

# The Relationship between Knowledge and Nurse Compliance Regarding Preventing the Risk of Falls in Hospital Inpatient Rooms

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## ABSTRACT

*Patient safety is a fundamental healthcare principle recognized as a growing global public health challenge. The six goals of Patient Safety include accurate identification of patients, increased effective communication, increased safety of cautionary medicines, assurance of the correct surgical site, correct procedures and surgery on the proper patient, reduced risk of healthcare-associated infections, and decreased risk of patient injury due to falls. This fall incident resulted in damages and increased the length of treatment and patient care costs. Injured patients can require an extended hospital stay. This study aimed to determine the relationship between knowledge and nurses' compliance with preventing the risk of falls in patients at the West Java Regional Hospital, Bekasi City. This research method uses a cross-sectional approach to 54 nurses as a sample. The results of data analysis using the Chi-Square test showed a p-value of 0.153 ( $p < 0.05$ ). In conclusion, there is no relationship between nurses' knowledge and nurses' compliance regarding preventing the risk of falls in patients. Further research requires the observation of nurses' prevention of falls using the Morse fall scale observation sheets to determine whether nurses are obedient in their daily lives to prevent the risk of falls.*

**Keywords: knowledge, compliance, prevention of fall risk**

## INTRODUCTION

Patient safety in hospitals is a system that makes patient care safer, including risk assessment, identification and management of patient risks, incident reporting, and analysis, learning from incidents and follow-up, and implementing solutions to minimize risks and prevent injuries. It is caused by errors resulting from carrying out an action or not taking action that should be taken (Minister of Health Regulation RI No. 11, 2017). Health workers must be able to provide the safest care for patients. Improving patient safety requires collaborative efforts among healthcare professionals alongside institutional support to address quality challenges and transform toward safe, cost-effective, and value-based healthcare (Ezeddine, 2018).

Based on Innab (2022), the World Health Organization (WHO) estimates that approximately 646,000 fatal falls occur each year, making falls the second leading cause of death worldwide,

and also estimates that 37.3 million falls are severe enough to require medical treatment (WHO, 2018). Falls have been identified as a priority problem among hospitalized patients and can result in prolonged hospital stays and increased healthcare costs. Ainin (2017) stated that data obtained from the XII PERSI Congress report throughout 2012 showed 34 incidents or the equivalent of 14% of falls in hospitals in Indonesia.

Innab (2022) states that there are various factors in the occurrence of falls while patients are being treated in a hospital. There are internal factors from the patient's disease condition and external factors from the busyness and negligence of health workers, especially nurses, in monitoring the patient's risk of falling. Nurses' knowledge of fall risk factors and interventions to reduce the risk of falls needs to be documented in the literature. Fall risk assessment is a standard operational procedure that is part of the nurse's performance and behavior (Nadia & Permanasari, 2018).

As healthcare professionals in contact with patients around the clock, nurses can provide valuable information about the healthcare environment, including assessment of the patient's fall risk and response. Nurse behavior that does not maintain patient safety contributes to patient safety incidents. Nurses who lack awareness of rapidly deteriorating situations fail to recognize what is happening and ignore crucial clinical information, thereby threatening patient safety (Ghahramanian et al., 2017). Therefore, research is needed to examine whether there is a relationship between nurses' knowledge and compliance in assessing the risk of falls in hospital patients. This study aims to find the relationship between knowledge and nurses' compliance in preventing the risk of falls in hospitals.

## **METHODS**

The research used a cross-sectional method, with a sample of 54 nurses with a Diploma 3 Nursing education background and at least 1 year of work in a hospital. The sampling technique used was purposive sampling, which determined sample criteria following the research objectives. The research has received research ethics permission from the hospital with 030/KEPK/RSCAM/IX/2023.

This research uses instruments from Wang et al. (2022) to measure nurses' knowledge and the Morse Fall instrument to measure nurses' compliance. Data was collected using a questionnaire meeting respondents who met the inclusion criteria for nurses, which included working full-time in a hospital and having worked in an inpatient room for at least one year. Researchers

process data and store data according to research needs. Data analysis used the frequency distribution test and Chi-square. The research was carried out in July - August 2023 at the Bekasi Regional Hospital. The study was conducted after obtaining a research permit from the hospital with number 070/3444/RSUD.Set.

## RESULTS

The characteristics of the respondent data will be presented in Table 1.

Table 1. Respondent Demographic Data

Variable	Frequency (f)	Percentage (%)
<b>Age</b>		
21-35 Years	40	74.0
36-45 Years	7	13.0
>45 Years	7	13.0
<b>Gender</b>		
Male	15	27.8
Female	39	72.2
<b>Education</b>		
Nurse	26	48.1
3-year diploma	28	51.9
<b>Employment status</b>		
ASN	15	27.8
Honorary	39	72.2
<b>Years of service</b>		
1-5 Years	30	55.6
6-10 Years	12	22.2
11-15 Years	2	3.7
16-20 Years	3	5.6
Over 21 Years	7	13.0

Based on Table 1, it was found that the majority of respondents were between 21-35 years, 40 people with a percentage of 74.0%, and 39 respondents were female with a rate of 72.2%. Nursing education was 26 respondents with a ratio of 48.1%, and Diploma 3 was 28 respondents with 51.9%. ASN employment status was 15 respondents with a percentage of 27.8%, and Honorary was 39 respondents with 72.7%.

An overview of the level of knowledge and compliance of nurses in preventing the risk of falls in hospitals will be described in Table 2 and Table 3.

Table 2. Description of Nurses' Level of Knowledge in Preventing Falls in Hospitals

Knowledge level	Frequency (f)	Percentage (%)
Good	32	59.3
Enough	22	40.7
<b>Total</b>	<b>54</b>	<b>100.0</b>

Table 3 Description of Nurse Compliance in Preventing the Risk of Falls in Hospitals

Compliance Level	Frequency (f)	Percentage (%)
Obedient	50	92.6
Not obey	4	7.4
<b>Total</b>	<b>54</b>	<b>100.0</b>

Based on Table 2 and Table 3, 32 nurses have a good level of knowledge (59.3%), and 50 nurses are compliant in preventing the risk of falls (92.6%).

Table 4. Relationship between Nurses' Knowledge and Compliance with Preventing the Risk of Falls in Patients

Knowledge	Obedience		Total	P - Value	OR
	Obedient	Not obey			
Good	30 (55.6%)	2 (3.7%)	32 (59.3%)	0.153	0.151
Enough	20 (37.0%)	2 (3.7%)	22 (40.7%)		
Total	50 (92.6%)	4 (7.4%)	54 (100%)		

Based on Table 4.9, data analysis using the Chi-Square test shows that the P value is 0.153 ( $p < 0.05$ ), so  $H_0$  is accepted. In conclusion, there is no relationship between nurses' knowledge and compliance regarding fall risk prevention.

## DISCUSSION

The need to improve quality and safety in health care is critical. However, there still needs to be more evidence on how to improve it. The results of this research are evidence that there is a need to increase knowledge and compliance in preventing the risk of falls in hospitals. The research results showed that most respondents still had a nursing diploma, 50.9%, and were in the age range of 21-35 years, 74%. This study's results align with the research results (Harus & Sutriningsih, 2015), stating that age and education level will determine a person's attitude toward their work. The older one gets, the more education will evaluate a person's maturity in thinking and working. Nurses must be aware of their role and actively participate in realizing hospital patient safety.

The results of this research are in line with the results of research conducted by Wicaksana and Rachman (2018) regarding nurses' knowledge of preventing patients at risk of falling in the room shows that nurses' knowledge about preventing patients at risk of falling is in a suitable category, namely 43 respondents (57.3%). Looking at the results of research data and comparisons with theory and previous research related to the level of knowledge of nurses, it can be concluded that almost all nurses know and understand the prevention of the risk of patient falls due to their long working period, mature age, and high level of education.

The research results show that nurses have good knowledge of 59.3% and nurses' compliance in preventing the risk of falls is 92.6%. Based on the data analysis above using the Chi-Square test, the p-value was 0.153 ( $p < 0.05$ ), so  $H_0$  was accepted. In conclusion, there is no relationship between nurses' knowledge and nurses' compliance in preventing the risk of falls. The absence of a relationship between nurses' knowledge and compliance with preventing the risk of falls in patients is not only determined by one factor. Other factors include nurses' characteristics, the number of nursing personnel in the room, and supervision that is not carried out routinely, which can reduce nurses' performance motivation in complying with and preventing the risk of falls in patients.

In the study, Setyarini and Herlina (2020) stated that the nurses' compliance in preventing patient falls on average, 75% complied with the assessment in the Morse fall scale format, and 25% did not comply with it. Another thing related to compliance in carrying out fall risk assessments is that understanding only sometimes makes nurses obedient to carry them out even though they are supported by motivation and infrastructure, both assessment formats and standard operating procedures for fall risk. Nurses consider many obstacles they still face, including the infant's condition, the patient's family, the nurses themselves, leadership, and management (Nur et al., 2017).

This is not in line with research by Efendi & Milkhatun (2020), which states that a significant relationship exists between attitude and nurse compliance in implementing patient fall prevention because the significant value is  $p\text{-value} = 0.017 < \alpha = 0.05$ . The results of this study show that even though nurses have insufficient knowledge of fall risk prevention, they are still obedient. Fall risk reduction strategies depend on patient compliance, such as alerting staff before mobilization and using equipment safely. Less experienced nurses typically focus on general nursing activities rather than activities involving patient safety.

If patient safety is implemented well, services prioritizing safety and optimal quality will have a broad impact. Especially for the community, they will get better quality, safer services that meet their expectations. It is an added value for hospitals to achieve national and international standard services. Safe and quality services are also expected to increase public trust in hospitals. For health workers, it can foster new values, especially the importance of implementing patient safety in every service activity provided (Ningsih & Marlina, 2020).

Additionally, nurses' attitudes regarding falls improved as the number of fall prevention educational programs they attended increased (Cho & Jang, 2020). Therefore, regular and repeated fall prevention education targeted at small and medium-sized hospitals will strengthen and improve nurses' attitudes toward patient falls.

## CONCLUSION

The results of this study show that the head of the room in carrying out supervision is needed to optimize the role of nurses in implementing fall risk prevention. Apart from that, further research needs to be carried out using an observation sheet to observe the implementation of the Morse fall scale on nurses to ensure an understanding of preventing the risk of falls in hospital patients.

## LIMITATIONS

The limitation of this research is that it is based on a questionnaire, so the results are the result of filling out the questionnaire filled in by respondents; the results of this research are still subjective. The research can be continued objectively using the nurse observation method in assessing the risk of falls using the Morse fall scale.

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