

# THE IMPLEMENTATION OF FIVE RIGHTS OF MEDICATION ADMINISTRATION BY NURSES AT A PRIVATE HOSPITAL IN WESTERN INDONESIA

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## ABSTRACT

This study aimed to observe how nurses implement five rights. The initial survey of ten nurses in an inpatient department showed that 50 % did not adhere to hospital standard operating procedure when administrating the drugs to patients, and the majority had never performed five rights check before, which is harmful to patients. This study used a quantitative descriptive method. The sample for this study was purposive sampling; researchers have observed 33 nurses from three departments including the emergency, Inpatient, and Intensive Care Unit departments at one private hospital in Indonesia. A standard operating procedure for the hospital was used as an instrument. Researchers observed nurses without letting them know when the day observing would begin. 84.85% of them have worked more than a year in the hospital. 18.18% of nurses did not check the right patient, 12.12% did not check the right drug, 18.18% did not check the right dose, 9.09% did not give the medication at the right time, and 3.03% did not give the medicine with the right route. Most nurses followed hospital standard operating procedures by implementing all five rights checks before administrating the medications to patients. For the hospital management, it is suggested to facilitate the nurses with more training or workshop about the implementation of the five rights or the role of nurses as medication administrators.

**Keywords:** Administration, Drug, Implementation, Nurses.

## INTRODUCTION

Medication administration errors are common even in hospitals. Physicians have delegated nurses to administer the drugs to patients, so physicians and nurses have evolved in response (Cima & Clarke, 2012). Medication errors are the common cause of patient harm (Huynh *et al.*, 2016) in the United States, that approximately 7.000 patients be victims of medication errors by healthcare providers, and nurses have implemented 38% of them. So, the problem is a big issue for medication patients' safety. Cheragi *et al.* (2013) reported that nurses, the standard error, had made 64.55% of

medication errors because nurses did the wrong doses and incorrectly calculated the infusion drip.

Based on WHO (2017), medication errors are caused by some factors, which are a weak medication system, the negligence of human resources, fatigue dan environmental issues. Those factors affected the error, and the error frequently happens during administration. The error can trigger danger and even death to the patients. Globally, the case of medication error is estimated to take cost US\$ 42 billion. The global patient safety challenge on medication safety, though

focusing on improving medication safety by reducing medication error and service level, avoids harm-related medication by 50% over five years.

Indonesia does not have a special system to record medication error data that had happened. In their study, Manal and Hanan (2012) explain that reporting the incident of medication error is very important; every hospital has a legal report about any incident. The incident can be based on data about the problem and quality of service to prevent future errors. However, some health care providers are afraid to report the incident for fear of being blamed.

Budihardjo (2017) has been studying research about the skills of nurses as drug administrators to the patients in the inpatient department at Haji's general hospital, Surabaya. The results showed that 42.9% of nurses had enough skills and 57.9% had good skills as drug administrators. Another study about analysis of medication error in ICU patients at second hospitals showed that the error were more going on in administration. Meanwhile, at ICU RSUD Baubau, the percentage reached 46.91% and at ICU RS Santa Anna Kendari, the percentage reached 42.6%. The factors which influenced encompassing

professional health care providers, facilities, and documentation (Hartati et al., 2014). Diongano et al., (2020) reported that 70.59% nurses do not comply in applying the five right principles of drug administration.

A private hospital in west Indonesia implemented five rights. Based on primary data from a private hospital in west Indonesia years 2018-2019, incident about medication errors have been reported by nurses, eight cases of nurses giving the wrong dose to the patient, fourth cases of harmful drugs, and two cases of wrong patients. Thus, based on that data, researchers observed ten nurses in the inpatient department to see how nurses implemented five right checks before administering drugs to the patients. The result was that 50% did not follow the hospital standard procedure when giving the drugs. the primary data then attracted researchers' interest to figure out the nurses' behavior in implementing five rights in three departments in that hospital.

## **METHOD**

This study used a quantitative descriptive method and used ethical considerations based on Polit and Beck (2012). The researcher gave an informed consent form after the researchers explain about the

researcher, and all respondents had an autonomous choice to be respondents or decline to join this study. The researcher explained how long the investigation would take but did not explain in detail the actual time to observe them, that was to avoid biased results because if the nurses knew when they would be observed, they would do it according to the hospital procedure.

The population of this study were all the nurses in the third departments (Inpatient, ICU, and Emergency) at a private hospital in Indonesia, totaling 48 nurses. Hulley *et al.* (2013) explain that the sample is the selection criteria of the population. The sample of this study was chosen using purposive sampling, with the following inclusion criteria: 1) The nurses are not on probation, and 2) The sample should be associate nurses, not primary nurses. The 33 respondents of this research had completed the criteria and had agreed to be respondents.

The research instrument was a checklist form made of Hospital Standard Operational Procedure (SOP) used at a private hospital in Indonesia. The hospital's SOP has five criteria based on five proper implementations; the criteria have explained 21 steps that nurses should do before and during administering patients' medication.

The instrument was a checklist developed by the researcher using Guttman Scale. If the nurses are doing the step, they will tick "Yes"; if not doing it, they will tick "No." Researchers had observed 33 nurses in the third departments (Inpatient, ICU, and Emergency). The researcher observed nurses randomly for ten days (10-20 July 2019).

The researchers explained formally to all nurses the purpose of their study. After explaining, the researchers gave informed consent to every targeted nurses, in relation to purpose, ethical consideration, time study, the common identity of the respondents, demographic data such as working experience and sign about the agreement. All the nurses had agreed to be respondents and to be observed by the researchers before and during medication administration to the patients. The researchers followed each nurse while preparing clean utilities and administering medication to a patient. To avoid getting biased data, the researchers followed the nurses constantly for ten days and takes an event randomly to observe when the nurses administrate medication. The researchers brought a minor note containing the hospital's SOP about medication administration. The note is private, so no one was allowed to read nor see the contents, except the researcher. The

researchers will tick it secretly, not in front of the nurse being observed. All the data were managed using a computer through four steps; editing, coding, cleaning, and scoring using SPSS version 18 software to get statistic data.

The variables analyzed were demographic data and five right components: right patient, right drug, right dose, right time, and right route. The results of this analysis were grouped by criteria, distributed frequency and percentage in every variable in the table. The table presents proportion and ratio. Descriptive analysis was input manually with computer and counting the result of observation directly.

This research had been approved by the Ethics Committee of Faculty of Nursing, Pelita Harapan University with ethical number 013/RCTC-EC/R/SHTBBGR/VI/2019. A private hospital, where this research took place, had also permitted it.

## RESULT

This study observed 33 nurses in three departments, Inpatient, ICU, and Emergency, who was implementing five rights for patient safety. Respondents' characteristics in this study were based on demographic data such as gender, age, working experience in the hospital, and working experience in the departments.

**Table 1.** Demographic Data Characteristics of Respondents (n=33)

<b>Characteristics</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	11	33.33
Female	22	66.67
<b>Age (year)</b>		
17-25	15	45.45
26-35	16	48.48
36-45	2	6.07
<b>Working Experience</b>		
≤ 1 year	5	15.15
>1 year	28	84.85
<b>Departments</b>		
Inpatient	15	54.55
ICU	8	24.24
Emergency	7	21.21

Based on the table above, most of the respondents were female with a percentage of 66.67%, while male respondents were

48.48%. The respondents' age ranged from 26-35 years old. 85.85% of the respondents had more than one year working experience

in a hospital as associate nurses and 54.55% respondents have been working in the inpatient department. Hospital procedure for five rights is divided into two assessments;

implemented, or not implemented, below is the table showing the distributed implementation of five rights.

**Table 2.** Distribution of Respondents to Implementation of Five Rights (n=33)

<b>Characteristics</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<b>Right Patient</b>		
Implemented	27	81.82
Non implemented	6	18.18
<b>Right Drug</b>		
Implemented	29	87.88
Non implemented	4	12.12
<b>Right Dose</b>		
Implemented	27	81.82
Non implemented	6	18.18
<b>Right Time</b>		
Implemented	30	90.91
Non implemented	3	9.09
<b>Right Route</b>		
Implemented	32	96.97
Non implemented	1	3.03

Based on the table above, 33 nurses (81.82%) had implemented the right patient, 87.88% nurses implemented the right drugs, 81.82% nurses implemented the right dose, 90.91% implemented the right time and 96.97% of nurses implemented the right route. Thus, most nurses have implemented the five rights before and during medication administration to the patients.

## DISCUSSION

This study revealed that most of the nurses have implemented five right before and during the administration of medication, and more than 80% of the criteria have been implemented. Even if the result is high, there

is a risk of medication harm. According to WHO (2017), all medication errors should be potentially avoidable, the potential risk of medication error can cause serious injury to patients, and health care professionals should not pose a high risk to the patients, medication patient's safety should be a priority in health care service.

According to Shohani & Tavan (2018), medication error is one of the most frequent nursing errors. Administration without a valid prescription, incorrect medication, route, patient, dose, and calculation, late or early administration, medication administered to a patient who was allergic to it, omitted drug, and failure to record are the

errors (Cathala & Moorley, 2020). According to a study by Shohani and Tavan (2018), internal factors such as fatigue (58.5%), personal nurse neglect (56%), heavy workload (65.6%), insufficient staffing, and high patient-to-nurse ratio (69.0%) influence medication administration by nurses.

A study by Waluyo (2015) shows that a nurse's medication error is caused by factors such as unsupportive environment, nurse position level, patient elderly age, pre-admission medication reconciliation, lack of knowledge about medication, and not wholly assessment of history and drug allergies. The incident of medication error is not only harmful to the patient but brings disadvantages in material and quality of service.

The percentage criteria implemented in this study are 81.82% right patients and dose. The survey by Anggraini and Fatimah (2016) showed factor causing the nurses did not do the right patient. This is because they did not do identification first before administration. Identification was not done because of some problems such as the language barrier, missing patient identification wristband, and wrong drugs labelling.

Based on this study, two of six nurses did not calculate the dose of drugs, and four nurses did not double-check with a primary nurse (nurse in charge). The most frequent medication errors were related to the number of doses and the infusion rate, while 77.4% were dose calculation errors caused by a lack of pharmacological knowledge and illegible patient records (Enaam-Al-Hagh et al., 2014). A study by Khairurrijal and Putriana (2018) showed some factors causing health care to make dosing errors, which was because they were less observant in calculating dosage due to lack of knowledge (Cheragi et al., 2013b). Moreover, the health care provider did not know how to convert to dose units. Miscommunication among the nurses and other professionals is also a triggering factor in this case.

This study has observed that two nurses did not give the medication at right time, and three nurses left the medication on the patient's table without making sure the medicine was taken at the right time. A study by Samiyu *et al.* (2018) reported that the highest number of medication errors in implemented five right is wrong time (52%). Furthermore, Khairurrijal and Putriana (2018) explained some of the errors that happen in the administration process. Time errors occurred many times because the

nurses cannot manage time properly. They also had high workload, and lack of communication between nurses with other professionals and patients. A further study showed that 55.6 % of nurses were too late or early in giving drugs; it happens because of nurses' fatigue, heavy work, and high patient-to-nurse ratio (Zarea et al., 2018).

This limitation of this study is the researchers do not see more deeply the relationship between demographic data and behaviour in implementing five rights by nurses. This study observes nurses once at a random time for ten days; because the nurses know that they will be followed for ten days. Some of them sometimes realize the presence of researchers, and hence, some of the researchers are unable to make close observations. The other limitation is that the hospital's SOP has five criteria about five rights, and each bar has another step with a different point. Researchers do not count specifically each step of the requirements; if the nurses do not implement a degree, the nurses are considered to skip the last criteria.

## **CONCLUSION**

Nurses have many roles for patients as health care providers; one of the nurse's roles is to collaborate with physicians to administer medicine appropriately. In practice, nurses

in inpatients administer medication to the patients more than once. This study describes the implementation of five rights of drug administration by nurses in a private hospital in Indonesia. It shows that 80% of the nurses have implemented five rights before and during medication administration to the patients. Moreover, the nurses understand and care about the hospital's SOP for medication safety. However, another finding shows that some nurses have not implemented the hospital's SOP entirely because of some issues and causes. First, they do not realize how important it is to enforce the five rights completely to avoid danger to patients. Second, the behavior can become a financial burden for the hospital.

The researchers expected to explore this topic more for the other research. For the hospital management, it is suggested to facilitate the nurses through training or workshop about the implementation of five rights or the role of nurses as medication administer to improve nurses' ability.

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