

## Conference Paper

# Nursing Practice towards Pediatric Medication Process in Yogyakarta's Private Hospital Indonesia

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## Abstract

**Background:** Pediatric medication safety is a greater challenge in patient safety practice. Patient safety is a quality indicator of health care. Nurses have an important role to achieve safety medication. **Objective:** To describe the nursing practice based on safety medication process. **Methods:** An observational study in 90 medication administration was conducted in May until August 2016 in one of private hospital in Yogyakarta, Indonesia. Fifty data from medical record used as a secondary data. Observation and document study was performed by two research assistants. Healthy Futures Medication Administration Skills Checklist used to collect the data of ordering, dispensing, administration and monitoring of medication process. Descriptive analytic used to analyse the data. **Results:** Regarding of the four step of implementation medication safety process during ordering phase, twenty five medication documentation in medical record were not complete. In dispensing phase, more than a half nurses observed (63,3%) were not give explanation about the medication. All of nurses have done five right principle but almost of nurses were not do the right documentation. Most of the medical record (88,9%) were not documented the side effect of drug and more than a half medical record (66,7%) were not have complete documentaion of medication effect. **Conclusion:** Poor documentation practice can give negative impact in medication safety that contribute medication error. Nurses could utilize the electronic medical record to increase quality medication safety.

**Keywords:** Nursing, Medication, Process, Patient Safety

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## 1. Introduction

Patient safety is the biggest challenge and becomes a basic principle in health services [1]. WHO sets six international goals for patient safety as a way to improve the quality of health and patient safety services. One of the six targets is an increase in drug safety that needs to be aware of [2]. Error in drug administration is one of the dangers that threatens patient safety. In Indonesia, medication error ranks first in the top 10 reported incidents [3]. Nurses as professional health workers have an important role

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in realizing patient safety, but nurses are also very risky to make medication errors [4]. The incidence of medication errors committed by nurses in one hospital in Indonesia reached 81% and medication errors that occurred in elderly patients reached 1.563 cases. All medication errors occur at the administration stage performed by nurses [5, 6]. However, the incidence of medication errors in children in Indonesia is unclear due to lack of research on medication errors in children.

Types of medication error occurrences are medication dosage errors and infusion droplet speeds caused by unclear and inadequate information about drugs and naming of drugs [7]. The occurrence of medication errors in children, especially in the emergency room, often occurs and is caused by a lack of knowledge of health workers about the formulation and dosage of drugs in children, unclear drug orders and lack of ability to use information technology in medicine [8].

The process of treatment in patients becomes routine activities of the nurses starting from the preparation, administration and evaluation as well as documentation of the drugs given [9]. Nurses need to ensure that the drugs prepared and given are safe for patients. Nurses are also responsible for reducing the incidence of medication errors by having a high awareness of the risk of errors in drug administration [10]. Moreover, nurses have the responsibility of carrying out 5 correct principles in administering drugs thereby reducing the risk of medication errors. Based on these data above, it is necessary to identify the practice of nurses in medicine.

## 2. Methods

### 2.1. Study design

This study used a quantitative descriptive study with an observational study approach. This study aimed to describe the nursing practice in ordering, preparation, administration and monitoring stages.

### 2.2. Sample

The population in this study were all nurses in the pediatric care ward of one private hospital in Yogyakarta. The sample in this study used a total sampling population, that was all implementing nurses in the ward (30 nurses).

### 2.3. Instrument

The instruments used in this study were observation guidelines and documentation study sheets such as Healthy Futures Medication Administration Skills Checklist dari Early Childhood Education Linkage System (ECLS) Healthy Child Care Pennsylvania. This guideline is used to see the practice of nurses when conducting assessments, administering drugs and documenting treatment measures in pediatric patients. Each checklist item will be given a value of 2: if all were done or documented, 1: if partially done or documented, 0: if not done or documented.

### 2.4. Data collection procedure

Data collection conducted in this study included participant observation and study of documentation from May to August 2016. Data collection to see nurses' practices at the ordering and monitoring stages was conducted by documentation studies in 50 medical records, conducted in conjunction with observation activities. Data collection by observation was performed 90 times, where each nurse was observed 3 times in the morning and afternoon shifts. Observational data collection is used to see nursing practice at the preparation and administration stages, while the documentation study was carried out to see nurses' practices at the ordering and monitoring stages.

### 2.5. Data analysis

Data analysis of observations and documentation studies were analyzed by descriptive analysis to determine the percentages using Microsoft Excel.

## 3. Results

All nurses who were respondents in this study were women, nearly half of them had year of service more than 9 years (45.7%) and most of them were Nursing Diploma III graduates (82.8%). The results of the documentation study on 50 medical records showed that documentation about the treatment explanation was incomplete (50%). Documentation for assessment of a patient's medication history last treatment (84%) and history of allergy were complete (86%), this data showed in Table 1.

At the preparation stage the nurse prepares the medicine and explains the medicine to be given. All nurses check and prepare the amount of drugs according to the program

TABLE 1: Result of study documentation in medical record in Ordering Phase (n=50).

Items Documentation Study	Not Complete Documentation n (%)	Complete Documentation n (%)
The Children's history include: The health status of children History of previous medication History of allergies	8(16)7(14)	50 (100)42(84)43(86)

(100%), but nurse did not explain the function of the drug given (63.3%), all the data are showed in Table 2.

TABLE 2: Results of observation and study documentation dispensing stage (n=90).

Item of observation	No n (%)	Yes n (%)
Preparatio of medication include:		
Nurses check the amount of medication to be administered		90 (100)
Nurses prepare appropriate medication program		90 (100)
The nurse explained to the child and family include:		
Explaining the name of the medication	40 (44.4)	50 (55.6)
Explaining the function of medication administered	57 (63.3)	33 (36.7)
Explaining the mode of administration	48 (53.3)	42 (46.7)

All nurses administered drugs with 5 correct principles (100%), but its documentation had not been done completely (97.8%) (Table 3).

TABLE 3: Result of observation administration stage: six right principles in the pediatric (n=90).

Item of Observation	No n (%)	Yes n (%)
Administration Stage include:		
Right patient		90 (100)
Right medication		90 (100)
Right dosage		90 (100)
Right route		90 (100)
Right time		90 (100)
Right documentation	88 (97.8)	2 (2.2)

Documentation at the monitoring stage regarding the effects of treatment was not yet complete (66.7%) and side effects of the drug were not done completely (88.9%) (Table 4).

TABLE 4: Result of observation stage of monitoring in the pediatric ward (n=90).

Item of observation	No n (%)	Yes n (%)
Monitoring Stage include:		
Effects of treatment: the documentation of patient reports about the expected response of medication administered	60(66.7)	30(33.3)
Side effects: there is documentation of the patient's reporting unexpected response: allergic reactions or side effects	80(88.9)	10(11.1)

## 4. Discussion

Based on descriptive data analysis, documentation about the treatment explanation in patients was incomplete (50%). This can be interpreted that the nurse gives an explanation but does not document or even not provide an explanation of treatment to patients and families. Documentation of the assessment of the last treatment history was complete (84%) and the history of children allergies were also complete (86%). Nurses need to examine the history of drug allergy and medication that has been used previously, this is done to determine the right treatment and possible drug interactions, so that the safety of treatment in patients can be achieved [11, 13]. Assessment is the first step in the process of nursing where the nurse on duty to collect data, analyze and organize the data. At the assessment stage the nurse gathers objective and subjective data including the patient's medical history [14]. If the assessment of the patient's treatment history is incomplete, it can cause medication errors [15].

All nurses checked the amount of drugs to be given and prepare the drugs according to the program (100%), but the documentation that the drugs had been checked was incomplete (77.8%). Based on the data above, it showed the nurse's awareness of the safety of treatments in patients was quite high as evidenced by nurses always checking the amount of medicine to be given and preparing it according to the program. Nurses play a role in preventing medication errors by checking the drugs to be given [16]. Checking drugs that will be given include the name of the drug, dose, method and frequency of drug administration [17]. Incomplete documentation can cause errors in interpretation so that it can cause errors and adverse event [18]. At the time of observation, the nurse did not explain in detail the drugs to be given specifically the function of the drug. This shows that the incomplete documentation about explanation of treatment in patients due to the nurses did not provide an explanation to the patient. The nurse have to provide education about drugs given to the patient and family to

increase the patient's knowledge. Providing education to patients and families about medication helps reduce medication error and improve treatment safety [2]. All nurses had implemented 5 correct principles, namely correct patient, correct drug, correct dose, correct time and correct method, however, in terms of correct documentation was still incomplete (97.8%). Correct documentation was only performed in part, that is, nurses only write names or only sign after giving the drug. Nurses' awareness of patient safety, especially the safety of medication is very high, this is evidenced by all nurses giving medicines by implementing 5 correct principles. The principle of correct documentation had not been carried out completely by nurses. Correct documentation in drug administration means documenting drug administration after being given [19]. Proper and accurate documentation plays a role in increasing the safety of treatment in patients, then the documentation must be done clearly and unambiguously so as not to cause a different perception of others [2]. The results of documentation studies about monitoring of drug response or drug side effects were incomplete, this mean that nurses had not performed complete monitoring of drug responses or drug side effects. Monitoring of the response and side effects of drugs that have been given is the responsibility of the nurse to evaluate the patient's response to treatment given specifically the patient's physiological response [16]. If the patient has an allergy and it is not documented then the doctor can give the same type of drug to the patient and several drugs can provide side effects within a certain period and can cause serious problems. Lack of nurse knowledge about the drugs given both the expected effects, side effects and allergic reactions that may arise can lead to lack of motivation of nurses to monitor so that no unexpected drug reactions are reported [20].

## 5. Conclusion

At the ordering stage, the nurse conducted a history of treatment and explanation of treatment but the documentation is incomplete. In the preparation stage, all nurses check the drugs and prepare the drugs according to the program but the drug checking documentation is incomplete. All nurses administer drugs with 5 correct principles at the drug administration stage, however not all nurses do correct documentation. In the final stage of the monitoring stage, nurses have not documented completely about the effects of treatment and side effects of treatment.

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