JURNAL KEPERAWATAN PPNI JAWA BARAT
Volume 2 No 2 Desember 2024

ENHANCING PEDIATRIC SAFETY: THE CRITICAL ROLE OF NURSES IN FALL PREVENTION AT A YOGYAKARTA PRIVATE HOSPITAL

Margareta Hesti Rahayu
Panti Rapih School of Health Sciences, Yogyakarta, Indonesia
Corresponding Email: margareta.hestirahayu@stikespantirapih.ac.id

ABSTRACT

Introduction: The incidence of falls that cause serious injuries among patients remains in the list of 10 major patient safety issues. Approximately 63% of falls led to death from 465 reported cases of patients with serious injuries. **Methods:** This study is qualitative research using a single explanation case study approach. Data were collected through observation, interviews and documentation studies in a pediatric ward in a private hospital in Yogyakarta. **Results:** Study discovered four themes: family and child characteristics contribute to the fall incidence, fall assessment and education is being implemented, comprehensive fall prevention approach, nurses have responsibility to prevent falls in maintaining the quality of service. **Conclusion:** Nurses have high level of awareness in performing fall prevention and management.

Keywords: Pediatric Safety, Fall Prevention, Pediatric Nursing, Hospital Safety Protocols, Injury Prevention in Children

INTRODUCTION

One of the general patient safety issues is the incidence of fall among patients that may result in injury during hospitalization. In America, annually 700,000 to 1,000,000 patients falls and 30-50 percent of them suffering from injuries that contribute to prolonged length of stay in the hospital which causes increasing cost of hospitalization (Commission, 2017; for Healthcare Research, 2013). The incidence of falls that cause serious injuries in patient remains the 10 biggest patient safety problems. Approximately 63% of falls causing death from 465 cases of patients due to serious injuries. Based on analysis, it is confirmed that causes of falls in hospitals including inadequate assessment, communication failure, lack of compliance toward patient safety protocols, inadequate competencies and staff orientation,

limited physical environment and lack of leadership (Commission, 2017).

The incidence of falls among children in hospitals in America reaches 83% (Force, 2009). A study conducted by (Astuti et al., 2021) at a hospital in Indonesia discovered that the level of risk for falls is high respectively to the characteristics of pediatric patients: toddlers (44.6%), infants (26.8%), and preschool (14.3%), male (66.1%), medical diagnosis with altered oxygenation (39.3%), neurological disorders (28.6%), and children using sedatives (32.1%). Children, especially toddler tend to move a lot and not aware of the surrounding hazards. It is one of the factors that leads to falls among children. Children who are hospitalized have risk factors for falling, including the influence of drugs, alteration in mental status, changes in mobility, postoperative condition and a history of falls (M. Hockenberry et al., 2015; M. J. Hockenberry & Wilson, 2008). Based on a preliminary study at a private hospital in Yogyakarta, it was found that there are incidents of pediatric patients who experience falls even though nurses and the hospital implement fall prevention strategy. This study aimed to determine the role of nurses in the implementation of fall prevention among pediatric patients.

METHODOLOGY

Study design and population

This is a qualitative research with single explanation case study approach. Case study in this research were investigating the role of nurses in fall prevention intervention among children. This research was conducted at a private hospital in Yogyakarta from November 2020 to January 2021. Population in this study were all nurses in the pediatric ward. A purposive sampling method were used to recruit 15 nurses for this study.

Data Collection

Activities carried out in this study including participant observation, documentation studies and interviews. Participant observations conducted by research assistants. Once observation was taken place, researcher collect information about the fall prevention intervention from nursing documentation. Interviews were conducted on two nurses with highest score, two nurses with the lowest score, one responsible nurse for quality management and a pediatric ward manager.

Ethical clearance

The research was carried out following the ethical clearance or statement that passed the review from the hospital ethical board where this research was being conducted.

RESULT

Respondent's characteristics who were being observed are listed in Table 1.

Table 1 Respondents Profile

Variable	Characteristics	N(%)
Gender	Male	0
	Female	15 (100%)
Educational level	Diploma	15 (100%)
Employment status	Permanent worker	15 (100%)

Source: Primary Data (2020-2021)

Study participants involved in the research interview are presented in Table 2 below:

Table 2: Interviewee characteristics

Participants	Education	Position
Participant 1	Bachelor of Nursing	Ward Manager
Participant 2	Diploma	Quality Assurance
Participant 3	Diploma	Executive nurse
Participant 4	Diploma	Executive nurse
Participant 5	Diploma	Executive nurse
Participant 6	Diploma	Executive nurse

Source: Primary Data (2020-2021)

Research activities began with preliminary study and the proposal development. Researcher completed administration process and ethical review at the hospital. At the time of permission being granted and ethical review occurred at the hospital, researcher made agreement and provide *informed consent* to the pediatric ward manager. Observation was carried out when nurses admits new patients, while documentation studies were carried out by checking patient's medical records. Interviews were carried out when the observation and documentation studies had been completed. Total observations in this study were 45 times among 15 nurses who admitted new patients during the study, and each nurse was observed 3 times. Interviews were conducted toward six nurses consist of two nurses with lowest evaluation score, two nurses with highest score, one nurse responsible for quality management and the head of the pediatric ward.

Child and family characteristics contribute to fall incidence

Children and families in this case parents or caregivers play an important role in the fall prevention among children. When the patient admitted in the hospital, as a health worker, nurses has performed cautionary measures to prevent falls, but patient or parent often neglects to participate in the fall prevention even though nurse has had provide explanation and taught parents for the intervention. Children and parents who were not cooperative also causing fall incidence. Other factors that causing falls among pediatric patient during hospitalization is associated with children physical activity and lack of supervision from the parents.

Participant 1: “Fall incidence must have come from the patient, family and relatives. In fact that the incident was not our negligence, for example, the rail was damaged, we have replaced it. Even before that the bed rail was broken, from that point we have tied patient up, that's an extreme example of a post- surgical patient, a patient who were extremely rebelled. Yes, it's already strap of the right and left legs, but the patient was too strong as the rail was broken."

Participant 3: "We often educate and ask for help for many times, as the bed rail always raised but parents sometime careless, maybe because of their thought that the child is currently ill. Sometimes it's been raised by the nurse but later when I return the bed rail went down and didn't raise until an incident emerge and patient falls. We have educated many times; in fact the mother did not seem to be paying attention to our explanation. Finally, the patient fell. The problem was that sometimes people less cooperative... less cooperative from parents."

Participant 5: "At the pediatric ward, maybe because of the patients were children, sometimes they were cooperative, some were not. Some parents were cooperative, some others were indifferent, so there was a fall incident too .”

Periodical Fall Assessment and Education

Observations toward nurses’ performance during a patient fall assessment are presented in table 3.

Table 3: Patient fall assessment observation results

Observation items	Performed	Not performed
Conduct fall risk assessment according to hospital standards (Humpty Dumpty Falls scale).	45 (100%)	0 (0%)
Patients monitoring every 4-6 hours on each shift	45 (100%)	0 (0%)
Implement periodic assessments/ assessments in every shift and during patient transfer	45 (100%)	0 (0%)

Source: primary data (2020-2021)

Based on the study observations it was discovered that nurses who admit new patients in the pediatric ward, performed fall risk assessment based on hospital standards using the Humpty Dumpty scale. The findings were supported by interview results that nurses in the ward during patient admission evaluate fall risk by using Humpty Dumpty scale.

Participant 3: "If it's a new patient, at least we introduce the room environment and motivate them to always raise the bed rails, especially for younger patient due to risk for falls. …….. Later, we adapt guides like Humpty Dumpty scale to calculate the patient's fall risk score …..”

Participant 5: “Actually, the Humpty Dumpty evaluation was carried out at the initial admission and being evaluated again when the patient transferred into the pediatric ward.”

Nurses always make observations and assessments every shift and handoff. They always provide education every handoff. The activities indicated that nurses regularly and periodically conduct observations and assessments at each handoff.

Participant 1: “….as soon as the patient arrives in the room, they are being educated on how to anticipate falls, and then the bed rail must be installed at any time, we have been educating and then during the handoff we always ask them to be careful.”

Participant 4: “During the evaluation, we ask whether the children is active or not. Usually, among active child we monitor the mother closely, so she won’t be careless, and we also perform observation every 2-3 hours by giving reminder to the parents whether it has been done or not. … when a new patient moves in, we educate them as what we usually do… also every shift change we always educate parents and patients who are able to communicate appropriately.”

Comprehensive Fall Prevention by Nurses and Hospital.

Observations results during the nurses obtain new patients are listed in Table 4:

Table 4: Fall prevention efforts observation results

Observation items	Done	Is not done
Introduce newly admitted patients with the surrounding environment (patient bell, bathroom, lighting)	45 (100%)	0 (0%)
Place a yellow fall risk sign on the patient's bed	45 (100%)	0 (0%)
Confirm the bed is properly installed or not damaged, and the wheels are locked properly	45 (100%)	0 (0%)
Provide items required by the patient in a safe distance (phone, patient bell, table, drinking water, glasses, and urinals)	45 (100%)	0 (0%)
Adequate lighting especially for patients with no guardian	45 (100%)	0 (0%)
Patient and family education toward fall prevention measures	45 (100%)	0 (0%)
Document the interventions that has been given to the patient and family about fall prevention		

Source: primary data (2020-2021)

Based on the observations, among all patients (100%) the nurses have taken efforts to prevent falls following the hospital operational standard. Intervention made by nurses for fall prevention in pediatric ward includes delivering education content to families and patients. The nurse reported that education was important and always carried out on admitted patients and families in the ward. Nurses also provide beds for patients with consideration to the patient's age. Patients with age less than 2 years old were given a bed with surrounding rails to promote patient safety. Nurses also place a label to increase the awareness of the patient's risk for falls.

Participant 1: "….the effort must be from education and environment, the environment begin from patient, starting from the bed, we provide box for patient age less than 2 years old, it means that if there was a plan for one thing we do is swapping bed into box like that. Then the second one is about fall risk labels…."

Nurses utilize fall prevention leaflet that provided by the hospital in delivering education to the families and patients. The nurse also works closely with the outsourcing cleaning department to maintain the safe and non-slip floor surface in minimizing the risk for fall. Nurses were also making sure that the installed lights is adequately bright.

Participant 2: "….we educate the family using existing leaflets and asked them to sign a record. We have safety standard for the ward, for example keep the floor not

slippery, then about the bed because we have several beds that currently not being safe, the classic problem is that there are beds that do not meet the safety standards."

Participant 3: "….at least we recommend parents to always guard the patient, then about the bathroom we recommend them to be careful if the floor is slippery. We try to facilitate the ward, for example, making sure the lights are bright enough and the floor is not slippery, so the patient doesn't fall. Motivating the family to always accompany the patient is our priority."

The nurse explains to the family and patient on how to install and dismiss the bed rails and how to close the exposed part of the bed using a bed cover, pillow, or bolster.

Participant 4: "…… The content given is how to prevent a child from falling out of bed, provide an example of how to activate the bed rails. how to raise and lower the bed and set the bed as low as possible in the VIP room. We also give an example of how, for example a small child sometimes given small bed with holes in it, as we illustrate in placing the child sleep position a little bit down, cover the hole with a pillow or bolster, and parents always requested to be on the side."

Nurse claimed that pediatric patients should not be left alone, and bed rails should always be installed. If the patient is capable communicate, they receive education about bed safety. The nurse brought the bell to the non-guardian patient and asked them to ring the bell if they need any help.

Participant 6: "…. At the time of patient arrival, our priority is to take anamnesis, information and fall prevention education. we have 2J form that contains information and education for patients and families so we write down anything that were at risk, for example if children are present, if the rail must always be raised, then if the children mobilize, they have to be accompanied and shouldn't be left alone. If the children older, we can tell, usually the bell is closer, and the rail is always raised with us and the bell is within a reach if they needs help. Just ring the bell and ask the nurse for help the children are left alone."

From the observations results data indicated that less than half of the nurses were not perform documentation of fall prevention measures and a small proportion were not record periodic assessments on every shift and patient transfer between units.

Table 5: Fall prevention measures documentation study results

Observation items	Available	Not available

Availability of fall risk assessment documentation according to hospital standards (Humpty Dumpty Fall scale).	45 (100%)	0 (0%)
Education to patients and families about fall prevention measures is documented	45 (100%)	0 (0%)
Availability of records regarding explanations that have been given to patients and families about fall prevention	33 (73.3%)	12 (26.7)
Availability of assessment/ periodical evaluation documentation every shift and patients transfer between units	41 (91.1%)	4 (8.9%)

Source: primary data (2020-2021)

Nurses' Responsibility in Fall Prevention to Maintain the Quality of Care.

Nurses reported that they always obey and discipline in performing intervention to prevent falls among children. This indicated that nurses have sense of responsibility to mitigate the fall risks.

Participant 1: "…… Our colleague concern to raise the bed rails, so after this, raising again the following the standard. Labeling… labeling the patient's identity must have been done, because every time we perform any action we must validate. Those has been done, so the bracelet has been installed from the admission, if we want to take any action, we must confirm that the bed rails have been properly installed. We always perform the measures in orderly manner"

Participant 3: "…. for us as nurses to prevent possible injury is important since the patient is currently ill, for example if a fall occurs it will double the pain."

The nurse stated that if patient is being hospitalized, fall prevention is such an important thing. If fall accident takes place, it will add the burden for patient and family and stipulates the poor quality of hospital services. It validates that nurse want to maintain the quality of services that being provided to the patients.

Participant 4: "…… oh yeah… the thing is that if a patient is being treated and fall, it seems as if we don't have any supervision from the hospital, weighing the burden to the patient. So, for example, if a patient experiencing fever and injury, it worse the burden for patient and their family especially due to the illness. The second is from the economy and financial burden. Beside that for the hospital, it affects the reputation. If it is happened, patients get injured."

Participant 6: "….. Because for children is not only the children … Even among adult's fall in the hospital harms the patient. Consequently, there must be another trauma and examination, for example falls in the hospital causing hematoma on the patient's head or a broken bone. It causes more suffer and we as a nurses need to avoid those injuries."

DISCUSSION

Child and Family Characteristics contribute to Falls Incidence

The incidence of falls in pediatric ward mostly caused by uncooperative parents and children even though they have been given explanations and education about fall prevention. However, the falls incidence among hospitalized children is an adverse event in the hospital fall prevention is one of the patient safety indicator (Sakit, 2017). Children, especially toddler age, tend to actively move and most children are not aware of the surrounding hazards. It's one of the factors that cause falls among children. Hospitalized children are at risk for falling, due to the influence of drugs, alteration in mental status, changes in mobility, postoperative conditions and previous falls history (M. Hockenberry et al., 2015). The child's age greatly affect the incidence of fall in children where toddler have greater risk for fall than other age group (Astuti et al., 2021).

Periodical Fall Assessment and Education

Every pediatric patient who has just admitted to the hospital or to the ward evaluated using the Humpty Dumpty scale to determine the risk for fall score. Inadequate assessment increase the risk of falling among children (Commission, 2017). Study finding indicated that of risk assessment is important especially for pediatric patients to minimize the fall incidence especially when children are being hospitalized.

The risk assessment in children carried out using the Humpty Dumpty Scale . This scale is generally adopted for children age 0-18 years in inpatient units. The availability of fall risk assessment method and standard operating procedures are supporting factors for the implementation of patient's risk assessment and education for families in the ward.

Assessment and education performed regularly not only at the admission but also every time the nurse conduct observations or during shift handover. It represents nurses' high awareness to implement fall prevention measures in pediatric patients. Nurses holds important roles in fall prevention, including fall risk assessment and screening documentation (for Healthcare Research, 2013). The role have been implemented by the nurses although there are few remains not performing the documentation.

Comprehensive Nurses and Hospital Fall Prevention Measures

Intervention taken by nurses to mitigate the fall incidence have been carried out

comprehensively. It is confirmed that 100% of nurses have made efforts to prevent falls in accordance with the hospital. Actions taken includes providing education, families and patients orientation in new environment, risk for fall labelling, keeping the floor not slippery and ensure adequate lighting. Nurses work closely with families and other professionals in the hospital to maintain safe environment and prevent falls incidence. Efforts that have been made by nurses are in accordance with recommendation about fall prevention by (Choi & Hector, 2012; Miake-Lye et al., 2013)

Hospital support children fall prevention by providing bed facilities that equipped with safety equipment, although there are few beds with issues. Hospital also provides leaflets as a medium to deliver fall prevention education. Cleaning personnel who regularly cleans the floor and maintain non-slippery surface as well as quick and responsive technical teams who repairs damaged bed are also important assets in comprehensive fall prevention measures especially in pediatric patients. The hospital also caters a flexibility family members to guard the children in promoting the safety supervision.

Nurses Responsibility for Fall Prevention to Maintain Quality of Care.

Nurses' awareness of service quality is excellent. It is demonstrated by nurses who hold important role in fall prevention. Nurses responsible for patient safety because if the patient falls during the hospitalization, it denotes poor quality of service which affect hospital reputation. Falls in the hospital cause an excessive physical and economic burden toward patients and families. Nurses pointed awareness of the fall incidence and share responsibility in the fall prevention management (King et al., 2018; Schwendimann & Bühler, 2006).

CONCLUSION

Disobedient parents and children causes falls in pediatric ward. Nurses perform assessments and education during the patient admission and periodically in the shift as well as handover. One hundred percent of nurses have taken action in fall prevention following the hospital standard. Nurses provide education, family and patient orientation, risk labelling, maintain non-slippery floor surfaces and provide adequate lighting. Nurses have a high awareness to maintain quality of service by

performing fall prevention management in the pediatric ward.

REFERENCES

Astuti, N. P., Dos Santos, O. S. C., Indah, E. S., & Pirena, E. (2021). Upaya pencegahan pasien resiko jatuh dalam pelaksanaan asuhan keperawatan di rumah sakit. *Jurnal Manajemen Asuhan Keperawatan*, *5*(2), 81–89.

Choi, M., & Hector, M. (2012). Effectiveness of intervention programs in preventing falls: a systematic review of recent 10 years and meta-analysis. *Journal of the American Medical Directors Association*, *13*(2), 188-e13.

Commission, J. (2017). Sentinel Event Alert 55: preventing falls and fall-related injuries in health care facilities. 2015. *URL: Http://Www. Jointcommission Org/Assets/1/18/SEA_55 Pdf [Accessed 2019-01-15]*.

Force, C. H. C. of A. N. F. S. T. (2009). Pediatric falls: state of the science. *Pediatric Nursing*, *35*(4), 227–231.

for Healthcare Research, A. (2013). *Preventing Falls in Hospitals: A Toolkit for Improving Quality of Care*. www.ahrq.gov

Hockenberry, M. J., & Wilson, D. (2008). *Clinical Companion for Wong's Essentials of Pediatric Nursing*. Elsevier Health Sciences.

Hockenberry, M., Wilson, D., & Rodgers, C. (2015). *Wong's nursing care of infants and children, ten edition*. USA: Elsevier.

King, B., Pecanac, K., Krupp, A., Liebzeit, D., & Mahoney, J. (2018). Impact of fall prevention on nurses and care of fall risk patients. *The Gerontologist*, *58*(2), 331–340.

Miake-Lye, I. M., Hempel, S., Ganz, D. A., & Shekelle, P. G. (2013). Inpatient fall prevention programs as a patient safety strategy: a systematic review. *Annals of Internal Medicine*, *158*(5_Part_2), 390–396.

Sakit, K. A. R. (2017). Standar nasional akreditasi rumah sakit edisi 1. *Jakarta: Komisi Akreditasi Rumah Sakit*, 217–225.

Schwendimann, R., & Bühler, H. (2006). Fall prevention in a Swiss acute care hospital setting: Reducing multiple falls. *Journal of Gerontological Nursing*, *32*(3), 13.