Nurses' Knowledge Level in Fall Risk Assessment in the Inpatient Wards of a Private Hospital, Pekanbaru

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ABSTRACT

Background: Patient Safety Goal (PSG) 6 related to the risk of falls is still a worrying issue, especially for hospitalized patients in hospitals. One of the efforts to minimize the risk of falls is through knowledge. Previous research found that nurses' knowledge about patient safety still varies in various hospitals in general and hospital service units in particular.

Purpose: The purpose of this study was to analyze nurses' knowledge level in fall risk assessment in the inpatient room of a private hospital in Pekanbaru.

Methods: This research is a quantitative study with a descriptive approach, conducted from August 2024 to January 2025. The sampling technique used is accidental sampling, with a total sample of 68 nurses working in inpatient wards. The instrument used is a questionnaire on nurses' knowledge of patient safety.

Results: The results of this study show that almost all respondents are in the age range of 18 to 40 years, with a total of 54 respondents (79.4%), almost all respondents are female, as many as 56 people (82.4%). In terms of education, more than half of the respondents had a Diploma educational background, with a total of 39 people (57.4%). The results showed that almost all nurses involved in this study had good knowledge about patient safety with a total of 64 nurses (94.1%).

Conclusion: Nurses' knowledge about patient safety is quite good. However, it is important to continue to improve nurses' knowledge and awareness through training and continuing education to minimize the risk of falls in the hospital.

Introduction

Patient safety in hospitals is a system designed to enhance the quality of healthcare services provided by medical professionals, with the primary objective of preventing Adverse Events (AE). This system encompasses various measures, including risk assessment, patient identification, risk management, as well as incident reporting and analysis (Wahyuda, 2024) The implementation of effective strategies within the patient safety system aims to minimize risks and improve the quality and security of healthcare services in hospitals (Permenkes, 2017).

The Indonesian government has established patient safety standards and policies to reduce the incidence of injuries during hospital care. These policies are outlined in Law No. 44 of 2019 on Hospitals, particularly Article 43, which mandates that all hospitals implement patient safety standards, including incident reporting, analysis, and problem-solving to improve service quality (Republic of Indonesia President, 2009), Additionally, Ministry of Health Regulation No. 1691/MENKES/PER/VII/2011 sets specific patient safety goals to enhance patient protection and security during treatment (Minister of Health, 2011).

The Ministry of Health Regulation No. 11 of 2017 emphasizes the importance of healthcare facilities adhering to patient safety standards by implementing measures that support patient safety goals and reduce the risk of injury during treatment (Ministry of Health Regulation, 2017).

Patient safety is a crucial aspect of healthcare services, structured through six Patient Safety Goals (PSG): (1) correct patient identification, (2) effective communication improvement, (3) increased safety of high-alert medications, (4) ensuring the correct surgical site, procedure, and patient, (5) reducing the risk of healthcare-associated infections, and (6) minimizing patient fall risk. Among these goals, PSG 6, which focuses on fall

risk prevention, remains a significant concern, especially for hospitalized patients. According to The Joint Commission International, approximately 63% of patients who experienced falls resulted in fatalities, based on 465 reported fall incidents. According to The Joint Commission International, among 465 reported fall incidents, approximately 63% resulted in fatalities, highlighting that falls in hospitals remain a severe threat to patient safety. Therefore, nurses' knowledge of fall risk prevention must be continuously improved, as they play a vital role in preventing such incidents. However, previous studies have provided varied insights into nurses' knowledge regarding fall risks.

A study by (Faridha & Milkhatun, 2020) in a government hospital in Samarinda revealed that 41.2% of nurses lacked sufficient knowledge about fall risks. Conversely, another study by (Anggraini, 2018a) reported that 86.0% of respondents had good knowledge, and 82.5% consistently reassessed fall risk in patients. Hospitals typically reduce fall risk through comprehensive fall management programs. One widely used tool in these programs is the Morse Fall Scale (MFS), which assesses and identifies patients at risk of falling. MFS aims to ensure patient safety in hospitals. Implementing MFS enables healthcare providers to establish standardized fall prevention procedures

across hospital departments (Esria Valentin Tambunan et al., 2024).

A preliminary study conducted with five nurses in one of the inpatient wards at a private hospital in Pekanbaru found that fall prevention measures implemented by nurses included installing bed safety rails and placing fall risk labels on high-risk patients. This study aims to explore nurses' knowledge. This study aims to explore nurses' level of knowledge regarding fall prevention. The findings are expected to provide evidence-based recommendations for enhancing patient safety strategies, particularly in preventing falls in hospital settings

Methods

1.1 Research design

This study is a quantitative research using a cross-sectional approach. This approach was chosen because the cross-sectional design is considered the most relevant for assessing healthcare professionals' knowledge (Kesmodel, 2018). With this design, researchers can collect data at a single point in time, allowing for a clear depiction of nurses' knowledge levels in fall risk assessment in the inpatient wards.

1.2 Setting and samples

This study was conducted at a private hospital in Pekanbaru. The research was carried out from August 2024 to January 2025. The respondents who participated in this study were 68 nurses working in inpatient wards,

selected using accidental sampling. The inclusion criteria included having a minimum educational background of a Diploma III and willingness to participate as respondents.

1.3 Measurement and data collection;

The measurement tool used in this study is a nurse knowledge questionnaire on patient safety developed by (Farisia, 2020). The questionnaire consists of 36 statements, with 32 statements related to the six patient safety standards and 4 statements focusing on unexpected events. Knowledge assessment is conducted using the Guttman scale, where each response is scored 1 point for a correct answer and 0 points for an incorrect answer. The scoring system in this study is categorized into three levels: 1) low knowledge for respondents scoring $\leq 60\%$, 2) moderate knowledge for scores between 60% and 75%, and 3) high knowledge for scores between 76% and 100%. The questionnaire's validity test resulted in a value of 0.73, indicating that the instrument is valid for research purposes. The reliability test, using Cronbach's alpha method, produced a value of 0.721, demonstrating that the instrument is reliable and can be used to assess nurses' knowledge of patient safety.

1.4 Data analysis;

The data collected through the questionnaire was processed using SPSS statistical software to ensure accuracy and ease of analysis. Demographic variables such as age, gender, and education were analyzed using frequency distribution and percentage calculations to provide a general overview of respondent characteristics. Furthermore, nurses' knowledge of patient safety was categorized into three levels based on predetermined scores: low, moderate, and high knowledge. These categories were also analyzed using frequency distribution and percentages to identify the distribution of respondents' knowledge. By classifying knowledge into these categories, researchers can more effectively determine the proportion of nurses within each knowledge level.

1.5 Ethical considerations.

This study has received ethical approval from the Health Research Ethics Committee of IKes Payung Negeri, with approval number 009/IKES PN/KEPK/XI/2024. Before participating in this study, potential respondents were provided with a written information sheet explaining the study's objectives, benefits, procedures, and relevant ethical considerations.Participants were given the opportunity to ask questions and fully understand the information before providing written consent, ensuring their voluntary commitment to the study. The researcher emphasized that participation was entirely voluntary, and no coercion was applied to individuals unwilling to take part. To maintain confidentiality and anonymity, all collected data were used solely for research purposes and were not disclosed to any third party without the participant's consent.

Results

Of the 68 respondents who participated in this study, nearly all were within the age range of 18 to 40 years, accounting for 54 respondents (79.4%). Additionally, the majority of the respondents were female, totaling 56 individuals (82.4%). In terms of educational background, more than half of the respondents held a Diploma degree, with 39 individuals (57.4%). A more detailed breakdown of this data can be found in Table 1.

Table 1. Demographic Characteristics of Respondents

Variable	Frequency	Percentage (%)
Age		
18 – 40 Years	54	79,4
41 – 60 Years	14	20,6
Gender		
Male	12	17,6
Female	56	82,4

Variable	Frequency	Percentage (%)
Education		
Diploma	39	57,4
Bachelor of Nursing	18	26,5
Professional Nurse	11	16,2
TOTAL	**68**	**100**

The study results indicate that nearly all nurses participating in this research have good knowledge of patient safety, with a total of 64 nurses (94.1%)

Table 2. Nurses' Knowledge of Fall Risk Assessment in Patients

Knowledge Level	Frequency	Percentage (%)
Low	1	1,5
Moderate	3	4,4
Good	64	94,1
Total	**68**	**100**

Discussion

This study aims to describe the knowledge of inpatient ward nurses regarding patient safety in a private hospital in Pekanbaru. The findings indicate that nearly all respondents were aged 18–40 years, totaling 54 respondents (79.4%). This result aligns with a study by Anggraini, (2018b), which found that more than half of inpatient ward nurses were between 21 and 35 years old. Similarly, research by Akram et al., (2024), in Jordan's primary healthcare services reported an average nurse age of 37.9 years. Oliveira et al., (2017), also found that most nurses in Ethiopia were between 30 and 49 years old. These findings support Fadilah Junita Kanja et al., (2024) who suggested that age significantly influences nurses' decision-making. Older nurses, who are psychologically mature, tend to make more thoughtful decisions, especially in situations requiring comprehensive consideration and responsibility. Furthermore, (Hao et al., 2020), oted that as healthcare workers age, their awareness of patient safety increases. Elsous et al., (2017), also found that older nurses have more practical experience related to patient safety. These findings highlight the important role of nurses' age and experience in enhancing their knowledge and awareness of patient safety, which ultimately contributes to improved healthcare service quality in hospitals.

In this study, which involved 68 respondents, nearly all were female, totaling 56 (82.4%). This finding is consistent with Surahmat et al., (2019) who reported that female nurses predominated in implementing patient

safety goals. Similarly, Anggraini, (2018b), found that nearly all inpatient ward nurses were female. Heriyati; Masniati; Astuti, (2023) also observed that most participating nurses were female (82.5%). Additionally, (Sulawa et al., 2021), found that nearly all inpatient ward nurses at RSUD Tabanan were aged ≤40 years, indicating that younger nurses dominate the healthcare workforce. Tran-Thi et al., (2020), reported that female nurses outnumbered male nurses by a ratio of three to one in the Internal Medicine Department at Military Hospital 7A, Ho Chi Minh City, Vietnam. These findings emphasize the significant presence of female nurses in the profession and suggest that gender may influence healthcare service dynamics, including patient safety implementation.

In this study, more than half of the respondents, or 39 nurses (57.4%), had a Diploma-level education. However, this contrasts with (Sulistyowati et al., 2022), who found that most inpatient ward nurses at Rumah Sakit Islam PDHI Yogyakarta held a Bachelor's degree in Nursing. Similarly, (Biresaw et al., 2020), reported that nearly all nurses at the University of Gondar Teaching Hospital in Ethiopia had a Bachelor's degree (89.7%). Cho et al., (2022), found that nearly half of nurses in Korea held a Bachelor's degree. According to Manalu, (2018) higher education levels are expected to correlate with better knowledge. However, lower education levels do not necessarily equate to lower knowledge. Hao et al., (2020), found that male nurses had higher awareness of patient safety than female nurses.

The study results indicate that almost all respondents (94.1%) had good knowledge of patient safety. This finding contrasts with Hasballah et al., (2019), who reported that all nurses in a cardiac catheterization unit had poor knowledge of patient safety. Conversely, (Wake et al., 2021), found that more than half of nurses in Ethiopia had good knowledge levels. However, the findings of this study are lower than those from Paraná State University, Brazil, where 89.8% of nurses demonstrated good knowledge of patient safety (Oliveira et al., 2017). Meanwhile, Faridha & Milkhatun, (2020) found that most nurses (58.8%) at RSUD Samarinda had good knowledge of fall prevention, although 41.2% still fell into the lower knowledge category.

Jamal et al., (2022), also reported that nearly all registered nurses in private hospitals in Selangor, Malaysia, had good patient safety knowledge. Similarly, (Akram et al., 2024), found that nearly half of the nurses in a tertiary care hospital's Nursing Department had good knowledge. Wulandari et al., (2019), stated that knowledge involves mastering facts and theories. (Biresaw et al., 2020), found that nurse knowledge of patient safety was significantly influenced by age, education level, years of experience, patient safety training, and ongoing

education. (Setyowati, 2019) added that nurses with poor knowledge were four times more likely to exhibit poor patient safety culture than those with good knowledge. Additionally, (Biresaw et al., 2020), found that nurses aged 30 or older were 3.3 times more likely to have good patient safety knowledge than those under 30. Nurses with Bachelor's and Master's degrees were 3.7 and 4.3 times more likely, respectively, to have good knowledge compared to Diploma holders.

These findings are relevant to this study, where nearly all respondents were aged 18-40 years (79.4%), and more than half held a Diploma (57.4%). The differences observed highlight variations in patient safety knowledge across different contexts and locations, potentially influenced by factors such as age, education level, and work environment. These findings suggest that inpatient ward nurses in private hospitals in Pekanbaru have an adequate level of knowledge, which can positively contribute to implementing patient safety practices. Overall, the variations in these study results underscore the need for continuous nursing education and training to ensure that patient safety knowledge remains consistent and is further enhanced across healthcare facilities

Implication and limitations

The results of this study indicate that the majority of nurses in inpatient wards at private hospitals in Pekanbaru

City have a good level of knowledge regarding patient safety. Hospitals need to emphasize the implementation of patient safety standards, including regular monitoring and evaluation of nurses' adherence to patient safety principles. Although this study provides valuable insights, there are several limitations, including the fact that it captures data at a single point in time, making it unable to illustrate the longitudinal development of nurses' knowledge. Additionally, the study was conducted in only one private hospital in Pekanbaru City, which may limit the generalizability of the findings to nurses in other types of hospitals or regions.

Conclusion

Based on the findings of the study titled "Nurses' Knowledge of Patient Safety in Inpatient Wards of Private Hospitals in Pekanbaru City," it can be concluded that the majority of inpatient ward nurses share similar demographic characteristics, which may influence their knowledge and practices regarding patient safety. This study highlights the importance of continuous education and training to enhance nurses' knowledge, particularly in patient safety, to ensure better healthcare service quality in hospitals.

Author contribution

Study design: Intan Tiara Ramadhan, Gita Adelia, Rina Herniyanti, Ifon Driposwana Putra. Data collection: Intan Tiara Ramadhan, Eka Malfasari. Analysis: Candra Saputra, Eka Malfasari, Desti Puswati. Manuscript preparation: Gita Adelia, Intan Tiara Ramadhan, Eka Malfasari, Candra Saputra, All of the authors critically reviewed the article and approved the final version

Conflict of interest

No conflicts of interest has been declared by the authors.

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