

The Influence of Knowledge, Motivation and Supervision Techniques on Nurses' Compliance in Implementing Fall Risk Prevention in the Inpatient Room of Tiara Hospital Tangerang

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Abstract

Introduction: Implementing patient safety such as reducing patient risk of falling requires SOP. In 2023, the nurse compliance rate in conducting fall risk assessments at Tiara Hospital was 97%. **Objective:** This study was conducted to analyze various factors that influence nurse compliance in implementing fall risk prevention SOPs at Tiara Hospital Tangerang. **Method:** The type of research is analytical with an observational approach and using a Cross Sectional study. Questionnaires were distributed to 73 nurses. The dependent variable is Nurse Compliance in implementing the Fall Risk Prevention SOP, the independent variables of the study are Knowledge, Motivation and Supervision Techniques of the Head of the Room. **Result:** The results of the study showed that simultaneously knowledge, Motivation and Supervision techniques of the Head of the Room had a significant effect on Nurse compliance in implementing the Fall Risk Prevention SOP in inpatients at Tiara Hospital Tangerang. R square of 0.734 means that the variable can explain the influence of knowledge, motivation and supervision techniques of the Head of the Room by 73.4%. **Recommendation:** It is recommended that the management try to improve knowledge through training both internally and externally to the hospital and commitment in implementing SOP for preventing patient fall.

Keywords: knowledge, motivation, supervision technique, fall prevention, nurses' compliance



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INTRODUCTION

Patient safety, particularly fall prevention in hospitals, is a critical aspect of healthcare, ensuring the well-being of hospitalized patients. Implementing effective fall prevention strategies can significantly enhance patient care, reduce hospital stays, and lower associated costs. Falls are a significant risk in healthcare settings, with hospitals seeing a high number of falls (1).

The estimated incidence of falls in 2030 will reach 74million patients with 12 millions of those falls resulting in injuries. Approximately 1.3 - 8.9/1000 patients experience falls per day inrehabilitation and neurology units while out of 100 /1000 patients who fall in US hospitals there are 30%-50% of falls with resulting injuries (2).

Falls are a major cause of harm to patients, leading to injuries, increased hospital stays, and higher healthcare costs. Preventing falls is not only about reducing harm but also about improving the quality of care and creating a safer environment for patients (3).

In Indonesia, the highest falls among patients in DKI Jakarta Province at 37.9%, followed by Central Java Province at 15.9%, (4). Physical impacts such as lacerations, head injuries, bleeding and even death, prolonging treatment time and increasing patient care costs due to the use of unnecessary diagnostic equipment, in addition to causing fractures, sprains, lacerations or contusions which are usually seen in about 1% - 10% of hospitalized patients who experience falls. (5).

The psychological impact of a fall even if physical injury does not occur, namely shock after a fall and fear of falling again can have many consequences including anxiety, loss of self- confidence, restrictions in daily activities. The impact on the hospital itself is to cause lawsuits because it is considered negligent in-patient care (6).

Fall risk reduction is important so that the risk of injury from falling patients can be

prevented. To reduce this risk, nurses should provide good care in accordance with the rules that apply in the hospital. The hospital environmental factors and the work process of health workers nurses are very influential on the occurrence of patient falls in private hospitals, which is 1.5 / 1000 days of occupied beds (7).

The performance of individual nurses is influenced by 3 variables, namely individual variables, organizational variables and psychological variables. Individual variables consist of abilities, skills, knowledge, demographics and family background. Psychological variables consist of perception, attitude, motivation, personality and learning. While organizational variables consist of resources, rewards, workload, structure, supervision and leadership.

Training is a process that teaches certainknowledge and skills and attitudes so that nursesare increasingly skilled and able to carry out theirresponsibilitiesbetter in accordance withprocedures. Training will refer to the development of nurses' competencies in the field.Compliance is a form of behavior. Some factors that affect nurses' compliance in carrying n person's attitude, motivation and perception of their work (8).

Nurses have a very important role in implementing patient safety, especially patient safety from falls, this is because nurses are hospital health workers who meet with patients the longest in a day. Nurses have many roles in fall prevention, one of which is by assessing the Morse Fall Scale (MFS) or Humpty Dumpty Fall Scale and Sydney scoring, besides that nurses should educate patients, for example by paying attention to depression problems suffered by patients (9)

Based on a brief discussion with 20 executive nurses, it was found that no one correctly answered questions regarding the management of fall risk prevention from the timethe patient arrived until the patient was discharged from hospitalization, 54.7% (11 people) could answer the components of the content of the patient's fall risk assessment.

Regarding the supervision technique of the head of the room regarding the management of fall risk prevention in hospitalization, it was found that the head of the room supervised at least once a month. 60% (12 people) of nurses also said that supervision was too short, about 2 - 3 minutes only.

OBJECTIVE

The purpose of this study was to analyze the effect of knowledge, motivation and supervision techniques of the head of the room on nurse compliance in the implementation of Standard Operating Procedures for preventing patients at risk of falling in the Inpatient room Tiara Hospital Tangerang.

METHOD

Design

This research design is descriptive analysis research with a cross-sectional study research design, which is a study to study the dynamics of the correlation between risk factors and effects, by means of an approach, observation or data collection at one time (pointtime approach). This study was conducted within June 2024.

Sample, sample size & sampling technique

The population in this study were all nursing staff in the inpatient room of Tiara Tangerang Hospital. The affordable population is all nursing staff in the inpatient room, totaling 73 nurses. The sampling technique uses total sampling, where the entire population is made into a research sample, so that the number of samples in this study is 73 respondents who are nursing who provide services to patients.

Data collection process

The data collection process is a crucial step in research that involves gathering information to answer research questions or test hypothesis. Data collection was carried out by field studies through questionnaires to

respondents. The survey technique was applied to gather data from the identified sources. All respondents who participate in this study was required to sign the informed consent in this study and confidentiality for ensuring ethical manner.

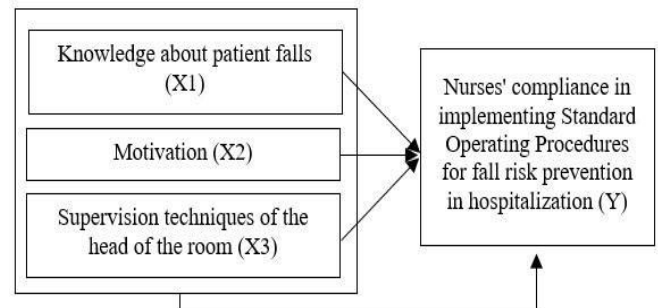


Figure 1. Research Conceptual Framework

Instrument for data collection

Several instruments are used to collect the information from the respondents. To ensure the quality of all instrument, the validity and reliability of instrument were conducted using the Pearson Correlation value, if $r_{count} > r_{table}$ and the value is positive then the item or question or indicator is declared valid. Reliability test with Cronbach's Alpha, the research instrument is declared reliable if it has a Cronbach's Alpha value > 0.6 .

Details of instruments are explained are knowledge on risk of falls questionnaire, motivation questionnaire, supervision technique questionnaire, and compliance questionnaire

Knowledge questionnaire on risk of falls was used to measure the knowledge of respondents on risk of fall. This questionnaire consisted of 4 dimensions such as factual, conceptual, procedural, and metacognitive. The Likert scale was applied including strongly disagree=5, agree=4, uncertain=3, disagree=2, and strongly disagree=1. Highest score showed the high of knowledge and the lowest score was the low knowledge of respondents on fall risk.

Motivation questionnaire was used to measure the motivation of respondents on risk

fall prevention among nurses. This questionnaire consisted of three dimensions including achiever, affiliated, and powerful. The Likert scale was applied including strongly agree=5, agree=4, uncertain=3, disagree=2, and strongly disagree=1. Highest score showed the high of motivation and the lowest score was low motivation on risk fall prevention

Supervision technique questionnaire was used to measure coaching activities planned to assist nursing staff in carrying out their work effectively. This questionnaire consisted of four dimensions such as innovator, communicator, motivator, and controller. The Likert scale was applied including strongly agree=5, agree=4, uncertain=3, disagree=2, and strongly disagree=1. Highest score showed the good supervision technique implementation and the lowest score was the bad supervision technique on risk fall prevention.

Nurses' compliance questionnaire was used to measure the compliance of risk fall prevention among nurses. The questionnaire consisted of 3 dimensions such as trusting, accepting, and doing. The Likert scale was applied including strongly agree=5, agree=4, uncertain=3, disagree=2, and strongly disagree=1. Highest score showed the good high nurses' compliance and the lowest score was the low nurses' compliance on risk fall prevention

The results of the validity test of the nurse knowledge questionnaire with 8 statement items. All item are valid with a calculated r-score of more than 0.361. The nurse motivation questionnaire with 8 statement items is entirely valid with an r value of more than 0.361. The supervision questionnaire of the head of the room with 9 statement items was entirely valid with a calculated r value of more than 0.361, and the nurse compliance questionnaire in the implementation of fall risk prevention with 8 statement items was entirely valid with a calculated r value of more than 0.361. The reliability test of the nurse knowledge

questionnaire, motivation, supervision of the head of the room and compliance in the implementation of fall risk prevention is entirely reliable because it has a Cronbach's alpha value > 0.6.

Data analysis

This study uses quantitative descriptive analysis to describe the characteristic of respondents. The linear regression through t-test statistic was used to test association between independent with the dependent variable. The F test is used to examine how the influence of all independent variables together on the dependent variable. The test was carried out with the help of the SPSS program.

RESULTS AND DISCUSSION

Respondent Characteristics

The general description of 73 respondents included gender, age, education and tenure at Tiara Hospital Tangerang. Table 1 shows that most of the respondents are female, most of them are between 26-35 years old, with education mostly still Diploma 3 and most of them have worked for >3 years at Tiara Tangerang Hospital. The results of the study on the description of the characteristics of respondents are presented in the following table:

Table 1. Characteristic of respondents

Respondent Characteristics	f	%
Sex		
Male	58	79.5
Female	15	20.5
Age		
17 - 25 years	28	38.4
26 - 35 years	32	43.8
36 - 45 years	10	13.7
46 - 55 years	3	4.1
≥ 55 years	0	0
Education		
Diploma	47	64.4
S1	26	35.6
Length of Service		
< 1 years	19	26.0
1-3 years	16	21.9
> 3 years	38	52.1

Three Box Method Analysis

Descriptive analysis was used to determine the description of nurses' knowledge, nurses' motivation, supervision techniques and nurses' compliance in the implementation of fall risk prevention in Tiara Tangerang Hospital inpatient care based on the results of filling out the questionnaire. This analysis was carried out using the index analysis technique, to describe the respondents' perceptions of the question items asked by tabulating the questionnaire with the Three-box Method scoring technique. The index values obtained were grouped into low, medium and high.

The results of the clustering scale are presented in the table below.

Table 2. Index Value Measurement Scale

Index Scale Range	Category
14.6 – 34	Low
34.1 – 53.5	Medium
53.6 – 73	High

Based on the results of the grouping above, the results of the respondent's response questionnaire to the knowledge variable with 8 statements reached an average index of 63.75, indicating that the knowledge of nurses in Tiara Hospital Tangerang inpatient care is high. Motivation with 8 statements reached an average index of 62.93, indicating that the motivation of nurses in the hospitalization of Tiara Hospital Tangerang is high. Supervision of the head of the room with 9 statements reached an average index of 62.44, indicating that the supervision of the head of the room is high, while compliance in the implementation of fall risk prevention with 8 questions reached an average index value of 64, indicating that nurse compliance is also high.

Table 3. Partial test analysis (t-test)

	B	t	p-value
Knowledge about fall risk	0.303	3.636	0.001
Motivation	0.223	2.092	0.040
Supervision Techniques	0.454	2.092	0.000

a. Dependent Variable: Compliance

The Effect of Knowledge about Fall Risk on Nurse Compliance in Implementing Fall Risk Prevention Standard Operating Procedures

The results showed that knowledge about the risk of falling had a positive and significant effect on nurse compliance in implementing Standard Operating Procedures for fall risk prevention in the inpatient room, as evidenced by the test results which showed a significance value of 0.001 less than 0.05. It was in line with a study which states that there is a significant influence between knowledge and nurse compliance in implementing standard operating procedures for fall risk prevention in hospitals (10).

Based on the three-box method analysis regarding the variable knowledge about the risk of falling, the average index score is at the high category level. This shows that Tiara Hospital nurses have the obedience to act in accordance with the procedure.

This situation shows that knowledge about the risk of falling greatly influences nurses' compliance in implementing the SOP for fall risk prevention. The knowledge or cognitive is a relevant for the formation of a person's actions, behavior based on knowledge (11).

The Effect of Motivation on Nurse Compliance in Implementing Fall Risk Prevention Standard Operating Procedures

The results showed that motivation has a positive and significant effect on nurse

compliance in implementing Standard Operating Procedures for fall risk prevention in the inpatient room, as evidenced by the test results which show a significance value of 0.040 less than 0.05.

A study Reported that the higher the motivation of nurses influence on nurse compliance in implementing Standard Operating Procedures for preventing patient falls in inpatient care and the better the service (12).

Based on the three-box method analysis regarding the Motivation variable, it is known that the average value obtained by the Motivation Variable is included in the high category. This shows that Tiara Hospital nurses have high motivation, especially to get better (achievement).

A study mentioned that motivation is the drive that exists in every human being to achieve the results of their activities or work to the maximum extent instinctively, everyone has a need to do or do their activities better than before or maybe more (13). Another definition mentioned that motivation is the desire contained in an individual that encourages him to do actions, actions, behavior, or behavior (14).

The Effect of Supervision Techniques of the Head of the Room on Nurse Compliance in the implementation of the Fall Risk Prevention Standard Operating Procedures

The results showed that the influence of the head of the room supervision technique had a positive and significant effect on nurse compliance in implementing Standard Operating Procedures for fall risk prevention in the inpatient room, as evidenced by the test results which showed a significance value of 0.000 less than 0.05. A study mentioned that the supervision of the head of the room and nurse compliance in implementing the SPO for fall risk in hospitals (15).

Based on the three-box method regarding the variable of the head of the room supervision technique, the average index score is in the high category. This

shows that the supervision carried out by the head of the room is good and is able to motivate his subordinates to carry out fall risk prevention according to the SOP.

The head of the room as a lower-level manager has a management function in the area and scope of his responsibility. Nursing supervision is one of the directive functions that must be carried out by a head of the room which can be used as an effort to ensure the quality of nursing actions (16). Quality assurance activities can be carried out by the head of the room through supervision activities to team leaders and implementing nurses (17).

Table 4. Significance Test (F Test) Knowledge of Fall Risk, Motivation and Supervision Techniques of the Head of the Room on Nurse Compliance

Model	df	Mean Square	F	Sig .
Regression	3	229.167	63.464	0.000
Residual	69	3.611		
Total	72			

From the research obtained a significance value of 0.000 < 0.05, thus Ho is rejected and Ha is accepted, it can be concluded that knowledge about the risk of falling (X1), motivation (X2) and supervision techniques of the head of the room (X3) simultaneously affect nurse compliance (Y).

Conclusion

In conclusion, knowledge of risk fall prevention, motivation of nurses and supervision technique were crucial point to improve the nurses' compliance in implementing SOPs for preventing the risk of falling in inpatient care. This shows that the more knowledge about the risk of falling, motivation and supervision techniques of the head of the room, the nurse's compliance in implementing standard operating procedures for preventing the risk of falling in

hospitalized patients is more compliant and improves patient safety and security

Implication

The results of this study support the development of theories related to nurse compliance in preventing the risk of falls. high motivation will affect creativity and innovation, motivated nurses tend to work harder and be dedicated to achieving organizational goals and can increase job satisfaction and achievement and the right motivation can strengthen the spirit of cooperation in the team. Based on the research. Management can create training programs on patient safety both internally and externally, training is used to prepare nurses to face challenges, training can also be used as a strategy for behavior change, by directing skills. In addition, training will change a person's knowledge. Training is also not only in the form of fall risk prevention material but nurses can see direct practice on how to properly prevent patients from falling. Fall risk prevention training must be carried out at least once every 6 months as a basis for understanding nurses to equalize perceptions in the hospital. The results of this study are expected to be used and developed according to the needs of researchers to examine the influence of knowledge, motivation and supervision techniques of the head of the room on nurse compliance in implementing standard operating procedures for fall

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