aspects of safe care that

have not been sufficiently addressed in previous instruments. The development of such a comprehensive instrument would benefit from incorporating the perspectives of nursing education authorities.

To improve quality and safety based on these four principles, Iranian nurse managers should consider the physical aspects of patient safety with a focus on nosocomial infections, misdiagnoses, delay in treatment, damage owing to improper use of medical devices and adverse events as the result of medication errors, medicines' mismanagement or adverse drug reactions. Also, the humanistic aspects of patient care such as caring attitudes, patients' dignity and preferences, and social and spiritual needs should be incorporated into the assessment of safe care. Iranian nurse managers need to highlight team working and coordination with regard to the timely transfer of care between healthcare professionals and settings plus consideration of patients' worries and their legal, ethical rights and socio-cultural values. Nurse managers should consider nurses' welfare and psychological comfort regarding the provision of safe care, organisational and managerial support, facilities and equipment, training, reporting systems and post-error debriefing to prevent future incidents. Nurse managers in Iran need to instil confidence in nursing staff when reporting errors or near misses and implement a practice model including regular reviews of the errors' databases to ensure learning from adverse incidents.

Authors' contributions

F.R., M.V., A.E. and M.S. designed the study. M.V., P.G. and S.J. provided methodological guidance. A.E. and F.R. conducted the interviews and performed the analysis under the supervision. All authors were responsible for writing the article and agreed with the final version to be published.

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Ethical approval

The Research Council and the Ethics Committee affiliated with Tehran University of Medical Sciences approved the study research proposal and corroborated its ethical considerations. The written consent form included obtained from the participants included their permission to audiotape-record interviews and the publish findings. They were all assured of anonymity. It was emphasised that participation in this study was voluntary, and withdrawal was possible at any time without penalty.

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