



Research Article

Copyright © Manana Machitidze

# The Nurses' Role in Patient Safety - Literature Review

Manana Machitidze\*, Maia Gogashvili and Nato Durglishvili

The University of Georgia, Tbilisi, Georgia

\*Corresponding author: Manana Machitidze, University of Georgia, Tbilisi, Georgia.

To Cite This Article: Manana Machitidze, Maia Gogashvili and Nato Durglishvili. The Nurses' Role in Patient Safety - Literature Review. Am J Biomed Sci & Res. 2023 18(6) AJBSR.MS.ID.002533, DOI: 10.34297/AJBSR.2023.18.002533

Received: 📅 May 15, 2023; Published: 📅 May 24, 2023

## Abstract

**Aim/Objective:** Among the many factors that play an essential role in the patient's treatment and recovery process, safety occupies a vital place. On the other hand, providing patient safety is influenced by equally crucial factors, such as the level and quality of medical personnel's education, experience, working environment, attitude, and others. Nurses have an essential role in patient safety. Therefore, the article focuses on the nurse's role in patient safety and the impact of problematic issues in the nursing profession on it.

**Background:** Each person is a potential patient who needs health services, including nursing care. Nursing belongs to the number of professions in demand and will be in the future. However, in the nursing profession, new problems appear and deepen every year, including shortages, problems related to education, lack of nurse pedagogues, and others. All of these affects or endanger access and receiving to qualified, safe medical services, including patient safety.

**Design and Methods:** The article reviews and describes patient safety problems globally through secondary data analyses published in SCOPUS and PubMed from 2015-2022.

**Results and Conclusions:** Patient safety is not the responsibility of only one link of the medical staff, the doctor, or the nurse. It depends on the activities of each clinic member, the level of education, competence, the knowledge-attitude of the patient's safety, and the shared vision/attitude towards safety issues in the working environment. As medical staff also, patient involvement is essential for patient safety. Their awareness and providing patient education will reduce risks related to patient safety.

**Keywords:** Nurse, Education, Patient safety, Teamwork, Nursing education

## Introduction

Patient safety is a healthcare direction that has emerged due to the development of healthcare systems and the resulting increase in problems related to safe patient care in healthcare facilities. It aims to prevent and reduce the risks, errors, and harm patients experience during treatment. The core idea behind the discipline of safe patient care is to improve patient care and safe treatment based on falsehood and adverse event studies. Therefore, quality healthcare worldwide must be efficient, safe, and people oriented. In addition, to benefit from quality health services, health services must be timely, equitable, integrated, and efficient' [1].

One of the essential components of quality care is patient safety. The definition of patient safety provided by the Institute of Medicine (IOM), "the prevention of harm to patients," includes a system of care that involves reducing errors, learning from mistakes, and creating a culture of safety in which healthcare workers, the facil-

ity, and the patient participate [2]. Furthermore, according to the Agency for Healthcare Research and Quality (AHRQ), patient safety is: "freedom from accidental or preventable injuries produced by medical care" [3]. The methods of ensuring patient safety include those measures that reduce the adverse consequences of discovering medical care for various diseases and conditions [2]. The provision of medical services is related to people's lives. Therefore, implementing effective mechanisms for managing the quality of medical services is very important. According to the World Health Organization assessment, "improved quality of health care services leads to improved clinical outcomes, greater safety of patients and their satisfaction." [4].

More than any other healthcare worker, nurses have a central role in patient safety and safe care planning [5]. Along with the doctor's high qualifications, nurses' professionalism is a topical



topic in medicine. Unfortunately, throughout the recent history of Georgia, nursing was considered an auxiliary part of the medical profession, its lower level. The name also indicated this - "average medical staff." In the modern healthcare system, nurses are independent, highly qualified professionals who fully participate in patient treatment and care. A nurse's duty includes caring for and promoting the health of individuals, families, and society, regardless of ethnicity, religion, or socioeconomic status. The problem of nurses in Georgia is not only quantitative but also qualitative. Their qualifications need to be revised to meet modern standards. There is no established structure for raising the qualifications of nursing staff in the country; Also, there is no second or third level of higher nursing education (master, doctorate). Different clinics have training courses, but nurses must get these qualifications properly before upgrading them. The healthcare system has created a situation where nursing is not a sought-after profession. Unlike the provision of doctors, the number of nurses in Georgia is one of the lowest in the European region and is decreasing yearly. Data analysis shows fewer students seeking higher nursing education each year. As a result, the country needs more personnel with highly qualified nurses. This deficit is filled with nurses who graduated from vocational schools (about 350 nurses per year), which needs to be improved to provide quality nursing services. This is compounded by uneven geographic distribution and a shortage of nurses [6].

The issue of training and retraining nurses is an inevitable necessity for the development of the health care system. Therefore, nurse education is vital to patient safety. Safe care requires a solid educational foundation, practical skills, and the ability to analyze critically. Therefore, their qualifications are particularly noteworthy. The education of nurses and any personnel working in the health care system requires constant updating of theoretical knowledge and practical skills. It should be adequate to the new evidence. Education contributes to safer patient care and improved outcomes.

The World Health Organization's nurse-educator competencies focus on preparing the nurse student by developing theoretical and practical skills and understanding and sharing responsibility. These will help future nurses face challenges and prepare for effective nursing practice. In addition, continuing nursing education makes the nursing process perfect and, therefore, adequate [7].

In addition to clear and transparent policies to ensure safe patient care and successful treatment, there is a need for experienced, qualified, professional healthcare professionals and patients' practical involvement in their care. Healthcare professionals include doctors and highly qualified nurses actively involved in patient recovery [1]. Patient safety depends on medical personnel's qualifications and healthcare systems' development. The development of the healthcare system takes into account the increasing complexity of the healthcare field, which makes people more prone to errors. Of course, an error is a human factor, and it is unrealistic to expect flawless performance from medical staff working in a challenging, stressful environment. The assumption that individual perfection is possible will not improve safety [3]. People are protected from

making mistakes in an error-free environment where the system, tasks, and processes they work on are well-designed. Therefore, caring for patient safety is a multi-complex and multi-factorial issue. Patient safety is not limited to the literal meaning of safety; it includes patient-orientated care. It includes the need for nursing competence to provide safe, culturally competent care for patients and their family members. Patient-orientated care has been a focus of education and research among healthcare professionals for many years. Patient and staff safety is the principle for professional nurses. However, safety is equally important to the safety of staff and interprofessional team members. The avoidance of any adverse outcome can measure safety. Safety involves taking measures to prevent danger, injury, or death and safe action to avoid harm or minimize negative consequences. Nurses have the responsibility and play a key role in promoting safety and preventing errors - patient safety care. It is one of the core competencies of the head nurse, safe care provided by one or more nurses. Safety is the ability to protect patients and staff from harm and minimize errors in care. Unfortunately, many mistakes made by healthcare workers, nurses, and other professionals have resulted in patient injury or death and increased healthcare costs [8].

The World Health Organization has provided various research findings highlighting the importance of safe care in patient recovery. Complications resulting from unsafe patient care are among "the ten leading causes of death and disability worldwide" [9]. According to a study, in high-income countries, every tenth patient suffers an injury while receiving inpatient treatment [10]; it is also worth noting that the damage to the patient's health can be caused by such complications, which almost 50% could have been avoided [11]. In low- and middle-income countries, 134 million complications occur yearly due to unsafe care, resulting in 2.6 million patient deaths [1]. Globally, four out of 10 patients are damaged while receiving medical services (primary and ambulatory), 80% of which are preventable. Most risky errors are related to diagnosis and medication administration [8]. Healthcare-associated infections occur in 7 out of 100 hospitalized patients in high-income and 10 in middle-income countries [2]. Globally, 25% of surgical patients experience complications from inadequate care. Every year, nearly 7 million perioperative patients experience various difficulties, of which 1 million die intra- or postoperatively [12]. Importantly, complications associated with violations of safe injection practices, including HIV infection and hepatitis B and C, pose a direct threat to patients and healthcare workers [13]. Unsafe transfusion practices put patients at risk of adverse transfusion reactions and transmission of infections [14]. Radiation errors include exposure to radiation and misidentification of the wrong patient and the wrong radiation site [15]. Venous thromboembolism is the most common complication of patient injury, the prevention of which contributes to a third of the complications attributable to hospitalization [16].

Competent and qualified nursing staff play an essential role in patient recovery. However, to achieve this status, it is necessary to receive a comprehensive education, which contributes to forming a qualified cadre. Therefore, the goal and the way to reach this

destination is to implement comprehensive nursing care through comprehensive education. According to various evidence, quality is an essential factor that can be lacking in healthcare workers' education in developing countries. Therefore, for educational institutions facilitating the development of the programs according to the competencies developed by the World Health Organization is essential [7,17]. Nurses who provide direct patient care are essential in identifying patient safety risks, thereby preventing errors and incidents. In addition, their qualifications are essential in the recovery process. Therefore, improving insufficient knowledge and skills is necessary to ensure patient safety and quality care. More qualified nurse pedagogues are needed in the healthcare sector to ensure patient safety. It is not difficult to imagine that future nurses will lack safe patient care competencies if educators do not focus on or understand their importance. Continuing education for nurse practitioners and educators is essential to effective education [18].

Many studies confirm that the characteristics of the hospital's working environment (such as the patient-nurse-doctor ratio, the involvement of competent staff in the patient treatment process, and the doctor-nurse collaboration) play a vital role in the recovery process of patients [19,20]. Nurses are a large team of healthcare workers at the clinic responsible for patient care. Therefore, it is vital to complete this link to avoid adverse events during the patient's recovery, including nosocomial infection, medication administration errors, or mortality. Nursing education is an essential factor in patient recovery and safe care. For example, according to the results of a study the Registered Nurse Forecasting (RN4CAST), in clinics where the majority of nurses, 60%, had a bachelor's degree and an average nurse-patient ratio of 1:6, there was almost a 30% lower mortality than in those clinics where only 30% of nurses had a bachelor's degree. The nurse-to-patient ratio averaged 1:8 [21].

## Methodology and Design

The article is a secondary study and, through secondary data analysis, describes the global patient safety situation. The review uses patient safety indicators (PSIs) developed by international organizations, including the Agency for Healthcare Research and Quality (AHRQ), the World Health Organization (WHO), and the International Council of Nurses (ICN). Analysis of practice competencies and nursing education) standards, recommendations, and current situation in Georgia; This article analyzes the problem, causes, and likely outcomes based on existing patient safety publications, research, and recommendations and reviews the factors affecting patient safety. The selection of primary sources was based on keywords and topics of articles published in SCOPUS and PubMed in different years (mainly between 2015 and 2022).

## Discussion

The frequency of preventable medical errors was not well understood until the end of the 20th century before studies conducted in various countries revealed an annual increase in accidents involving patient injury and death. In 1984, the Harvard Medical Practice Study examined 20,000 medical records. The study found

that about 4% of patients referred to hospitals had a medical injury due more to problems with disease management than to the disease itself [22]. A few years later, again in 1991, the Harvard Medical Practice Study was conducted, the first large-scale study of adverse events in a hospital. Researchers used the records of 30,195 patients at 51 hospitals in New York State to determine the number of people affected by medical care. This figure was 3.7% on average. The common types of adverse events were post-interventional conditions, including wound infection and post-operative complications – specifically, complications resulting from improper care of bedridden patients. The most common drug-related adverse events are non-operative events, accounting for 19% of adverse events, and this is due to the misidentification of the patient before medication administration. The UK report - "The Institution that Remembers" [23] included a study that revealed that approximately 850,000 (range 300,000- to 1.4 million) unwanted accidents which were caused by the exhaustion of medical personnel (doctors and nurses). Many researchers believe maintaining patient safety and providing high-quality care is vital to address the correct human resource distribution and increase staff's job satisfaction and motivation [24].

If we analyze the principles of safe patient care, it is clear that it can be considered the pinnacle of a specific goal, the achievement of which depends on many factors. There are different barriers to achieving this goal. It can be considered a human factor, fatigue, stress, lack of staff, poorly equipped clinics - insufficient resources for security protection. However, there is an essential factor - education, which is fundamental to the qualification of assessment and making the necessary, often critical decisions in the nursing process. If we delve further into the mentioned issue, none is an independent problem; it is a link in a whole chain. The weakness of any of these links is enough to break the chain's integrity and cause errors. Lack of education and qualifications, shortage of nurses, and shortage of nurse pedagogues are part of the cycle on which safe patient care and positive patient outcomes depend.

The patient's recovery more or less depends on the qualifications of all multidisciplinary team members is inconceivable that poor nursing care results can be obtained without complications after a successful surgical intervention. What is the meaning behind error statistics? Human error related to a stressful environment or a qualification problem? Unfortunately, for whatever reason, the cost is the patient's ill health, disability, or death. Globally, the health system of countries concerning nurses needs to solve the problem of safe care, quality of care, dissatisfaction with the working conditions of nurses, and burnout. Not all countries have nursing legislation that differentiates nurses based on their status and level of education. Academic qualifications for a registered nurse (RN) vary by state (8). Undoubtedly, patient safety should be a priority for healthcare providers. Nurses who provide nursing care must have qualified knowledge of patient safety. This will help prevent or detect time and correct medical errors [25]. A high level of education allows nurses to provide safe care and understand its

importance. Therefore, strategies to improve patient safety should include improving patient safety culture and education, adequate safety management, and good practice tools [26,27].

Most studies about patient safety and nurse qualifications give the same result. For example, a survey conducted at Gondar University Specialized Hospital found that less than half (48.4%) of the respondents working in the clinic had good knowledge of patient safety. Interestingly, more than half of the respondents (56.1%) had a positive attitude, while the rest had an unfavorable attitude toward patient safety. Comparing the results of similar studies conducted in different parts of the world, they correspond to each other, with a greater or lesser percentage. Probably, due to the countries' development, as well as the different methods of educational programs and their delivery [25,28].

Similarly, is a need to improve the continued education of nurses, which is not available and nonmandatory in many countries. In some countries, nursing practice lags about 30–50 years behind US practice, suggesting that not much has changed in these countries [29]. Over the years, the conclusions and recommendations of various studies have been almost identical, again confirming the issue's global nature. Still, here the question arises: why are the same conclusions and recommendations in studies of different years? What are the factors preventing the consideration and implementation of recommendations? Is the question being asked incorrectly, or is the assessment done incorrectly? What can be done to prevent the shortage of nurses in a national and global context? What is the reason? What weak link causes errors, delays/failures to provide safe patient care? Despite the many kinds of research conducted around nursing work, education, and the process, the issue requires even deeper analysis. There are still many unanswered questions, or a new question arises that is unsatisfactory.

## Conclusion

Patient safety is part of the organizational culture, with its values, ethical and behavioral norms, and regulations. It is a part of professional skills that require development, deepening, and formation. Patient safety is not only the medical staff's responsibility, of any one link of only the doctor or nurse. It depends on the activities of each clinic member, the level of education, competence, the knowledge-attitude of the patient's safety, and the shared vision/attitude towards safety issues in the working environment. Teamwork and high qualifications are essential in avoiding possible negative cases accompanying medical services. Medical staff, as are patients, are essential for patient safety. Their awareness and providing patient education will reduce risks related to patient safety.

Nurses who provide direct patient care are essential in identifying patient safety risks, thereby preventing errors and incidents. In addition, their qualifications are essential in the recovery process. Therefore, improving insufficient knowledge and skills is necessary to ensure patient safety and quality care. Patient safety is not only about ensuring the clinic's correct diagnosis or treatment and care approaches. Patient safety should focus on ensuring higher clinical

care standards after discharge from the clinic. It should help patients maintain health stability, prevent complications of chronic diseases, and prolong remission. A correctly implemented patient safety program will improve the patient's physical, spiritual, and mental well-being. However, the conclusion is the same: nurses who lack knowledge about patient safety are considered a potential threat to patients and healthcare professionals.

The experience of the United States, the United Kingdom, and Australia have the most successful regulation of patient safety: The experience of these countries is the most widely spread in the action strategy of the World Health Organization and academic literature. The studies of the mentioned countries showed that they have A systemic approach to patient safety [30-32].

The review of the literature again clearly showed the topic's relevance. A review of the existing literature confirms a need for more in-depth research on patient safety, especially in a developing country like Georgia.

## References

1. Sciences CNA (2018) Crossing the global quality chasm: Improving health care worldwide. Improving Health Care Worldwide. The National Academies Press, Washington, USA.
2. Hughes RG (2008) Defining patient safety and quality care. Agency for Healthcare Research and Quality (US). Rockville (MD), USA.
3. Agency for Healthcare Research and Quality (AHRQ).
4. Finlayson M, Aiken L, Nakarada Kordic I (2007) New Zealand Nurses' reports on Hospital Care: An international comparison. *Nurs Prax N Z* 23(1): 17-28.
5. Patient safety. ICN.
6. Nikoleishvili E, Gogashvili M, Machitidze M (2021) Factors affecting nurses' shortage - a literature review. *American Journal of Biomedical Science & Research* 13(1): 66-67.
7. World Health Organization (2016) Nurse educator core competencies. World Health Organization, Geneva, Switzerland.
8. Ignatavicius DD, Workman ML, Rebar CR, Heimgartner NM (2021) *Medical-Surgical Nursing: Concepts for Interprofessional Collaborative Care*. Elsevier.
9. Ricciardi W, Cascini F (2021) Guidelines and Safety Practices for Improving Patient Safety. In: Donaldson L (Eds.), *Textbook of Patient Safety and Clinical Risk Management*, Springer.
10. The economics of Patient Safety in primary and ambulatory care - OECD (2018).
11. de Vries EN, Ramrattan MA, Smorenburg SM, Gouma DJ, Boermeester MA (2008) The incidence and nature of in-hospital adverse events: A systematic review. *Qual Saf Health Care* 17(3): 216-223.
12. World Health Organization (2019) Patient safety. World Health Organization, Geneva, Switzerland.
13. Jha AK, Larizgoitia I, Audera Lopez C, Prasopa Plaizier N, Waters H, et al. (2013) The global burden of unsafe medical care: Analytic modeling of Observational Studies. *BMJ Quality & Safety* 22(10): 809-815.
14. World Health Organization (2010) Aide-mémoire for National Health Authorities and Hospital Management: Clinical Transfusion Process and patient safety. World Health Organization.



15. Mary Boadu, Madan Mohan R (2009) Unintended exposure in radiotherapy: Identification of prominent causes. *Radiother Oncol* 93(3): 609-617.
16. Raskob GE, Angchaisuksiri P, Blanco AN, Büller H, Gallus A, et al. (2014) Thrombosis: A major contributor to global disease burden. *Semin Thromb Hemost* 40(7): 724-735.
17. World Health Organization (2011) Report on the burden of endemic health care-associated infection worldwide. World Health Organization, Geneva, Switzerland 1-40.
18. Jang H, Lee NJ (2017) Patient safety competency and educational needs of nursing educators in South Korea. *PLOS ONE* 12(9): e0183536.
19. Aiken LH, Sermeus W, Van den Heede K, Sloane DM, Busse R, et al. (2012) Patient safety, satisfaction, and quality of hospital Cross-sectional surveys of nurses and patients in 12 countries in Europe and the United States. *BMJ* 344: e1717.
20. Aiken LH, Sloane DM, Bruyneel L, Van den Heede K, Griffiths P, et al. (2014) A retrospective observational study of nurse staffing, education, and hospital mortality in nine European countries. *The Lancet* 383(9931): 1824-1830.
21. Haegdorens F, Van Bogaert P, De Meester K, Monsieurs KG (2019) The impact of nurse staffing levels and nurse's education on patient mortality in medical and surgical wards: An observational multicentre study. *BMC Health Services Research* 19(1).
22. Mateja L, Brigita S (2009) Job satisfaction of nurses and identifying factors of job satisfaction in Slovenian hospitals. *Croat Med J* 53(3): 263-270.
23. Chassin MR, Becher EC (2002) The wrong patient. *Ann Intern Med* 136(11): 826-833.
24. Gandhi TK, Weingart SN, Borus J, Seger AC, Peterson J, et al. (2003) Adverse drug events in ambulatory care. *N Engl J Med* 348(16): 1556-1564.
25. Safarpour H, Tofighi M, Malekyan L, Bazayr J, Varasteh S, et al. (2017) Patient safety attitudes, skills, knowledge, and barriers related to reporting medical errors by nursing students. *International Journal of Clinical Medicine* 08(01): 1-11.
26. A survey: Health professionals' attitude towards patient rights and patient safety.
27. Verstappen W, Gaal S, Bowie P, Parker D, Lainer M, et al. (2015) A research agenda on patient safety in primary care. Recommendations by the LINNEAUS Collaboration on patient safety in primary care. *Eur J Gen Pract* 21Suppl(sup1): 72-77.
28. Biresaw H, Asfaw N, Zewdu F (2020) Knowledge and attitude of nurses towards patient safety and its associated factors. *International Journal of Africa Nursing Sciences* 13: 100229.
29. Poghosyan L, Poghosyan H, Berlin K, Truzyan N, Danielyan L, et al. (2012) Nursing practice in a post-Soviet country from the perspectives of Armenian nurses: A qualitative exploratory study. *J Clin Nurs* 21(17-18): 2599-2608.
30. Drennan VM, Ross F (2019) Global nurse shortages-the facts, the impact, and action for change. *British Medical Bulletin* 130(1): 25-37.
31. The economics of Patient Safety - OECD.org.
32. US National Library of Medicine (2009) WHO guidelines for safe surgery 2009: Safe surgery saves lives. National Center for Biotechnology Information.