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Nurses' behavior toward patient safety in Hospitals: A systematic literature review

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Abstract

Background: Patient safety is a global health priority that is closely related to the quality of nursing care. Nurse behavior is a major determining factor in preventing Patient Safety Incidents (PSIs) in hospitals.

Purpose: To identify and analyze factors that influence nurse behavior in implementing patient safety in hospitals.

Method: The research design was a Systematic Literature Review (SLR) following the PRISMA guidelines. Articles were searched for in the Wiley Online Library, PubMed, and ScienceDirect databases for publications from 2015 to 2025. From the screening results, 11 articles that met the inclusion criteria were selected.

Results: The analysis revealed four main themes that influence nurses' safety behavior: (1) Organizational culture and teamwork; (2) Work environment conditions (night shifts and workload); (3) Psychological factors (stress and burnout); and (4) Effectiveness of interprofessional communication and situational awareness. A strong safety culture was found to increase nurses' courage to speak up (voice behavior), while work stress and physiological fatigue were major barriers to compliance with safety principles.

Conclusion: Nurses' patient safety behavior is influenced by the interaction between systemic management support and individual psychological well-being. Improving patient safety requires a comprehensive approach that focuses not only on technical training but also on improving shift management and creating a non-punitive work environment.

Keywords: Nurses; Nurse Behavior; Patient Safety.

INTRODUCTION

Patient safety is a global issue that has a major impact on morbidity, mortality, and healthcare costs. Global reports and reviews show that approximately 1 in 10 patients experience harm while receiving healthcare, and it is estimated that more than 3 million deaths each year are caused by unsafe care. In low- and middle-income countries, the relative burden is much greater, with a significant number of deaths and disabilities resulting from preventable events (World Health Organization, 2023). The World Health Organization (WHO) report states that each

year 134 million injury incidents occur in low-middle income countries, resulting in 2.6 million deaths, but 50% of these injuries are preventable. The WHO defines the concept of effective coverage with reference to UHC as an approach to achieving better health and ensuring the quality of services that prioritize patient safety. Therefore, the WHO has designated patient safety as a global health priority (World Health Organization, 2019). The patient safety system is designed to tighten care safety through early risk identification, incident report

evaluation, and adaptation of preventive solutions to avoid injuries due to procedural errors or clinical negligence (Kurniadi, Noer, & Suangga, 2023). A patient safety incident is any event or situation that causes or has the potential to cause injury to a patient that should not have occurred (Kalocsányiová, Essex, Brophy, & Sriram, 2024).

In Indonesia, every patient safety incident that occurs must be reported. Based on the Patient Safety Incident Data Report in Hospitals in Indonesia throughout 2021, there were 2,272 incidents reported. Some examples of patient safety incidents include medication errors, patient falls, blood transfusion errors, and nosocomial infections. Identifying and analyzing these incidents is important for developing and implementing system and process improvements aimed at improving patient safety. With a deep understanding of the contributing factors and the implementation of effective preventive measures, healthcare organizations can create a safer and higher quality care environment (Dao, Dang, Pham, Nguyen, Tran Chi, & Le, 2025). The implementation of patient safety in hospitals does not only depend on technological sophistication or the completeness of facilities, but is largely determined by human factors. Nurses, as healthcare professionals who interact with patients the most during a 24-hour period, play a central role. Nurses' behavior in implementing the six patient safety goals, from correct patient identification to fall risk reduction, is a key determinant in preventing adverse events (Hughes, 2018).

The role of nurses is to maintain patient safety and prevent harm during the provision of care, both in short-term and long-term care settings. Nurses are expected to adhere to organizational strategies for identifying hazards and risks through patient assessment, care planning, monitoring and supervision activities, rechecking, offering assistance, and communicating with other healthcare providers. In addition to clear policies, leadership, research-based safety initiatives, healthcare staff training, and patient participation, nurses' adherence to patient safety principles is necessary for the success of interventions aimed at preventing practice errors and achieving a sustainable and safer

healthcare system (Vaismoradi, Tella, Logan, Khakurel, & Vizcaya-Moreno, 2020).

RESEARCH METHOD

The type of research used was a Systematic Literature Review (SLR). This method was chosen to systematically and comprehensively identify, evaluate, and synthesize all relevant research evidence on factors that influence nurses' behavior in implementing patient safety in hospitals. This study used an SLR framework based on widely recognized guidelines, such as the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The authors conducted a literature search in three major electronic databases covering publications in the fields of health and nursing science: PubMed, Wiley Online Library, and ScienceDirect. The search terms and keywords were designed with the assistance of a Master of Nursing from STIKes Kapuas Raya Sintang during November 2025 using the keywords "patient safety attitude" OR "patient safety" AND 'nurse' OR "nurse attitude". The search terms were shortened to ensure that all relevant articles were included in the analysis. The data search in the database was conducted simultaneously for one day on November 20, 2025. The electronic search results were exported to the Rayyan device.

The population in this study was nurses working in a hospital setting, including registered nurses, practicing nurses, and nursing staff. The interventions studied included various factors that influence nurses' behavior in the context of patient safety. This study was conducted in a hospital clinical setting, such as care units and wards. The outcomes observed were nurses' behaviors related to the implementation of patient safety, including compliance, attitudes, and practices in service. The inclusion criteria for this study included articles published in the last 10 years, from 2015 to 2025, with quantitative, qualitative, or mixed-method study designs focusing on specific factors. The research subjects were nurses working in hospitals, with a research focus that explicitly discussed factors affecting nurses' behavior, practices, or attitudes toward patient safety. Included articles had to be

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written in English and available in full-text form, either freely or through institutional access. Meanwhile, exclusion criteria include publications prior to 2015, study designs in the form of narrative reviews, editorials, book reviews, or conference abstracts without full papers. Articles involving nurses in primary care, non-nursing staff, or nursing students are not included, nor are articles that only discuss patient safety issues without analyzing the factors that influence nurses' behavior. Articles in languages other than English, as well as those available only in abstract form or without full-text access, were also excluded.

The search was conducted in predetermined article databases. A total of 24,851 articles were screened (1,629 articles in PubMed, 10,043 articles in Wiley Online Library, and 13,179 articles in

ScienceDirect). After removing 23,214 duplicate articles, the authors obtained 1,637 articles. If the abstract was not sufficiently informative, the article was selected for further analysis in the full-text screening. A total of 11 articles passed the screening and met the inclusion criteria related to nurse behavior in the implementation of patient safety. For the selected articles, the full text was screened independently by the authors, and all uncertainties were discussed among the authors. Data were collected and extracted using an Excel template consisting of author, year, article title, research objective, research method, population used, context, main results, and research notes or gaps. A total of 11 articles met the inclusion criteria for a systematic literature review.

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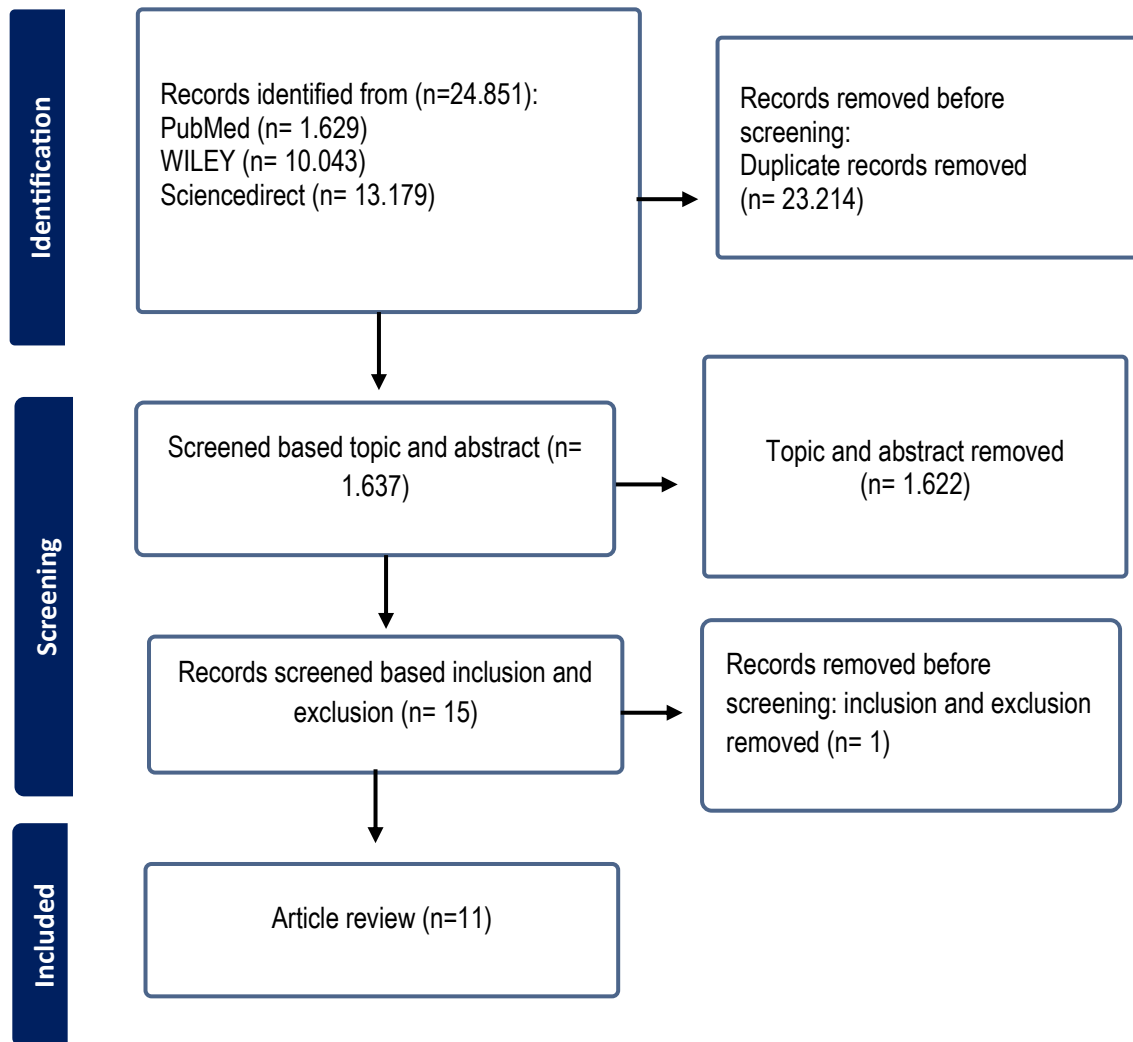
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RESEARCH RESULTS



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Table 1. Description of the 11 Studies Synthesized

Variable	Quantity
Research Country Locations	
South Korea	2
Turkey	1
Europe (Croatia, Hungary, Sweden, and Spain)	1
Netherlands	1
Saudi Arabia	2
Iran	1
Euthopia	1
Egypt	1
India	1
Year of Publication	
2018	1
2020	1
2021	4
2023	1
2025	4
Data Sources	
Primary	10
Secondary	1
Type of Publication	
Original Research Article	
Study Design	
Quantitative Study with a correlational approach	8
Qualitative Study with an ethnographic approach	2
Mixed Method Study	1
Key Findings of the Research	
Organizational Culture and Safety Behavior	4
Competence and Readiness of Human Resources	2
Work Pressure, Stress, and Physiological Fatigue	3
Communication Dynamics and Situational Awareness	2

DISCUSSION

Safety culture is the foundation of patient safety competence. Teamwork within the unit was found to be the strongest predictor in shaping nurses' attitudes and skills (Cho & Choi, 2018). A positive

culture significantly increases voice behavior, with nurses feeling safe to report errors without fear of punishment (Yan, Zheng, Zhang, Gong, Wen, Zhu, & Lu, 2023). This is consistent with findings that open

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communication and managerial support are key drivers for healthcare staff to speak up to prevent harm.

Across different country contexts, levels of safety knowledge and practices still vary. In Ethiopia, less than half of nurses have good safety practices, which are influenced by education level and the availability of operational guidelines (Wake, Tuji, Gonfa, Waldekidan, Beshaw, Mohamed, & Geressu, 2021). Meanwhile, in Egypt, despite nurses' positive attitudes, perceptions of management support remain a barrier (Salih, Reshia, Bashir, Omar, & Elwasefy, 2021). This suggests that systemic policy reinforcement is more urgent than individual training.

High-pressure work environments pose a real threat to patient safety. Night shift rotations have been shown to have physiological effects in the form of extreme fatigue, which correlates with decreased work performance (Alsharari, Abuadas, Hakami, Darraj, & Hakami, 2021). This condition is even more critical in intensive care units (ICUs), where high levels of stress and burnout directly reduce nurses' vigilance towards patient safety (Mathew, John, & Ramachandran, 2025).

The final factor is the effectiveness of information flow. Errors often occur due to failures in "Distributed Situational Awareness," where important clinical information is not fully communicated among team members. In addition, cultural and social differences across European countries show that nurses' attitudes toward safety are also shaped by the structural context of their respective hospitals (Granel, Watson, Gómez-Ibáñez, & Bernabeu-Tamayo, 2025).

An analysis of 11 publications from 2015 to 2025 indicates that nurses' behavior in implementing patient safety is influenced by the dynamic interaction between organizational, psychological, and situational factors. The main findings indicate that safety culture is the main foundation; nurses who perceive a strong safety culture tend to have higher competence and compliance (Cho & Choi, 2018). This is reinforced by the fact that teamwork and managerial support not only improve technical skills but also build voice behavior, where nurses feel safe to communicate risks or errors without fear of

sanctions (Wouters, Nysten, Thijs, & Lemmens, 2018). However, the effectiveness of these safety behaviors is often hampered by extreme physical and mental workloads. Fatigue due to night shift rotations has been shown to significantly reduce nurses' alertness (Alsharari et al., 2021). In high-dependency units such as ICUs, work stress and burnout are major predictors of patient safety incidents (Mathew et al., 2025). In addition, communication remains a critical challenge. Failure to exchange complete and timely information among team members leads to a decline in situational awareness, which ultimately increases the risk of unexpected events (Sorra & Dyer, 2020).

Globally, research in various countries shows that knowledge and positive attitudes alone are insufficient if not supported by the availability of operational guidelines and a conducive work environment (Wake et al., 2021). The integration of systemic support from hospital management and the psychological well-being of nurses is key to ensuring the sustainability of safe and effective patient safety practices (Shih & Yang, 2023). Although the reviewed literature provides a comprehensive overview, there are several research gaps that need to be addressed. First, there is a methodological gap, where the majority of studies use a cross-sectional design that only provides a snapshot, so that the causal relationship between safety culture and long-term clinical incidents has not been mapped in depth (Wake et al., 2021). Second, there is a contextual gap; research has focused more on nurses in general inpatient units and ICUs, while specialized units such as emergency rooms or primary health care services are still underrepresented (Fast, Temuulen, Villringer, Kufner, Ali, Siebert, & Ritter, 2023).

The next finding relates to intervention gaps. Many journals identify stress and fatigue as causes of reduced patient safety (Ulrich & Kear, 2024). However, very little literature evaluates the effectiveness of specific interventions, such as ideal rest duration or the use of assistive technology, in mitigating these risks. Finally, there are limitations in exploring the influence of local cultural factors (local wisdom) on patient safety compliance in developing

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countries, which often differ from safety standards developed in Western countries (Alaka, Menon, Brobbey, Williamson, Goyal, Demchuk, & Sajobi, 2020).

CONCLUSION

This study answers questions about the factors that influence nurses' behavior in patient safety. Nurses' behavior is determined by three main pillars: 1) Organizational Culture, particularly managerial support and teamwork that facilitates open communication; 2) Working Conditions, which include shift arrangements and stress management to prevent fatigue; and 3) Team Communication Systems, which ensure that clinical information is distributed accurately. Patient safety is maximized when nurses have the competence supported by a work system that mitigates the risk of human error.

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