

The Relationship Between Communication with Risk Medication Errors in a Private Hospital

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ABSTRACT

Medication error is an error in treatment that can actually be avoided if the treatment process does not experience errors starting from writing prescriptions, reading prescriptions (transcribing), preparing drugs (dispensing), to the process of administering drugs. The research conducted was quantitative research using a descriptive design with a cross sectional approach. This research was conducted in a private hospital with a sample size of 46 nurses. The instruments of this study were checklist sheets for sociodemographics, communication and observation sheets for medication errors in the drug administration phase. Data analysis using SPSS 24 with chi square test. The results showed a relationship between communication with risk of the medication error in the drug administration phase with a p value <0.05. Conclusion: there is a relationship between communication with risk of the medication error in the drug administration phase. therefore, it is hoped that nurses can continue to improve communication between care professionals, especially in the process of administering drugs to prevent patient safety incidents.

Keywords: Medication error and Communication

INTRODUCTION

Patient safety is a top priority in healthcare. Patient safety is a basic principle of health care [1]. Meanwhile, according to the Ministry of Health, patient safety is a step to improve the quality of service in providing safe care to patients [2]. While other opinions say that patient safety is an important part of nursing services and is used as an indicator of the quality of hospital services [3]. So patient safety is a basic principle of health care that improves the quality of service and an important part of nursing services.

One form of unsuccessful patient safety is the presence of medication errors or drug administration errors. Medication errors are a problem that affects the safety of hospitalized patients.[4]. Medication errors are a challenge for healthcare workers, as they can cause long-term harm to patients and place a large financial burden on the healthcare system. [5]. Medication errors will harm or cause new diseases in patients (Reddy et al, 2022 [6]. So medication error is a problem that affects patient safety and a challenge for health workers as well as endangering patients or causing new diseases in patients.

Medication errors occur in almost all hospitals in the world. According to the data WHO, (2017) the average prevalence of medication errors in various hospitals in the world is 18.3%[1]. While the prevalence of medication errors in Malaysia is above the world average of 30.5%.[7]. Canada 19.5% [8]. Australia 19% [9]. and Iran 15.6% [10]. The prevalence of medication errors in Indonesia has not been recorded thoroughly, but several studies on the prevalence of medication errors in several Indonesian

hospitals are quite high, such as in Jakarta 37.7%. [11]. Palembang as much as 13.5% [12]. Manado 3.7% [13] West Sumatra 9.4% [14] This means that hospitals in the world are not free from medication errors.

The patient treatment process in Indonesia follows regulations set by the government. The Ministry of Health regulates the treatment process starting from prescribing, reading prescriptions (transcribing), preparing drugs (dispensing), to the process of administering drugs (drug administration). Khairurrijal & Putriana (2018) stated that the prescribing process is the doctor, transcribing, dispensing is pharmacy, and drug administration is the nurse. [15]. Medication errors occur at almost all stages of the treatment process.

According to Bonella et al. (2023) stated that prescribing errors are prescription errors that can cause serious harm to patients and harm to drugs [16]. According to Shawahna et al., (2019) stated that transcribing errors are errors that occur during the reading of prescriptions for the dispensing process [17]. Putra et al. (2017) stated that dispensing error is a failure in the treatment process in the form of drug distribution that leads to or has the potential to harm the patient and cause patient harm [18]. (Brabcová et al. 2023) stated that administration error is an error due to a discrepancy between what is received by the patient and what is prescribed. [4]. In this case, it is very important for health workers to pay attention to the safety of the drug administration process to avoid harm to patients.

Medication errors that harm patients can actually be avoided if the flow and stages are carried out in accordance with procedures. Some researchers state that Medication errors can occur in 4 phases, namely prescribing errors (prescribing errors), prescription translation errors (transcribing errors), errors in preparing and compounding drugs (dispensing errors) and errors in delivering drugs to patients or drug administration errors. [19][20][21].

Several studies have shown the incidence of medication errors at the prescribing, transcribing, dispensing and drug administration stages. Research Simegn et al. (2022) found that the overall prevalence of prescribing errors was 75.1%. [22]. According to Beatriz et al (2023) revealed that the most errors occurred at the prescribing stage (66.1%). [23]. Research results Sheikh et al. (2017) revealed the occurrence of prescribing errors in the treatment process where the absence of the patient's name in the prescription as much as 3.4%, did not include age as much as 78%. [19]. Meanwhile, in research Prasanna et al., (2020) prescribing errors as much as 37.66% [25]. In this case, health workers are still at risk of medication errors.

While Han et al. (2023) in Korea found that dispensing errors were 73.3% [26]. In Uganda, the African country was 8.97 (Dorothy et al. 2022). Maharaj et al. (2020) found that in Trinidad and Tobago hospital, Spain, medication errors at the drug preparation or dispensing stage were 2.1%. [27]. Meanwhile, in one of the Indonesian hospitals, an average of 0.2% was found. [28]. This shows that dispensing errors still occur in hospitals abroad and in Indonesia.

Research results Prasanna et al., (2020) said the prevalence of medication errors at the drug administration stage at Sri Rare Hospital was 50.5%. [25]. Manzo et al., (2019) in a Brazilian hospital, the dose error was 61.3%, the patient error was 4.1%, the drug error was 7.5%, the time error was 21%, the patient error was 4.1% and the wrong method of administration was 18.1%. [29]. Research Owens et al., (2020) in America 80% in the wrong dose, 15% in the wrong patient and 5% with the wrong method of administration. [30]. Meanwhile, research by Mekonen et al. (2020) (2020) in Ethiopian hospitals also found wrong documentation as much as 55%, wrong time 54%, wrong dose 35%, wrong drug 30.10%, wrong patient 28.30%. [31]. Research results Patintingan et al., (2019) found in Magelang hospital that

there were still medication errors found in the drug administration phase as much as 14.6%.[32]. In this case, it can be indicated that the hospital has not reached the standard in the process of administering drugs starting from the prescribing stage to drug administration where the minimum service standard set by the ministry of health correctly is 100% and 0% incidence of medication errors.

Several studies have found that the factors that influence medication errors are standard operating procedures, workload, communication and perception. According to Beatriz et al. (2023) said that the occurrence of medication errors is due to factors that do not comply with the procedure [23]. While Benawan et al., (2019) said that the factor in the occurrence of medication errors occurred due to poor communication[33]. The results of research by Donsu (2016) also found that high workload resulted in medication errors.[34]. Reddy et al., (2022) revealed that medication errors occur because the perception of health workers is still negative. [6]. In this case, it shows that the factors that influence medication errors are due to not carrying out according to procedures, poor communication, high workload and negative perceptions of health workers.

The impact that will occur if there is a medication error in the hospital is the impact of disability, hospital losses and even death. In the United States, more than 7 million patients are affected by medication errors and cause losses of more than 40 billion each year [35]. World Health Organization, (2018) reported that in some countries, 70% of medication errors lead to permanent disability in patients. The Institute of Medication (IOM) reported that there were unexpected events (KTD) in the administration of drugs in hospitalized patients in America as many as 44,000 patients and even 98,000 patients died due to medication errors and 7,000 cases died due to medication errors [36]. From the above data it can be concluded that the impact of medication errors includes disability, hospital losses. and even death, for that it is necessary to know the factors that cause medication errors.

Health workers including professional caregivers or PPAs have an important role and authority in medication. According to the regulation Ministry of Health, (2019) Article 18 of the Nursing Law states that PPA, especially nurses, have the authority to manage the administration of drugs to patients safely in accordance with the prescriptions given by the doctor.[37]. According to Nuryani, Dwiantoro & Nurmalia (2021) stated that nurses are directly responsible for the safe administration of drugs to patients [38].[38]. Regulation Ministry of Health of the Republic of Indonesia, no 34 (2021) In the appendix in section F regarding the standard of clinical pharmaceutical services, it is stated that the nurse is responsible for and plays a role in preparing and administering drugs based on the inventory system in the inpatient room. In this case, the role of nurses in administering drugs is one of direct responsibility and has the role of preparing drugs and providing drugs in accordance with what is prescribed.

Efforts to prevent medication errors by identifying the factors that cause the process of medication errors. According to Giannetta et al. (2023) stated that medication errors by identifying what factors are associated with medication errors with the strategic goal of planning ongoing activities and evaluating their impact on professional practice. [40]. The government has made guidelines and policies to prevent medication errors. [2][28]. The Ministry of Health, (2022) revealed that empowering managers to ascertain the causes of medication errors is the most effective strategy to prevent medication errors that harm patients. [41].

Meanwhile, based on the results of a preliminary study at Private Hospital, there are already guidelines on safe drug administration standards with the number ID / PER-DIR.RSI-SR / III / 2022. However, based on the results of preliminary study results and interviews with hospital quality in July 2023 that

medication error is a priority quality indicator for hospital in 2023 and August 2023 reports in the inpatient room still found 4 cases of patient safety incidents consisting of 1 case of KNC, 2 cases of KTC, 1 case of KTD. In this case, medication errors are still found in Private Hospital and efforts have been made to prevent medication errors by forming a patient safety quality improvement team and carrying out risk management in medication errors in the hospital.

Seeing the above phenomenon where if the causes and consequences of medication errors are not immediately followed up and last for a long period of time will result in disability, death and hospital losses. And researchers are interested in seeing the relationship between communication with Medication Error at private Hospital in 2024.

OBJECTIVE

The purpose of this study was to relationship between communication with Medication Error at private Hospital Padang in 2024.

METHODS

The research conducted was quantitative research using a descriptive design design with a cross sectional approach. In this study the population was nurse in hospitalization who ran medication at privat hospital, with a sample size of 46 respondents. The research was conducted at private hospital, and the research time was in the month March 27-April 31, 2024. The data collection instruments used in this study were nurse characteristics instruments to identify the characteristics of private hospital nurses and communication instruments and observation sheets containing observations of drug administration at private hospital. The independent variables in this study are communication and while the dependent variable is medication error in drug administration phase. Data collection techniques were carried out after obtaining ethical approval from Andalas University. Univariate analysis was performed to determine the frequency distribution of the characteristics of the research variables, namely gender, age, education, and length of employment. Bivariate analysis was conducted to see the relationship between communication and the risk of Medication Error..

RESULT

Univariate Analysis

1. Nurses Sociodemographics

Univariate analysis of sociodemographics including gender, age, education level and length of work can be seen in table 1.

Table 1. Socioemographic Frequency Distribution of Nurses Based on Gender, Age, Education Level and Length of Employment (n=46)

| Nurse sociodemographics | Category | f | (%) |
|-------------------------|-------------------|----|------|
| Gender | Male | 4 | 8,6 |
| | Female | 42 | 91.4 |
| | | | |
| | 17-25 Years (Late | 9 | 19,5 |

| | | | |
|-----------------------------|------------------------------|----|------|
| Age | Teens) | | |
| | 26-35 Years (Early Adult) | 23 | 50 |
| | 36-52 years old (Late Adult) | 14 | 30,5 |
| Education level | Vocational | 22 | 47,8 |
| | S1 | 1 | 2,7 |
| | Profession | 23 | 50 |
| Length of employment | ≤ 5 Years | 27 | 58,6 |
| | 5-10 Years | 4 | 8,7 |
| | 10-15Years | 15 | 32,7 |

Table 1.1 shows that almost all nurses are female (91.4%), half of the nurses are aged 26-35 years or early adulthood (50%), half of the nurses education level is vokasional education (54.7%), most of the most of the nurses length of work is <5 years (58.6%).

2. Communication and Risk Medication Error

Univariate analysis of communication and risk medication errors in the drug administration phase can be seen in table 2.

Table 2 Distribution of Frequency Communication And Risk Medication Error in The Drug Administration Phase at Private Hospital (n=46)

| Variables | Category | (f) | (%) |
|----------------------------|-------------|-----|------|
| Communication | Good enough | 14 | 30,4 |
| | Good | 32 | 69,6 |
| Drug Administration | Error | 12 | 26.1 |
| | No error | 34 | 73.9 |

Based on table 2 above, it can be seen that most nurses' communication (69,6%) is in the good category. And the results of medication errors in the drug administration phase mostly did not occur (73.9%) during the drug administration process at private hospital.

Bivariate Analysis

Data bivariat analysis using SPSS 24 with chi square test. The results of the study on bivariate analysis of the relationship between communication with the risk of medication error with a p value <0.05. with the results can be seen in tables 3.

Table 3. Relationship between communication with of medication error in the drug administration phase at private hospital (n=46 Nurses)

| Variables | Medication errors in the drug administration phase | | | | Total | | OR (95%CI) | P Value |
|-----------------------------|--|-------|----------|-------|-------|-----|------------|---------|
| | Error | | No Error | | | | | |
| | f | % | f | % | n | % | | |
| Gender | | | | | | | | |
| Male | 0 | 0 | 4 | 100 | 4 | 100 | 000 | 0,214 |
| Female | 12 | 28,57 | 30 | 71,43 | 42 | 100 | | |
| Age | | | | | | | | |
| 17-25 Years | 0 | 0 | 9 | 100 | 9 | 100 | 000 | 0,13 |
| 26-35 Years | 7 | 30,4 | 16 | 69,6 | 23 | 100 | | |
| 36-52 Years | 5 | 35,7 | 9 | 64,3 | 14 | 100 | | |
| Education Level | | | | | | | | |
| Vocational | 9 | 40,9 | 13 | 59,1 | 22 | 100 | 000 | 0,087 |
| S1 | 0 | 0 | 1 | 100 | 1 | 100 | | |
| Profession | 3 | 13,1 | 20 | 86,9 | 23 | 100 | | |
| Length of employment | | | | | | | | |
| ≤ 5 Years | 7 | 25,9 | 20 | 74,1 | 27 | 100 | 000 | 0,997 |
| 5-10 years | 1 | 0 | 3 | 100 | 4 | 100 | | |
| 11-15 Years | 4 | 26,6 | 11 | 73,4 | 15 | 100 | | |
| Communication | | | | | | | | |
| Good enough | 7 | 50 | 7 | 50 | 14 | 100 | 5,40 | 0,015 |
| Good | 5 | 15 | 27 | 85 | 32 | 100 | | |

Based on table 7. shows that the relationship between socio-demographics with the risk of medication error using the chi-square test obtained a p value > 0.05 which means that there is no significant relationship between gender, age, education level and length of work with the risk of medication error in the drug administration phase. While seen from the relationship between communication, with the risk of medication error, the p value < 0.05 means that there is a relationship between communication with the risk of medication error in the drug administration phase. It is also seen that the OR value = 5,40 which means that nurses in the inpatient room installation of private hospital with sufficient communication 5.4 times have a risk of making drug administration errors compared to nurses whose communication is good. in other words, nurses whose communication is good enough are at risk of medication errors at the drug administration error stage compared to nurses whose communication is good.

DISCUSSION

This study was conducted in the phase of drug administration to nurses who carry out treatment in the inpatient setting of private hospital by considering that this stage is the last phase of medication so as to

minimize errors in drug administration to patients. The results showed the sociodemographics of nurses at private hospital during March-April 2024. It was found that whatever the gender of the nurses, whatever the age level of the nurses, whatever the level of education of the nurses and whatever the length of work of the nurses, average, all of them showed a lot of non-errors. The results of the relationship analysis with the chi-square test obtained a p value > 0.05 which means that there is no significant relationship between gender, age, education level and length of work with the risk of medication errors in the drug administration phase.

almost all nurses are female. Corroborated by Gloria's research (2017) in one of the Palembang hospitals also shows that almost all nurse are female compared to man [12]. Corroborated by research by Buhari et al (2018) states that the female gender in hospitals is twice as much as men[3]. Work that relies more on muscle will be better to use male workers while work that prioritizes accuracy will be good to use female workers [18]. It is assumed that in this study, jobs that require accuracy and the female gender do more treatment than men.

half of all nurses are in the range of 26-35 years old or early adulthood, this is in line with the research of Buhari et al (2018) which shows that most of the nurses age is in the 26-35 range. According to Probosiwi et al (2019) stated that performance decreases with increasing age this is because physical skills such as speed, strength, and coordination will decrease with age [42]. It can be assumed in this study that the age of nurses in hospitalization is in early adulthood and has not yet entered late adulthood or old age.

Most of the nurse education level had a vocational education. This is supported by the research of Siagian et al (2019) which states that most of the nurses education levels are vocational compared to professional education levels in carrying out the drug administration process.[43]. According to Gloria et al (2017) said that a person's level of education can be a measure of the extent to which the officer's understanding of the procedures and principles that apply within the scope of his work[12]. And the researcher's assumption that the private hospital has many human resources or nurses who have a dominant vocational education level, and they are equipped with practices and theories that prioritize practice only.

Most of the nurses length of employment is <5 years. This is in line with the research of Nursanty and Rum (2023) which showed that most of the nurses length of work in one of the western Java hospitals was <5 years[44]. According to olii et all (2023) stated that length of work can be said to be labor loyalty to the hospital[45]. Length of service is also one of the individual factors that influence a person's performance behavior. Officers who have worked for a long time will have more experience than officers who have to work, with more experience, officers can more easily find out how to solve a problem, especially in the problem of medication errors [44]. The researcher assumes that nurse who have been working for a long time will have more experience than nurses who have just started working, with more experience it is expected that nurses can more easily find ways to complete work, especially in treatment.

Medication errors in the drug administration phase are almost half at risk with errors during the process of administering drugs to patients at private hospital. This is in line with the research of Wijaya et al (2018) which revealed that medication errors in the drug administration phase were mostly at risk of error[46]. Corroborated by research by Aswatun et al (2019) which found that almost half of medication errors in the drug administration error phase[47]. this shows that at private hospital there is a risk of medication error in the drug administration phase which will have an impact on patient safety.

According to the researcher's assumption that although the risk of medication error is still low in the drug administration phase during the process of administering drugs to patients, nurses who make mistakes have not reached the level of inaccuracy in the six correct principles of recording the patient's name, drug administered, dose, and method of drug administration in the patient's status and this is still a major problem that needs attention. This suggests that the medication documentation system needs to be improved to ensure the accuracy of information and proper medication management to reduce the risk of medication errors that could potentially impact on patient safety incidents.

The risk of medication errors caused by a lack of communication between nurses and health workers obtained results showing that half of the nurses' communication is quite good at risk of error compared to good communication which is not at risk of error and there was a relationship between communication and the risk of medication errors at the stage of drug administration with a p value <0.05 . Supported by Gloria's research (2017) which states that there is a relationship between communication and medication error [12]. Good communication between nurse is the key to patient safety (WHO, 2017). Good communication between nurses is the key to patient safety [1]. Based on research presented in the WHO article "learning from errors (2019)", it was found that more than 60% of errors that occurred were due to lack of communication. From the presentation of the results of the study, it can be concluded that the better the communication between nurses and PPA, the smaller the incidence of medication errors in hospitals. Johariyah & Kustiningsih, (2018) states that it is necessary to improve good communication with other care giving professionals by attending training for nurses who have the potential to make mistakes[48]. So, in this case, communication between nurses and care professionals is very important for patient safety.

CONCLUSION

Based on the sociodemographics of nurse, it shows that almost all nurses are female, half of the nurses are 26-35 years old or early adulthood, half of the nurses education level is vocational education, most of the nurses tenure is <5 years. It can be seen that most nurses communication is in the good category. And the results of medication errors in the drug administration phase mostly did not occur during the drug administration process at private hospital. There was no significant relationship between gender, age, education level and years of service with the risk of medication errors in the drug administration phase. and there was a relationship between communication and the risk of medication errors in the drug administration phase.

CONFLICT OF INTEREST

The authors declare that in this study there is no potential conflict of interest related to the research, authorship, and/or publication of this study.

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