

Patient Safety in Nursing: A Systematic Review

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Abstract

Introduction: Patient safety is a major public health problem. In fact, patient safety is a global health concern that affects patients in all areas of healthcare throughout the world, whether in developed or developing countries, and it is important to have a wide range of nursing practices such as education, clinics, and management. Considering the importance of patient safety in the quality of care and outcomes of patients, this study was conducted to systematically review patient safety in Iran and in the world.

Methods: This article follows the review of texts on patient safety dated between 2008 and 2016 found in Internet searches and library studies with the keywords "patient safety training", "quality of care", and "nursing" using databases such as MEDLINE, CINAHL, and ISI, which index the vast majority of published journals and publications. From the articles searched, 23 were obtained and reviewed. Out of the large amount of quantitative and qualitative studies found, articles about the patient safety in nursing were selected and their results are summarized in Table 1 below.

Results: The results of the review of 23 articles showed that patient safety in the majority of Iranian hospitals was at acceptable levels, and only in a few cities such as Shiraz and Hamadan.

Conclusion: According to the review, further planning is needed to improve the patient's safety, such as reducing mistakes, incidents of falling, hospital infections, surgical complications, and improving other safety features so that all hospitals in the future will be upgraded to safety-friendly hospitals.

Keywords: Patient Safety Education; Quality of Care and Nursing

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Introduction

Patient safety is a major public health problem.¹ In fact, patient safety is a global concern in the field of health that affects all areas of healthcare throughout the world, whether in developed or developing countries. It is an important issue in nursing, including the areas of education, clinical education, and management.² Based on the available evidence, it is estimated that between 5% and 10% of costs in health systems result from unsafe activities and injuries to patients. In developing countries, one of every ten patients is injured while receiving hospital services. Although there are no accurate statistics about developing countries, the probability is far greater.³ Uninsured services, in addition to having unpleasant consequences for the patient and his/her family, lead to stress and an economic burden on the health system and society.⁴ Patient safety includes such concerns as drug errors, surgical

procedures, misdiagnoses, device and equipment failures that result in misdiagnoses, and other cases involving hospital infections, patient falls, bed sores, misconduct, etc.⁵ One Harvard study showed that more than 70% of harmful events for patients were caused by the negligence of healthcare workers, and more than 90% of them were preventable.⁶ The importance of observing safe nursing practices stems from the pain and suffering that patients and their families suffer from the errors of the treatment team members. The starting point for this suffering is the stress patients feel when paying hospital fees, which increase with prolonged hospitalization. Complications caused not by a patient's initial illness which led them to the healthcare team, but by the mistakes of members of the healthcare team, such as the physician and the nurse, ultimately impose material and emotional costs upon the patient.⁷ Considering the

importance of patient safety in the quality of care and patient outcomes, the current study aimed to systematically review patient safety in Iran and in the world.

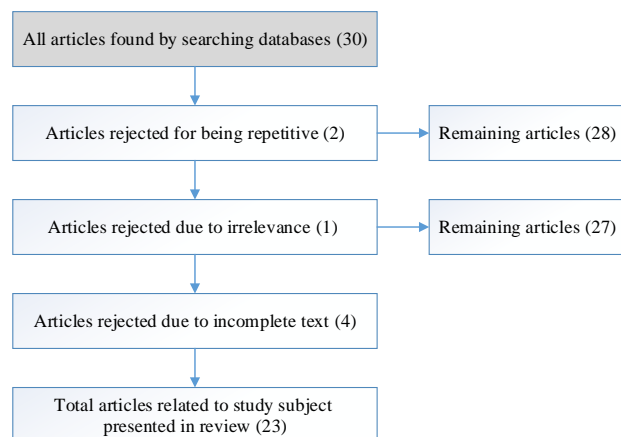


Figure 1: Input and output Diagram of primary studies to final synthesis

Methods

This article follows the review of texts on patient safety dated between 2008 and 2016 found in Internet searches and library studies with the keywords "patient safety training", "quality of care", and "nursing" using databases such as MEDLINE, CINAHL, and ISI, which index the vast majority of published journals and publications (Figure 1). Out of the large amount of quantitative and qualitative studies found, articles about patient safety in nursing were selected, and their results are summarized in Table 1 below.

Results

A systematic review of patient safety is summarized in Table 1 (8-30).

Table 1. Information on 23 Patient Safety Articles

Study Results	Society studied	Sample size	City	Study title	Year	Authors
The total average safety score of patients in hospitals was 63. The dimensions of reporting frequency and data transfer interchange were 56 and 55, respectively, with the lowest mean and dimensions of "organizational learning" and "expectations-management measures" each with a mean of 69 and the highest average among the 12 dimensions of safety culture.	Medical personnel	312	Tehran	Study of the status of patient safety culture from the viewpoint of staff of teaching hospitals in Tehran	1391	Mohebifar et al. ⁸
The two main points of the content analysis were: 1. Creating an educational program on patient safety and turning routine nursing into evidence-based nursing, taking into account patient safety principles. 2. Involving students in patient care by establishing a link between knowledge and practice and also increasing the correlation between health system providers.	nursing students	18	Iran	Reviewing the Viewpoints and Suggestions of Nursing Students in Patient Safety for the Development of a Nursing Program in Iran	2014	Weis Moradi et al. ⁹
% of people said employees could not freely question the authorities' actions. 23% of our work unit's safety culture has a good score and 52% of the grade. "The scope of team work within units" is one of the strengths of the organization".	Hospital staff	500	Urmia	Study of the status of patient safety culture in staff of educational and therapeutic centers affiliated to Urmia University of Medical Sciences	1390	Baqaei et al. ¹⁰
The status of all aspects of the patient safety culture is unacceptable (poor) from the viewpoint of nurses in the respective hospitals. The "unit leadership for safety" was the lowest, and "learning and feedback" earned the highest score.	nurses	215	Hamad an	The Study of the Dimensions of Patient Safety Culture from Hamadan Nurses' Viewpoints	1391	Shahr Abadi et al. ¹¹
The status of all aspects of the patient safety culture and the two dimensions of the implications of the existence of a safety culture have been low to moderate. The dimensions of "non-punitive reaction to error" and "teamwork between the units of the hospital" had the lowest scores, and "teamwork within the department" had the highest score.	Hospital staff	313	Tehran	Employee perception of patient safety culture in selected hospitals of Tehran University of Medical Sciences	1390	Abdi et al. ¹²
The level of patient safety culture was moderate in different hospitals, and there was no significant difference between hospitals. The strongest dimension of the safety culture, the "work team", achieved 74% positive response. The organizational posts of people also had a significant difference in the overall score of safety culture.	All health personnel	443	Tehran	Study of the status of patient safety culture in teaching hospitals affiliated to Shahid Beheshti University of Medical Sciences in 2011	1390	Mahfouzpour et al. ¹³

Study Results	Society studied	Sample size	City	Study title	Year	Authors
The strengths of the patient safety culture in university hospitals are three dimensions: "Organizational learning - Continuous improvement", "Teamwork within hospital units", "Non-punitive response in case of mistakes", and in private hospitals are two dimensions: "Organizational learning - Continuous improvement" "And" non-punitive response in the event of an error. " The lowest safety rating in academic hospitals was "Communication and providing feedback on errors," and in private hospitals related to the "transfer of patients to the hospital and the exchange of patient information between units." Most nurses did not report any incidents that occurred during the past year.	Nurses	142		Patient safety culture from nurses' point of view	1390	Salavati et al. ¹⁴
The safety rating of the patient was inferior in almost all dimensions to the base hospitals. The two dimensions of "team work within units" and "non-punitive response in case of error" were identified as the highest and lowest number of the patient safety culture dimensions.	Medical staff	420	Tehran	Assessing the status of patient safety culture in public hospitals affiliated to Tehran University of Medical Sciences	1388	Maghari et al. ¹⁵
The highest score for the diagnostic sections and paraclinic groups was in the field of "teamwork within the organizational units" (83%) and the lowest score for the paraclinic group was in the "non-punitive response to the event of errors" (42%). The highest score was part of the special department in the area of "employee issues" (42%).	Medical staff	332	Tehran	Surveying the Learning Centers of Patient Safety Culture at the Educational Center, Shahid Rajaei Cardiology Research Center in 2013	1392	Momeni et al. ¹⁶
About 15% of patients described the status of the safety culture at a very good level. Among the dimensions of the patient safety culture, the two dimensions of "continuous organizational upgrade" and "teamwork" in the sectors were able to score over 50%.	Hospital staff	367	Jahrom	Study of the status of patient safety culture from the perspective of medical personnel in Jahrom University of Medical Sciences affiliated hospitals in 2014	1393	Zendegani et al. ¹⁷
The patient safety culture is undesirable in all educational hospitals of Shiraz University of Medical Sciences. "Organizational training in patient safety" was the most inadequate dimension, and "how to transfer a patient between sectors" was the most appropriate.	Nurses	412	Shiraz	Investigating patient safety culture from nurses' point of view in educational hospitals of Shiraz and providing solutions for improving the status.	1387	Hatam et al. ¹⁸
The dimensions of "team work within the sectors" and "overall perception of safety" had the highest scores, and the "non-punitive response to error" had the lowest score among the 12 dimensions of patient safety culture.	Medical staff and patients	250	Tehran	Relationship of patient safety culture with patient perception of service quality in selected military hospitals in 2013	1392	Zaboli et al. ¹⁹
"Management support for patient safety" received the highest score, and "non-punitive response in case of error" had the lowest score. People over the age of 35 had a better overall understanding of patient safety.	Hospital staff	439	Kerman	Familiarity of Kerman Hospital staff with respect to patient safety culture	1393	Saber et al. ²⁰
"Teamwork between hospital units" and "management expectations and management" had the highest scores, and "non-punitive response to error" and "manager support" had the lowest scores. The overall safety culture score was 61.81%.	Hospital staff	361	Yasuj	Status of patient safety culture from the viewpoint of hospital staff in Yasuj city in 2014	1393	Rezaian et al. ²¹
The condition of the patient safety culture was moderate, and only about 23% of workers report the status of the patient safety culture as being very good.	Hospital staff	295	Jiroft	Study of the status of patient safety culture in hospitals in Jiroft city in 2014	1393	Faryabi et al. ²²
The two dimensions of "communication and providing feedback on errors" and "organizational learning and continuous improvement" received the highest scores, and the two dimensions of "non-punitive response in case of errors" and "openness of communication	Medical personnel	164	Tehran	Study of the status of patient safety culture at Razi Psychiatric Center, Tehran	1393	Ajali et al. ²³

Study Results	Society studied	Sample size	City	Study title	Year	Authors
channels" had the lowest scores; half of the units in the research did not report any errors in the last year. Hospital ratings in the areas of mandatory, basic, and advanced indicators was 0.76, 0.55, and 0.27, respectively, among the hospitals under study. Hospitals C and A received the highest and lowest scores, respectively. Hospital B indices (score 0.8), in the basic indices of Hospital C (score 0.66) and in the hospital's advanced indices (A score of 0.26) earned the highest score. Among the studied areas, "safe environment" (59.3%) and "continuing education" (22.3%) had the highest and lowest compliance with the standards, respectively	Owners of the Patient Safety Related Process	84	Ahvaz	Evaluation of Patient Safety Indicators in Public Hospitals Covered by Ahwaz University of Medical Sciences Based on the Patient Safety Assessment Report of the World Health Organization		Najafpour et al. ²⁴
The three dimensions of "suitability of the status of the cadre", "frequency of reporting of accidents", and "non-punitive policies in the hospital" received the lowest scores, and the three dimensions of "management expectations and patient safety promotion functions", "feedback and exchange of information about errors", and "teamwork inside hospital departments" received twenty points.	nurses	530	Amol	Evaluation of nurses' point of view on patient safety culture in Amol city hospitals in 2012	139 1	Faqih Zadeh et al. ²⁵
The results of the research showed that, from the viewpoint of respondents, the nurses' professional behavior and patient safety culture were in the middle level in the educational centers of Rasht. Moreover, a significant and direct relationship between nurses' professional behavior and patient safety culture was seen ($p < 0.01$, $r = 0.6$.)	nurses	322		The relationship between patient safety culture and nursing professional behavior within the framework of the implementation of clinical governance	139 2	Jabari et al. ²⁶
"Teamwork within the sectors" got the highest score, and "non-punitive reactions to the error" earned the lowest score. The average overall safety culture of the patient was 89.99.	Hospital staff	280		Patient safety culture from the point of view of health care clinics	139 3	Salarvand et al. ²⁷
More than 60% of the samples did not report any errors. The mean score of the patient's degree of safety in the hospital was 36.3 out of 5. The dimensions of "management measures and expectations", "teamwork within the units", and "organizational learning" received the highest scores, and the dimensions of "non-punitive response to error" and "sufficient staffing" had the lowest scores.	Medical personnel	196		Assessing patient safety culture at Fatemeh Al Zahra Hospital in Najafabad	138 9	Izadi et al. ²⁸
About 52.7% of the samples did not report any errors during the past year. Approximately 41% of the subjects described the patient safety culture as being very good in their hospital. The overall patient safety culture score was 1.50 based on the randomized model. Then "teamwork within the hospital's highest and "non-punitive response to error" scored the lowest.	Hospital staff	11		Patient safety culture in Iranian hospitals: A systematic review and meta-analysis		Saber Azami et al. ²⁹
Among the dimensions of the patient safety culture, the two dimensions of "teamwork within the hospitals" and "organizational learning and ongoing promotion" scored the highest scores, and the two dimensions of "staff" and "non-punitive response to error" had the lowest scores. 53.7% of nurses reported one to two errors in the past year.	nurses	456	Mazandaran	Patient safety culture from the viewpoint of nurses working in hospitals in Mazandaran province	139 0	Sharifi et al. ³⁰

Discussion

The systematic review of safety culture surveys in different hospitals in Iran showed that in most hospitals in Iran, patient safety is at an acceptable level. seven studies in the field of safety in Tehran conducted by Mohibi Far and Ashkaran (1391), Abdi et al. (2011), Mahfouzpour et al. (2011), Moghadar et al. (1388), Momeni et al. (1392), Zabali (1392), and Aley et al.

(1393) showed that patient safety in hospitals in Tehran was moderate and acceptable. In two studies in Ahvaz which assessed patient safety indexes with the highest score and continuous education, they earned the lowest score. In a study of safety culture, both in educational hospitals and in private hospitals, "organizational learning" and "non-professional response to error"

earned the highest score, while the lowest score in educational hospitals was in communications, and in private hospitals was related to the transfer of patients. This result may be due to the over-crowding in educational hospitals and my health problems in private hospitals are due to the lack of equipment and facilities for the transfer of patients. Two studies in Isfahan showed that the overall viewpoint on patient health and patient safety was acceptable. The study of Shahr Abadi et al. in Hamedan in 2012, however, showed that patient immunity is weak. A study in Urmia also showed that although the patient rating was acceptable, the hospital's atmosphere was not suitable for learning, and the majority of the staff could not comment on the actions of the authorities. In contrast, studies in the northern Iranian cities of Amol, Rasht, and Mazandaran showed that the atmosphere in Amol and Mazandaran had a beneficial effect on teamwork and learning, while the study in Rasht showed that the behavior of the profession the safety of the patient is modest. The study of Faryabi et al. in Jiroft in 2014 indicated that the patient safety culture there is moderate, while patient safety in Shiraz was reported to be undesirable. Studies in other cities of Iran such as Kermanshah, Gonabad, Yasuj, and Khoramabad among others showed that patient safety was acceptable.

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Conclusion

Although studies in various hospitals in Iranian cities showed that patient safety was moderate or good in the majority of hospitals, there remains a need for more planning to improve patient safety in areas such as reducing mistakes, patient falls, hospital infections, surgical complications, and other safety issues in the future so that all hospitals are promoted to hospitals that are safe for the patients.

Ethical Approval

The current study was approved by the Ethics Committee of a local hospital.

Authors' Contributions

All authors contributed equally to this study.

Conflict of Interest Disclosures

The authors declare that they have no conflicts of interest.

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