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Original Research

CORRELATION COMMUNICATION FACTOR WITH PATIENT SAFETY INCIDENTS

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Abstract

Background

According to the seventh standard of hospital patient safety, effective communication is crucial for staff to ensure patient safety. Patient safety incidents can often be traced back to miscommunication, which can be avoided through clear and effective communication. The purpose of this research is to explain the correlation between communication factors and patient safety incidents at Hospital X.

Methods

The study utilized a cross-sectional design, employing purposive sampling to select 30 nurses working in the inpatient unit. The independent variables included communication among nurses, communication between nurses and doctors, communication between nurses and medical support departments, and communication between nurses and patients. The dependent variable was the occurrence of patient safety incidents. Data were gathered through observation and analyzed using the chi- square test, with a significance level set at p-value < 0.05.

Results

The results showed that there was a correlation between interracial nurse communication with the patient safety incident (p-value = 0.001). There was a correlation between nurse and doctor communication with the patient safety incident (p-value = 0.000). There was a correlation between the communication nurse and the medical support department with the patient safety incident (p-value = 0.000). There was a correlation between nurse and patient communication with the patient safety incident (p-value = 0.000).

Conclusion

Nurses who possess strong and effective communication skills can help prevent patient safety incidents. To achieve this, it is essential to enhance knowledge about communication, provide training on patient safety, and ensure compliance among nurses with the implementation of standard operating procedures, along with support from hospital leadership in supervision.

Keywords: Communication; Patient Safety; Risk Management

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INTRODUCTION

Patient safety is a fundamental principle in healthcare services, affirming that every patient has the right to receive protection while receiving healthcare services (Ministry of Health of the Republic of Indonesia, 2006). Patient safety incidents, hereafter referred to as incidents, encompass any unintended events that may cause or have the potential to cause preventable harm. These incidents include Adverse Events (KTD), Near Misses (KNC), Non-Injury Events (KTC), Potential Injury Events (KPC), and Sentinel Events (Ministry of Health Regulation, 2011). Patient safety incidents are serious issues and have the potential to cause significant harm to patients, healthcare workers, and the healthcare system as a whole. Poor communication is one of the leading causes of medical errors, which are often preventable and can result in significant harm to patients. Errors related to communication can happen in several ways, such as: incomplete or inaccurate information exchange, delayed communication, ambiguity or misunderstanding (Topcu et al., 2017).

Reports of patient safety incidents in Indonesia recorded 145 events in 2006-2007, 61 in 2008, 114 in 2009, 103 in 2010, and 34 in 2011 (KKP-RS, 2011). Near Misses were more frequently reported, accounting for 47.6%, compared to Adverse Events, which accounted for 46.2% (KKP-RS, 2008). Preliminary studies show that patient safety incidents at Hospital X increased by 7.4% to 14.6% from 2010 to 2013, whereas, according to patient safety goals, the ideal incident rate should be 0% or decrease to no incidents at all. The main cause of patient safety incidents at Hospital X from 2020 to 2022 was ineffective communication, which accounted for 29.3%, followed by errors in applying the six rights principle of medication administration, which occurred in 19.5% of cases.

One of the contributing factors to patient safety incidents is communication issues, both verbal and written. This includes communication between nurses, between nurses and doctors, between nurses and patients, as well as communication between nurses and other healthcare professionals (Rahayu et al., 2019). According to the seven hospital patient safety standards, one of the most important is communication, which plays a key role for staff in achieving patient safety (Müller et al., 2018). If a hospital neglects and fails to implement patient safety measures, it can reduce public trust in healthcare services and impact the overall quality of hospital services.

Effective communication, both verbal and written, can help prevent patient safety incidents, thereby achieving optimal patient health outcomes and improving the quality of

services at Hospital X. By improving communication, increasing training, adopting appropriate technology, and implementing a strong safety culture, the risk of patient safety incidents can be reduced, resulting in safer healthcare delivery. Based on this background, the researcher is interested in conducting a study on 'The Relationship Between Communication Factors and Patient Safety Incidents.' The purpose of this research is to explain the correlation between communication factors and patient safety incidents at Hospital X.

METHODS

Research Design

This study uses a cross-sectional approach. This study observes variables of communication factors and patient safety incidents from nurses at a single point in time, without influencing them.

Sample

This study population consists of all 61 inpatient nurses at Hospital X. The sample is a portion of the population selected for research. In this study, the sample includes 30 nurses working at X hospital who meet the inclusion criteria. The inclusion criteria for this study include nurses with a minimum education level of a Diploma III in Nursing, nurses working in inpatient wards, aged 25-40 years, and female. Exclusion criteria include nurses who are on leave and those who refuse to be respondents. Sampling is the process of selecting a portion of the population to represent the entire population (Nursalam, 2017). This study uses a non-probability sampling method with a purposive sampling technique. This technique was chosen to precisely select the sample.

Instrument

The tools used in this research are based on the standard operating procedures of Hospital X, which have been modified by the researcher through observation methods. The standard operating procedures are nurse to nurse communication in handover, nurse to doctor communication, nurse to supporting department communication example in laboratory staff/ nutritionist/ physiotherapist, and nurse to patient communication, and patient safety report incidents.

Procedure

This study reduces bias by restriction (strict inclusion and exclusion criteria). This research was conducted 4 months from February to June 2024 and the location in hospital X in

inpatient children's wards and inpatient adult's wards. Data collection was carried out by observing the respondents to understand the nurses' communication. Additionally, information regarding patient safety incidents was also obtained through direct observation of the respondents.

Data Analysis

This study purpose to analyze the correlation between variables, a chi-square test was used with a significance level of p-value ≤ 0.05. If the test result shows p-value ≤ 0.05, it indicates a significant correlation. Before using the chi-square test, this study use Kolmogorov Smirnov to make sure that normal distribution of data.

Ethical Consideration

This study has received approval and research feasibility from the Ethics Committee of STIKES Adi Husada on February 2, 2024 number of 064.1/ERB/STIKES-AH/II/2024. The client begins by filling out an informed consent form. If, in practice, the prospective respondent declines to participate, the researcher must accept and respect their decision. The respondent's social values are assessed to determine whether the research may conflict with those values. Furthermore, this research is conducted according to scientific standards, with the expectation of producing valuable scientific findings for both the researchers and the respondents.

RESULT

Based on Table 1, the cross-tabulation results show that poor communication between nurses can lead to Patient Safety Incidents, occurring in 13% (4 respondents), while good communication between nurses resulted in no Patient Safety Incidents in 67% (20 respondents) during the evaluation period from February to June 2024.

Table 1 Cross-Tabulation of the Correlation Between Nurse-to-Nurse Communication and Patient Safety Incidents at Hospital X, February-June 2024

Nurse-to-Nurse Communication	Patient Safety Incidents				Total
	Yes	%	No	%	
Poor	4	13%	0	0%	4
Adequate	0	0%	6	20%	6
Good	0	0%	20	67%	20
Total	4	13%	26	87%	30
Statistical test result p-value = 0.001					

Statistical analysis using the chi-square test yielded p-value = 0.001 (Table 1), indicating a significant relationship between the variable of nurse-to-nurse communication and Patient Safety Incidents.

Based on Table 2, the cross-tabulation results show that adequate communication between nurses can lead to Patient Safety Incidents, occurring in 13% (4 respondents), while good communication between nurses and doctors resulted in no Patient Safety Incidents in 87% (26 respondents) during the evaluation period from February to June 2024.

Table 2 Cross-Tabulation of the Relationship Between Nurse-Doctor Communication and Patient Safety Incidents at Hospital X, February-June 2024

Nurse-Doctor Communication	Patient Safety Incidents				Total
	Yes	%	No	%	
Poor	0	0%	0	0%	0
Adequate	4	13%	0	0%	4
Good	0	0%	26	87%	26
Total	4	13%	26	87%	30
Statistical test result p-value = 0.000					

Statistical analysis using the chi-square test yielded p-value = 0.000 (Table 2), indicating a significant relationship between the two variables: nurse-doctor communication and Patient Safety Incidents.

Based on Table 3, the cross-tabulation results show that adequate communication between nurses can lead to Patient Safety Incidents, occurring in 13% (4 respondents), while good communication between nurses and supporting departments/units resulted in no Patient Safety Incidents in 87% (26 respondents) during the evaluation period from February to June 2024.

Table 3 Cross-Tabulation of the Relationship Between Nurse-Supporting Department Communication and Patient Safety Incidents at Hospital X, February-June 2024

Nurse-Supporting Department Communication	Patient Safety Incidents				Total
	Yes	%	No	%	
Poor	0	0%	0	0%	0
Adequate	4	13%	0	0%	4
Good	0	0%	26	87%	26
Total	4	13%	26	87%	30
Statistical test result p-value = 0.000					

Statistical analysis using the chi-square test yielded p-value = 0.000 (Table 3), indicating a significant relationship between the two variables: nurse communication and supporting departments/units with Patient Safety Incidents.

Based on Table 4, the cross-tabulation results show that both adequate and poor communication between nurses and patients can lead to Patient Safety Incidents, occurring at rates of 6.6% (2 respondents) for poor communication. In contrast, good communication between nurses and patients resulted in no Patient Safety Incidents in 87% (26 respondents) during the evaluation period from February to June 2024.

Table 4 Cross-Tabulation of the Relationship Between Nurse-patient Communication and Patient Safety Incidents at Hospital X, February-June 2024

Communication Nurses and Patients	Patient Safety Incidents				Total
	Yes	%	No	%	
Poor	2	6,6%	0	0%	2
Adequate	2	6,6%	0	0%	2
Good	0	0%	26	87%	26
Total	4	13%	26	87%	30
Statistical test result p-value = 0.000					

Statistical analysis using the chi-square test yielded p-value = 0.000 (Table 4), indicating a significant relationship between the two variables: nurse-patient communication and Patient Safety Incidents. From the questionnaire results, there are still respondents with inadequate communication, leading to near misses, such as incomplete laboratory test requests that were later identified by other nurses.

DISCUSSION

Communication between nurses, as well as between nurses and patients, remains inadequate, leading to patient safety incidents (near misses) in 4 respondents (13%). Effective communication among nurses, as well as between nurses and other healthcare professionals or patients, is essential to ensuring safe patient care and preventing errors. Nurses are often the central point of communication in healthcare, relaying critical information between doctors, patients, and other medical staff. Poor communication can lead to misunderstandings, incomplete information, or errors in patient care. Nurses are typically the first to notice changes in a patient's condition. When they effectively communicate these changes to the healthcare team, interventions can be initiated quickly. Inadequate communication can delay response to

deteriorating patients, increasing the risk of severe complications or even death. Patient safety heavily depends on the coordination of care, particularly during handovers and transitions between shifts. Incomplete or unclear communication during these transitions increases the risk of safety incidents. If nurses fail to communicate critical changes in a patient's status, such as worsening symptoms or vital signs, necessary interventions may not occur in time. Clear communication during handovers is crucial, especially regarding patients' needs concerning interventions that have and have not been performed, as well as patient responses (Qomariah & Ari, 2020). Handover involves nurses rounding to each patient and accurately conveying their condition, thus maintaining continuity of nursing care. Handover involves transferring responsibility from one team or individual to another and provides an opportunity to ask questions or verify received information. It emphasizes the importance of conducting handovers both in writing and verbally by the primary nurse when transitioning from the morning shift to the afternoon or night shifts (Nursalam, 2014). This approach aims to mitigate patient safety risks that may arise from inadequate communication during shift changes. It stresses the importance of addressing patient safety risks caused by poor communication during handover.

Patient safety incidents resulting from inadequate communication between nurses are most common in general adult medical wards, with respondents averaging 25-30 years old. This aligns with the finding by (Potter & Perry, 2010) that age can affect a person's communication ability, and surgical medical wards often become locations for incidents due to the complexity of cases and nursing actions (Irwanti et al., 2022). Patient safety incidents often occur during handovers due to insufficient verbal and written communication during this process. One example of an incident is a near miss, where oral medication was not correctly given to a patient, and this was noticed by another nurse. From the questionnaire results, almost half of the respondents conducted handovers at the Nurse Station without rounding to each patient, leading to inaccurate information about patients' conditions and responses. Rounding during handovers is essential for clarification and validation of patient data. Nurses should follow the proper handover steps to prevent patient safety incidents (Wilson et al., 2021).

Communication between nurses and doctors that is deemed adequate is still linked to patient safety incidents, involving four respondents (13%). Based on the chi-square statistical test, a relationship between nurse-doctor communication and patient safety incidents was found. When doctors make rounds or conduct examinations in the wards, nurses accompany

doctors to provide information about patients' conditions. Doctors note the follow-up treatment plans in medical records, while nurses document the examination results and plans in nursing documentation. When nurses receive verbal instructions over the phone from doctors, they must use the TBAK (Write, Read, Confirm) communication method (Purwanza et al., 2020). Telephone consultations are a method of verbal communication used when nurses report patient conditions requiring medical intervention. Nurses receiving verbal instructions should document them, read them back to the doctor, and obtain confirmation. When nurses report patient conditions to doctors, they use the SBAR (Situation, Background, Assessment, Recommendation) communication format.

Verbal instructions over the phone should be written down, read back, and confirmed again by the receiving nurse, and then the doctor will provide direct confirmation the next day. From this theory, it can be concluded that good and effective communication between nurses and doctors results in optimal collaboration. Comprehensive and clear communication can serve as an essential source of information for all team members in decision-making, thus preventing patient safety incidents. From the questionnaire results, it was found that four respondents (13%) had sufficient communication, which contributed to patient safety incidents. Most incidents occurred through telephone communication, caused by nurses not using the SBAR system and failing to write down, read, and confirm doctors' instructions. This led to near misses, where the medication dose given was incorrect, but later realized by another nurse. If nurses use the SBAR system and TBAK communication during phone calls, it can enhance communication effectiveness (Elvi zuhriyatul wachidah et al., 2022). Doctors will have more trust in nurses' analyses, as this demonstrates the nurses' understanding of the patient's condition and also enhances patient safety.

Communication between nurses and supporting departments, rated as adequate, is still associated with patient safety incidents, where four respondents (13%) experienced such incidents. Based on the chi-square statistical test, a relationship between nurse communication with supporting departments and patient safety incidents was found. Good communication can strengthen professional relationships between nurses and the healthcare team. Effective communication also plays a crucial role in developing professional nursing models, as it serves as a means of enhancing communication among teams (Rismalinda & Prasetyo, 2016). To expedite patient recovery, nurses and other healthcare teams (such as supporting teams) must collaborate in providing healthcare services. Nurses often use written communication with

other healthcare teams, such as reporting laboratory results, writing medication prescriptions, diet requests, and filling out X-ray forms. Nurse communication with supporting teams should be conducted verbally and in writing in a timely, accurate, complete, clear, and easily understandable manner. Reports of critical test results or urgent examinations must be communicated verbally using the TBAK (Write, Read, Confirm) method (Pramesona et al., 2022). However, requests for narcotics or chemotherapy must be made in writing, not verbally.

Respondents with poor communication can cause errors, such as incomplete laboratory test requests. This can cause errors in testing, requiring patients to have their blood drawn again. If all respondents implement good communication which includes timeliness, accuracy, completeness, clarity, and ease of understanding-both verbal and written communication will be more effective. Additionally, this will enhance professional relationships between nurses and supporting departments, ultimately preventing errors in nursing care and reducing patient safety incidents.

Communication between nurses and patients still indicates some lack of communication and adequately sufficient communication, each influencing patient safety incidents in two respondents (6.6%). Based on the chi-square statistical test, a relationship between nurse-patient communication and patient safety incidents was found. According to Nursalam (2012), patient admission is one of the ways used to enhance communication between nurses and clients, aimed at understanding clients' conditions and general states. It emphasizes the importance of communication in the nursing process, where nurses use verbal and written communication at each stage of the nursing process. Success in the nursing process highly depends on effective communication between nurses and patients. Patients should feel comfortable communicating, creating effective interactions that allow them to make decisions regarding their nursing plans (Nuryani & Dirdjo, 2021). Nurse communication with patients in nursing implementation occurs before actions such as medication administration, blood sampling, or blood transfusion. Moreover, patients have the right to obtain informed consent before surgical procedures or other invasive actions. Poor communication with patients can lead to serious errors.

Lack of communication in the nursing process often results in near misses such as giving the wrong medication to the patient. This occurs because nurses do not ask for patients' names and fail to check their identification bands. Effective communication is critical to success in the nursing process and helps reduce the risk of patient safety incidents. Before

taking action, nurses should ask patients' names and check their identification bands. It also emphasizes the importance of communication in the nursing process. If nurses engage in effective communication, including verifying patients' identities before performing procedures, patients will have more trust in nurses. This will facilitate care and positively impact patient recovery (Irwanti et al., 2022). Effective nurse communication is communication that patients can understand, enabling the correct execution of nursing actions, making patients more cooperative, and allowing nurses to evaluate the success of the care provided. The correlation between communication and patient safety incidents is strong. Conversely, effective communication promotes coordination, ensures accurate information sharing, and improves overall patient outcomes, highlighting the critical need for strong communication systems and practices in healthcare settings (McHugh et al., 2020).

IMPLICATION

The results of this research can contribute to the development of Standard Operating Procedures for patient safety and effective communication aimed at reducing patient safety incidents to enhance the quality of hospital services.

STRENGTH AND LIMITATIONS

There were limitations in this study: sampling was conducted only at Hospital X. The research respondents did not include all the nurses at Hospital X. The research instrument used the Standard Operating Procedures of the Hospital and can only be applied at Hospital X. The researcher conducted the communication observations of all respondents personally.

CONCLUSION

The conclusion of this research is that there is a relationship between nursing communication factors and patient safety incidents. This research is expected to assist the Head of Nursing, Head of Inpatient Rooms, and the Nursing Committee in supervising nursing management and evaluating the Standard Operating Procedures for effective communication. Further research is needed with other contributing factors that cause patient safety incidents such as work load.

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CONFLICT OF INTEREST

The authors declare that they have no financial interests or personal relationships that could have influenced the work presented in this paper. They also declare no conflicts of interest during the research process or the publication of this article.

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