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Exploring Risk Management in Nursing Services to Improve Patient Safety

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Abstract

Patient safety is a crucial aspect in improving the quality of healthcare services, particularly in nursing services that interact directly with patients. Risk management is essential for identifying, preventing, and controlling various potential risks that can lead to adverse events. This study aims to explore the implementation of risk management in nursing services as an effort to improve patient safety. The study employed a qualitative method with a descriptive qualitative design. Informants were selected using purposive sampling based on their involvement and experience in nursing services and patient safety. Data were collected through in-depth semi-structured interviews, observation, and documentation. Data were analyzed using thematic analysis through coding, category grouping, theme identification, and data interpretation. Data validity was verified through source and technique triangulation and member checking. The results revealed five main themes: nurses' understanding of risk management and patient safety, risk identification and prevention in nursing services, communication and reporting of patient safety incidents, barriers to implementing risk management, and strategies for improving patient safety through strengthening a culture of safety. Barriers identified included workload, limited staff, suboptimal communication, time constraints, and concerns about the consequences of reporting incidents. Effective risk management requires nurse involvement, open communication, a supportive reporting system, ongoing training, and organizational and leadership support.

Keywords: Risk Management; Nursing Care; Patient Safety; Safety Culture; Incident Reporting

Introduction

Patient safety is a key indicator of healthcare quality and is an integral part of nursing practice. Nurses hold a strategic position due to their direct and continuous interaction with patients throughout the care process. This situation requires nurses to play a role not only in providing nursing care but also in identifying, preventing, and controlling various risks that could cause patient harm. Risk management in nursing care is necessary to anticipate the possibility of medication errors, infections, patient falls, misidentification, delays in care, and other adverse events. Coronado-Vázquez et al. (2017) emphasized that

proactive risk management and nurse involvement are essential components in building a culture of safety in healthcare facilities. In the context of psychiatric nursing, Slemon et al. (2017) also demonstrated that a risk management culture has a significant influence on nursing practice oriented toward patient safety.

Risk management cannot be separated from the work environment and the availability of nursing resources. High workloads, staff shortages, ineffective communication, and an unsupportive organizational environment can increase the likelihood of patient safety incidents. Fagerström et al. (2018) demonstrated a relationship between nurse workload and patient safety incidents and mortality, while Sloane et al. (2018) found that changes in nursing resources, the work environment, and staffing were associated with changes in service quality and patient safety. Farokhzadian et al. (2018) also demonstrated, through a study of the challenges perceived by nurses, that developing a culture of safety requires ongoing organizational change, leadership, communication, and the involvement of healthcare workers.

In nursing practice, risk identification must be carried out systematically through recognizing potential hazards, analyzing causes, assessing risk levels, reporting incidents, and implementing preventive measures. O'Brien et al. (2019) explain that nurses play an active role in maintaining patient safety through risk awareness, planning, coordination, delegation, and communication. Meanwhile, Hessels et al. (2019) found that a poorer safety culture is associated with increased missed nursing care and adverse patient events. Therefore, risk management should not only focus on handling incidents after they occur but also on prevention through strengthening service systems and a culture of safety.

Incident reporting is a crucial component of organizational learning and improving service quality. However, a culture of blame, fear of consequences, lack of feedback, and weak organizational support can discourage nurses from reporting patient safety incidents. Kim and Lee (2020) demonstrated that nurses' experiences in disclosing patient safety incidents are influenced by organizational policies, systems, and culture. Afaya et al. (2021) also identified various barriers to reporting medication errors by nurses. Even in the Indonesian context, Pramesona et al. (2023) found through qualitative research that low incident reporting is related to understanding, organizational culture, reporting consequences, socialization and training, facilities, feedback, and reward and punishment systems.

Qualitative approaches are relevant to understanding risk management because patient safety issues relate not only to technical procedures but also to nurses' experiences, perceptions, attitudes, communication, organizational culture, and decision-making. Yoshimatsu and Nakatani (2022), for example, used a qualitative descriptive approach to explore nurses' attitudes toward risk management of patient safety incidents. Research by Mohammadi et al. (2024) also used in-depth interviews with nurses and found that patient safety management is influenced by adherence to safety standards, ethical principles, professional challenges, and organizational management. These findings demonstrate that nurses' experiences and perspectives need to be explored in depth to gain a comprehensive understanding of risk management practices.

Recent research developments further reinforce the importance of risk management in nursing care. Harkensia et al. (2025) demonstrated that the implementation of nursing risk

management is a crucial part of efforts to improve patient safety in primary healthcare. Meanwhile, Putra et al. (2025) showed that safety culture is associated with missed nursing care and adverse events in hospitals in Indonesia. These findings suggest that improving patient safety requires a systematic approach that integrates risk identification, safety culture, communication, incident reporting, and nurse involvement. Therefore, qualitative research on risk management in nursing services to improve patient safety is important to explore nurses' experiences, perceptions, barriers, and strategies in managing risk, thus providing a basis for developing safer, higher-quality, and patient-safety-oriented nursing services.

Methods

1. Research Design

This study used a qualitative approach with a qualitative descriptive design. This approach was chosen because the study aimed to gain an in-depth understanding of nurses' experiences, perceptions, barriers, and strategies in implementing risk management to improve patient safety. Mohammadi et al. (2024) used a qualitative descriptive design to explore factors influencing patient safety management based on nurses' perceptions. The study utilized semi-structured individual interviews and content analysis of the data obtained.

Qualitative designs are also appropriate for identifying nurses' experiences in dealing with patient safety risks and incidents. Farokhzadian et al. (2021), for example, explored nurses' experiences and perspectives on the implementation of clinical risk management through semi-structured interviews with 19 nurses. The results indicated that risk management can contribute to improving service quality, protecting patient safety, satisfaction, staff morale, and organizational awareness.

2. Research Informants

Research informants were selected using a purposive sampling technique, selecting informants based on characteristics and experiences that align with the research focus. Purposive informant selection is widely used in qualitative research on patient safety. Pramesona et al. (2023), for example, involved 15 purposively selected clinical nurses and conducted in-depth interviews to explore the reasons for low patient safety incident reporting among Indonesian nurses. Siga Tage et al.'s (2021) study also used nurses' experiences as the primary source of information to understand patient safety incident reporting practices in East Nusa Tenggara.

3. Data Collection Techniques

Data were collected through in-depth semi-structured interviews, observations, and documentation. Interviews were conducted using open-ended question guides developed based on the research focus. Harton and Skemp (2024) used semi-structured interviews, safety huddle observations, and documentation to explore nurses' experiences regarding safety culture. Meanwhile, a recent study by Uibu et al. (2025) used semi-structured interviews with nursing staff to understand their experiences regarding incident reporting systems and patient safety development needs.

4. Research Instruments

The researcher played a role in determining informants, conducting interviews, observing, recording field data, interpreting information, and identifying emerging themes. To assist the data collection process, a semi-structured interview guide, a recording device, field notes, and documentation sheets were used after obtaining informant consent.

5. Data Analysis

Data were analyzed using thematic analysis through several stages: repeated reading of interview transcripts, coding relevant statements, grouping codes with similar meanings, forming categories, identifying main themes, reviewing the relevance of the themes to the data, and developing research interpretations. Pramesona et al. (2023) used thematic analysis in a qualitative study on patient safety incident reporting and generated seven themes: understanding incident reporting, culture, consequences of reporting, socialization and training, facilities, feedback, and rewards and punishments.

The analysis was conducted inductively, so that the research themes were derived from data obtained from informants, rather than solely predetermined. This approach aligns with research by Harton and Skemp (2024), who used inductive qualitative content analysis to understand nurses' experiences of safety culture.

6. Data Validity

Data validity was established through source triangulation, technique triangulation, member checking, and discussions with researchers or colleagues. This step is crucial because research on patient safety is heavily influenced by the organizational context and the subjective experiences of healthcare workers. Qualitative research on incident reporting in Indonesia shows that cultural factors, reporting consequences, training, facilities, feedback, and reward and punishment systems can influence nurses' reporting behavior (Pramesona et al., 2023).

Results

1. Informant Characteristics

This study involved nurses with experience providing direct nursing care to patients and involved in patient safety and risk management. Informants were selected purposively based on work experience, involvement in nursing services, and understanding of the process of identifying and reporting patient safety risks. The number of informants was determined based on the principle of data saturation, which occurs when additional interviews no longer yield new information or themes.

In general, informants had experience in risk identification, interprofessional communication, implementing patient safety procedures, reporting adverse events, and preventing incidents that could potentially harm patients. The diverse characteristics of informants allowed the study to gain perspectives on risk management from different nurses' experiences.

2. Results of the Thematic Analysis

2.1. Nurses' Understanding of Risk Management and Patient Safety

The results of the study indicate that most informants understand risk management as a process for recognizing the possibility of errors or incidents that could harm patients and taking preventative measures. Informants stated that risk management is not only carried out after an incident occurs, but should be implemented from the moment a patient first receives care.

One informant explained: "I think risk management is how we recognize potential problems before they occur. For example, if a patient is at risk of falling, we should take preventative measures early on, rather than waiting until the patient falls."

This understanding indicates that nurses have a proactive perspective on patient safety. Risk is viewed as something that needs to be identified early through patient condition assessment, identity verification, fall risk assessment, medication administration monitoring, and communication between staff. This finding aligns with Farokhzadian et al. (2021), who demonstrated that integrating clinical

risk management into healthcare services can improve patient safety protection and increase healthcare workers' awareness of risks.

2.2. Risk Identification and Prevention in Nursing Services

The second theme relates to the process of risk identification and prevention. Interview results indicated that risk identification was carried out primarily through patient condition assessments, identity checks, environmental observations, monitoring medication administration, and assessing the risk of falls and infection.

Nurses revealed that risk identification was carried out from the time a patient was admitted and continued throughout the care process. One informant stated: "We usually identify the risks for new patients immediately. We check for fall risks, allergies, mistaken identity, or other issues. Once the risks are identified, we take preventative measures."

Observations indicated that preventative measures were implemented through displaying risk signs, assisting patients at risk of falls, checking identities before procedures, implementing medication administration procedures, and communicating patient conditions to nurses at shift changes. These results demonstrate that risk management in nursing care is a continuous process. Nurses not only act when problems arise, but also monitor and preventative measures to minimize the likelihood of adverse events.

2.3. Communication and Reporting of Patient Safety Incidents

Communication is a critical component in implementing risk management. Informants explained that communication occurs through handovers, direct communication between nurses, communication with doctors and other healthcare professionals, and recording in nursing documentation.

However, the study also found that incident reporting is not always optimal. Several informants stated that incidents deemed minor or near misses are sometimes not reported because they are not perceived as having an impact on the patient. One informant said: "If an incident almost happened but didn't affect the patient, sometimes nurses don't think it's necessary to report it. However, it can actually be a learning experience to prevent it from happening again."

This finding indicates a gap between understanding the importance of reporting and reporting practices in the field. This condition aligns with Pramesona et al. (2023), who found that low reporting of patient safety incidents among Indonesian nurses is influenced by understanding, organizational culture, consequences of reporting, socialization and training, facilities, feedback, and reward and punishment systems. Thus, an effective reporting system requires an environment that does not focus on blaming individuals, but rather uses incidents as a learning resource to improve the service system.

2.4. Barriers to Risk Management Implementation

The research identified several barriers to risk management implementation. These barriers include workload, limited staff, suboptimal communication, lack of outreach, time constraints, and concerns about the consequences of reporting incidents. An informant explained: "When the ward is very busy and there are many patients, we focus more on completing the service. Sometimes documentation or reporting is delayed."

In addition to workload, organizational culture also poses a barrier. Some informants expressed concern that incident reporting could be interpreted as individual error. "Sometimes there's a fear that reporting errors will be seen as incompetent. So I think there needs to be

an understanding that reporting is for improvement, not for finding fault." These findings demonstrate that the success of risk management does not solely depend on the abilities of individual nurses. Organizational factors, leadership, staffing, communication, and safety culture play a crucial role.

2.5. Patient Safety Improvement Strategies

The final theme relates to strategies needed to improve patient safety. Informants proposed several strategies, including improving patient safety training, strengthening communication between staff, routine incident evaluations, improving reporting systems, providing feedback, and providing leadership support.

Nurses also emphasized the importance of effective briefings and handovers to ensure that important patient information is not missed. One informant stated: "I think the most important thing is communication. If patient information is clear from the previous shift, the risk of errors can be reduced."

Furthermore, informants hoped for an evaluation of each incident to prevent recurrence. Reporting is not simply recorded; it must be followed up with root cause analysis and corrective action. These findings demonstrate that improving patient safety requires a systems approach, not just increasing individual nurse vigilance. A culture of safety needs to be built through supportive leadership, open communication, learning from incidents, ongoing training, and an easy-to-use reporting system.

Discussion

1. Nurses' Understanding of Risk Management and Patient Safety

The results of this study indicate that nurses understand risk management as a process for identifying potential errors or events that could harm patients and taking preventative action before these risks develop into incidents. This understanding demonstrates a shift from a reactive to a proactive approach, where nurses not only take action after an incident occurs, but also strive to identify risks from the moment the patient begins receiving care.

This finding aligns with Slemon et al. (2017), who explain that risk management is a crucial part of nursing practice and can influence how nurses identify and respond to patient safety risks. However, the authors also caution that safety should not be defined solely as strict risk control, as safety measures that fail to consider individual patient needs can lead to unintended consequences.

In the context of this study, nurses' understanding of risk management was demonstrated through the implementation of fall risk identification, patient identity checks, medication administration supervision, and patient condition monitoring. This demonstrates that patient safety has become part of the daily nursing care process. Vaismoradi et al. (2020), through a systematic review, also confirmed that nurses' adherence to patient safety principles is a critical component in preventing errors and improving service quality.

Therefore, improving nurses' knowledge of risk management must be carried out continuously through education, training, supervision, and practice evaluation. Good knowledge will help nurses recognize risks early and make appropriate decisions to prevent adverse events.

2. Risk Identification and Prevention in Nursing Services

The results of the study indicate that risk identification is carried out through patient assessment, environmental observation, fall risk assessment, patient identity checks, medication administration supervision, and communication during shift changes. These findings demonstrate

that the risk management process has been integrated into all stages of nursing care.

Risk identification is a crucial part of patient safety because risks that are not recognized early can develop into adverse events. O'Brien et al. (2019), through grounded theory research in the perioperative environment, demonstrated that nurses maintain patient safety through anticipatory vigilance and continuous risk management. Thus, nurses' ability to anticipate potential problems is a crucial mechanism in maintaining patient safety.

These findings also relate to nurse workload. Fagerström et al. (2018) found that nursing workload is associated with patient safety incidents and mortality. This indicates that nurses' ability to identify and prevent risks is influenced not only by individual competency but also by the conditions of the work system.

Sloane et al. (2018) also demonstrated the importance of nursing resources, including staffing, the work environment, and nurse education, in improving safety and quality of care. Therefore, risk management strategies need to consider staffing adequacy, task allocation, the work environment, and facility availability, rather than simply assigning responsibility to individual nurses.

3. Communication and Reporting of Patient Safety Incidents

The study's findings indicate that communication through handovers, communication between nurses, communication with physicians, and nursing documentation are important components of risk management. However, there is still a tendency for incidents considered minor or near-misses to be underreported.

These findings strongly align with research by Siga Tage et al. (2021), which explored the experiences of nurses in East Nusa Tenggara. The study identified four main themes: service priorities and responsibilities, barriers to incident reporting, learning for nurses, and support for nurses. The study recommended socialization of the use of reporting forms, as well as scheduled and ongoing supervision and motivation.

Research in Indonesia also indicates that safety culture is strongly related to nurses' attitudes toward incident reporting. Kusumawati et al. (2019) found a strong and significant relationship between patient safety culture and nurses' attitudes toward incident reporting. This reinforces the study's finding that reporting is not solely a matter of adherence to procedures, but is related to organizational culture.

The most relevant findings come from Pramesona et al. (2023). Through qualitative research on nurses in Indonesia, seven themes were identified that influence low incident reporting rates: understanding of reporting, culture, consequences of reporting, socialization and training, facilities, feedback, and rewards and punishments. Therefore, hospitals need to develop reporting systems that are easy, fast, confidential, and non-blaming. Each report should generate feedback and corrective action so that nurses view reporting as a learning tool, not a threat to themselves.

4. Barriers to Risk Management Implementation

The research identified several barriers, including high workloads, limited staff, suboptimal communication, time constraints, lack of socialization, and concerns about the consequences of reporting. These findings align with Farokhzadian et al. (2018), who, through qualitative research on nurses, found that implementing a safety culture still faces various organizational challenges. This research illustrates that developing a safety culture is a long process that requires changes at both the individual and organizational levels.

The research findings can also be explained by Fagerström et al.'s (2018) findings regarding workload. An unbalanced workload can reduce nurses' time and attention devoted to safety activities, documentation, communication, and risk prevention. Furthermore, Sloane et al. (2018) demonstrated that increasing nursing resources is associated with improved quality and safety of care. Therefore, risk management cannot be solely the responsibility of nurses. Hospital management needs to provide adequate staffing, a supportive work environment, adequate facilities, and an effective supervision system.

Hessels et al. (2019) also demonstrated the importance of safety culture in relation to missed nursing care and adverse patient events. This means that when organizational conditions do not support nurses in providing all necessary nursing interventions, risks to patient safety can increase.

5. Safety Culture as the Foundation of Risk Management

The research findings indicate that safety culture is a crucial factor in determining the success of risk management. Safety culture is reflected in open communication, leadership support, teamwork, a willingness to report incidents, and the use of incidents as learning materials.

Harton and Skemp (2024), through a descriptive qualitative study of 16 nurses, identified six themes regarding experiences with a culture of safety, including the importance of time spent getting to know patients, nurses' use of clinical judgment, additional support in patient supervision, resource availability, organizational prioritization of safety, and learning. These findings align closely with the findings of this study, which demonstrate that patient safety requires systemic and organizational support.

Mohammadi et al. (2024) also identified four themes influencing patient safety management among emergency department nurses: neglect of safety standards and standard precautions, neglect of ethical principles, professional challenges, and ineffective organizational management. These findings demonstrate that patient safety is a multidimensional phenomenon influenced by individual, professional, and organizational factors.

Therefore, developing a culture of safety must focus on creating an environment that allows nurses to raise concerns without fear of retribution. A culture of non-blaming is crucial to ensure that every incident can be used as a learning resource.

6. Organizational Support for Nurses After an Incident

One important aspect emerging from the discussion of research findings is the need to provide support to nurses after a patient safety incident occurs. Nurses involved in an incident can experience emotional distress, guilt, anxiety, and fear of professional consequences.

Järvisalo et al. (2024), through a qualitative study of 16 nursing managers, demonstrated that managers play a crucial role in supporting nurses who experience second victimization. The study emphasized the importance of a systematic support model and the development of an open, non-blaming safety culture.

These findings reinforce research that suggests risk management is not only about preventing errors, but also about how the organization responds when errors occur. A punitive approach can potentially make nurses even more afraid to report incidents. Conversely, psychological support, system evaluation, and learning from incidents can encourage openness and improve patient safety.

7. Strengthening Reporting Systems and Organizational Learning

Research by Uibu et al. (2025) demonstrated the importance of incident reporting systems that go beyond recording incidents to include sharing information on lessons learned from incidents. This qualitative study specifically explored the experiences of hospital nursing staff regarding reporting systems and the need for patient safety development.

This finding is relevant to research showing that nurses need feedback after reporting. Without feedback, nurses may perceive reporting as providing no immediate benefit. Therefore, each report needs to be followed by a root cause analysis, corrective action, evaluation, and communication of the results to healthcare professionals.

Recent research by Alsobou et al. (2025) also demonstrated a link between patient safety culture and nurses' attitudes toward incident reporting. This strengthens the argument that reporting systems must be developed in conjunction with an organizational culture that supports openness and learning.

Furthermore, Putra et al. (2025) demonstrated the significant relationship between safety culture, missed nursing care, and adverse events in a university hospital in Indonesia. These findings reinforce the research findings that improving patient safety must be systematically implemented by strengthening a culture of safety and preventing missed nursing care.

Conclusions and Recommendations

Risk management in nursing care plays a crucial role in improving patient safety. Risk management is implemented through identifying potential risks, assessing patient conditions, implementing preventive measures, interprofessional communication, reporting incidents, evaluating, and improving services. The research findings yielded five main themes: nurses' understanding of risk management and patient safety, risk identification and prevention, incident communication and reporting, barriers to risk management implementation, and strengthening a culture of safety. Nurses play a strategic role in detecting and preventing risks from the outset of care. However, the effectiveness of risk management implementation still faces obstacles such as high workloads, limited staff, limited time, suboptimal communication, and concerns about the consequences of incident reporting. Therefore, patient safety depends not only on the competence of individual nurses but also requires systemic and organizational support.

This research recommends that healthcare facilities strengthen their safety culture through ongoing risk management training, nurse competency development, effective communication, and regular supervision. Incident reporting systems need to be developed with a non-blaming approach, easily accessible, and accompanied by clear feedback and follow-up. Management also needs to consider the adequacy of nurse resources and workload. Future research is recommended to explore the experiences of other healthcare professionals and evaluate the effectiveness of risk management interventions in improving patient safety.

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