ANALYSIS OF FACTORS AFFECTING HANDOVER QUALITY IN NURSES

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ABSTRACT
As many as 50% of adverse events in hospitals occur during the handover of patient information. There are several things that can affect handover quality, including knowledge, motivation, resources, peer support and supervision from the head of the room. The purpose of this study was to determine the factors of knowledge, motivation and supervision that affect the quality of handover in nurses at Sari Asih Serang Hospital. This research is quantitative, the type of survey research approach used is cross sectional. The sample in this study was collected from a population of 135 inpatient nurses at Sari Asih Serang Hospital. The number of samples was determined using the Slovin formula, obtained a sample of 101 nurses selected using purposive sampling technique, deliberate selection of samples based on criteria relevant to the research objectives. inclusion criteria include nurses who are willing to become respondents, aged 21-55 years, and work in the inpatient room. While the exclusion criteria were nurses who resigned, were absent due to illness, leave, or other reasons during the study. The multivariate analysis test used is multiple logistic regression. It is known that the supervision variable is confounding. There is a significant relationship between motivation and handover quality in nurses at Sari Asih Serang Hospital with a p value of 0.015 (p < $\Box$ 0.05) and there is a significant relationship between supervision and handover quality in nurses at Sari Asih Serang Hospital with a p value of 0.016 (p < $\Box$ 0.05). The most dominant variable affecting handover quality is knowledge with an OR of 3.993 after being controlled by supervision of the head of the room.

Keywords: handover quality; knowledge; motivation; supervision

INTRODUCTION

Services in hospitals always follow the development of current health technology with the use of advanced technology and the complexity of diagnostic and therapeutic procedures, which greatly allows the risk of medical errors (medication errors). One of the causes of medication errors is poor communication between health professionals and between health workers and patients. Spooner in (Ulfa, 2022) states that ineffective communication between health care workers has an impact on patient safety in the health service. In the United States it was reported that communication errors were the cause of 25,000 - 30,000 adverse events that could have been prevented in all hospitals. As much as 90% of unexpected events are caused by communication, as much as 50% of the occurrence of these events is during the implementation of handover or weighing of patients. From this it can be seen that the implementation of handover is very important and must be carried out with quality (Muharni, 2020).

In the treatment room, handover is an important part of clinical care as it allows healthcare professionals to communicate well about the patient's plan of care. This occurs when a patient is handed over to the outgoing nurse for the incoming nurse between shifts. Handover aims to convey proper communication regarding the plan of care to the patient, nursing actions, and medications that have been given to the patient. Handover also includes up-to-date notification of the patient, the patient's condition, recent developments, and possible changes,

as well as information about the care plan to be implemented by the next duty shift nurse (Nursapriani, 2023).

There are many factors that have an influence on the quality of handover in health care inpatient rooms, including motivation, resources, knowledge, peer support and supervision from the head of the room and hospital management. Knowledge is a very vital factor in influencing a person to act. Nurses who have higher knowledge and education certainly have better cognitive abilities and problem analysis. High motivation encourages a nurse to act as effectively and efficiently as possible to achieve predetermined goals, besides that handover in the treatment room needs to get supervision in the form of supervision, especially from the head of the room, where the head of the room is an important role in organizing the provision of care and is responsible as a leader (Zulfia, 2023).

In the implementation of handover, nurses who have good knowledge will have the ability to carry out proper handover such as writing the handover directly in the handover format which is then signed by the duty team leader, making passes at the nurse station or patient's bed, and preparing collaborative and independent actions that have not been carried out so that a report is made (Atrivia, 2022). In addition to sufficient knowledge, the handover process will be implemented in a quality manner if a nurse has great motivation to carry out their obligations. Nurses with high work motivation have a tendency to comply with Standard Operating Procedures (SPO) applied in the workplace so that it can cause the application of nursing care to clients to take place more professionally and with higher quality (Widyastuti, 2023).

The implementation of handover in the treatment room needs supervision in the form of supervision, especially from the head of the room. Direct supervision allows professional nurses to encounter various challenges when providing nursing care in the treatment room by understanding all the factors that cause problems and then trying to think of a way out together with other health workers. Suboptimal implementation of supervision causes the implementation of tasks to be not as planned, mistakes in correcting a problem that has been identified create conditions that cause nurses to easily commit violations. Conversely, effective supervision of handover implementation will improve the quality of nursing care implementation (Saragih, 2020).

With the increasing number of patients coming, of course, quality service must also always be maintained, including in the implementation of handover so as not to cause communication breakdown. Based on preliminary studies through observation of the description of the implementation of handover carried out in the treatment room of Sari Asih Serang Hospital in October 2024, information was obtained that handover was carried out around the nurse station of each team. The handover process is carried out uniformly, starting with the submission of all health information reports for each patient and traveling to the patient's room. Sometimes there are interruptions, such as phone calls, patient calls, and visits to doctors when nurses carry out handovers.

The results of a preliminary survey conducted by researchers at Sari Asih Serang Hospital obtained information that in the implementation of handover there were several obstacles such as officers who provided information did not provide time or provide opportunities for receiving officers to provide feedback on whether the message conveyed was acceptable or not (RS.Sari_Asih_Serang, 2024). With this phenomenon, efforts can be made to improve the quality of handover by paying attention to influencing factors such as nurse knowledge, motivation and good supervision from the head of the room. This study aims to analyze the factors that influence the quality of handover in nurses at Sari Asih Serang Hospital,

specifically related to the level of nurse knowledge, work motivation, and supervision from the head of the room.

METHOD
This research is quantitative research, the type used in this research is an analytical survey. An analytic survey is a study trying to explore how or why a phenomenon can arise. The time approach used in the study was cross sectional. The population in this study were all nurses in the inpatient room of Sari Asih Serang Hospital as many as 135 nurses. this study used purposive sampling, the sample size was 101 respondents. The inclusion criteria used in this study were nurses aged 21-55 years and working in hospital inpatient rooms with exclusion criteria, namely nurses who were absent during the research process due to leave, illness or other reasons.

The instrument used is a questionnaire with the results of the validity reability test all valid and reliable with the results for the nurse knowledge questionnaire 0.419 to 0.852 and reliability 0.886, then the motivation questionnaire 0.438 to 0.754 and reliability 0.889, and the supervision questionnaire 0.438 to 0.852 and reliability 0.860, and the handover quality questionnaire 0.380 to 0.765 and reliability 0.893. The data collection step is to take care of licensing after ethical clearance with no 133/A.1-KEPK/FIK-SA/II/2024 has been approved, then proceed with submitting research at Sari Asih Serang Hospital. After all permits were completed, the researcher collected data through a research questionnaire conducted in January - February 2025 at Sari Asih Serang Hospital. The independent variables in this study are supervision of the head of the room, motivation and knowledge. The dependent variable is handover quality. The data collection technique used a questionnaire distributed to 101 nurses in the inpatient room of Sari Asih Serang Hospital who met the inclusion criteria. The questionnaire was used to measure the variables of knowledge, motivation, supervision, and handover quality. The data collected were then analyzed univariately to determine the frequency distribution of each variable, and bivariately using the Spearman correlation test to see the relationship between variables.

RESULT

Table 1.
Distribution by Age, Education Level, Role (n=101)

Characteristics of Respondents		Total	
		f	%
Age	21 – 25 years	24	23,8
	26 – 35 years	57	56,4
	36 – 45 years	19	18,8
	46 – 55 years	1	1,0
Level of Education	Diploma Program	72	71,3
	Undergraduate	29	28,7
Role	Person in Charge	26	25,7
	Executor	75	74,3

Based on Table 1, it is known that based on the age of 101 nurse respondents in Sari Asih Serang Hospital, most of them are 26-35 years old as many as 57 people (56.4%). Based on the level of education of 101 nurse respondents in Sari Asih Serang Hospital, most of them have Diploma III Nursing education as many as 72 people (71.3%). Based on the role of 101 nurse respondents in Sari Asih Serang Hospital, most of them acted as executive nurses as many as 75 people (74.3%).

Based on Table 2, it is known that based on the knowledge of 101 nurse respondents at Sari Asih Serang Hospital, most of them have good knowledge as many as 87 people (86.1%). Based on the motivation of 101 nurse respondents in Sari Asih Serang Hospital, most of them

have high motivation as many as 81 people (80.2%). Based on the distribution of supervision from 101 nurse respondents in Sari Asih Serang Hospital, most of them got good supervision as many as 85 people (84.2%). Based on the quality of handover from 101 nurse respondents in Sari Asih Serang Hospital, most of them had good handover quality as many as 84 people (83.2%).

Table 2.
Distribution According to Variables of Knowledge, Motivation, Supervision and Handover Quality (n=101)

Variabel		Total	
		f	%
Knowledge	Less	0	0
	Enough	14	13,9
	Good	87	86,1
Motivasi	Low	0	0
	Medium	20	19,8
	High	81	80,2
Supervision	Less	0	0
	Enough	15	15,8
	Good	85	84,2
Handover Quality	Less	0	0
	Enough	17	16,8
	Good	84	83,2

Bivariate Analysis

Table 3.
Results of Analysis of the Relationship between Knowledge, Motivation and Supervision of the Head of the Room with Handover Quality (n = 101)

Variabel		Kualitas *Handover*				*P-Value*	r
		Cukup		Baik			
		f	%	f	%		
Knowledge	Enough	6	42,9	8	57,1	0,005	0,279
	Good	11	12,6	76	87,4		
Motivation	Medium	7	35,0	13	65,0	0,015	0,241
	High	10	12,3	71	87,7		
Supervision	Fair	6	37,5	10	62,5	0,016	0,240
	Good	11	12,9	74	87,1		

Multivariate Analysis

Table 4.
Final Modeling of Multiple Logistic Regression Factors Affecting Handover Quality (n=101)

Variable	P-value	OR	CI: 95%
Knowledge	0,043	3,993	1,043 – 15,282
Motivation	0,036	3,684	1,088 – 12,477
Supervision	0,089	3,139	0,841 – 11,721

Based on Table 4, the variables that affect the quality of handover are knowledge with a p value of 0.043 <0.05 and motivation with a known p value of 0.036 <0.05, while the supervision of the head of the room is confounding.

DISCUSSION
Relationship between Knowledge and Handover Quality
From the results of research on 101 respondents at Sari Asih Serang Hospital, the results showed that there was a significant relationship between knowledge and handover quality in the Inpatient Room of Sari Asih Serang Hospital with a p value of 0.005. The correlation coefficient (r) of 0.279 means that the strength of the relationship between the knowledge

variable and the quality of handover in respondents in the Inpatient Room of Sari Asih Serang Hospital has a sufficient level of relationship closeness.

In accordance with research from (Manalu, 2023) from the results obtained that there is a significant relationship between knowledge and the implementation of handover with a p value of 0.036 < 0,05, tetapi ternyata tidak sesuai penelitian dari (Ulfa, 2022) dari hasil penelitiannya diketahui tidak ada hubungan secara signifikan antara pengetahuan dengan kualitas handover dengan p value sebesar 0,224 > 0.05. Knowledge is the capital needed to use clinical guidelines in the health care system. Someone must have good knowledge if they know, understand, apply, analyze, integrate, and evaluate what they have learned (Manalu, 2023). Knowledge about handover is important for a professional nurse to have, with the knowledge possessed, the nurse can ensure that the information conveyed is accurate and complete. Inaccurate information conveyed during handover can lead to intervention errors and cause events that endanger patients in the hospital (Tatiwakeng, 2021).

According to the researcher's analysis, nurses at Sari Asih Serang Hospital already have good knowledge about good handover, this is evidenced by the results of respondents who can answer most of the questions given to them correctly. High knowledge of nurses about handover is influenced by professionalism in this profession, on the other hand, education and experience also influence the level of knowledge of nurses about handover. Nurses with a longer working period, of course, will increase their experience. This experience then adds a lot of knowledge to nurses, including about the implementation of handover. There are still nurses with sufficient knowledge about handover, this means that there still needs to be improvement about it, which can be overcome by providing regular training for nurses or providing opportunities to take education to a higher level.

Relationship between Motivation and Handover Quality
Based on research from 101 respondents at Sari Asih Serang Hospital, the results obtained there is a significant relationship between motivation and handover quality at Sari Asih Serang Hospital with a p value of 0.015. The correlation coefficient (r) of 0.241 means that the strength of the relationship between the motivation variable and the quality of handover in respondents in the Inpatient Room of Sari Asih Serang Hospital has a sufficient level of relationship closeness. In accordance with previous research by (Sulistyawati, 2020) from the results of his research it is known that there is a significant relationship between motivation and handover quality with a p value of 0.000 <0.05.

Motivation is a key concept of management and leadership, enabling employees to work more effectively, more efficiently and productively. High motivation influences nurses in the implementation of every efficient step to obtain specific goals. Motivation is a collection of various processes that influence and guide a person's behavior in achieving their goals. Nurses who get motivation certainly agree that carrying out the handover process is a nurse's responsibility, which in its implementation nurses are given the authority to cause nurses to pay more attention to the results of the handover implementation work they do (Sulistyawati, 2020).

According to the researcher's analysis, nurses who have strong motivation will try to be obedient in carrying out tasks as well as possible, including efforts to implement handover as an effort to prevent unexpected events related to patient safety. Motivation and the implementation of a job are related. Nurses with high motivation within themselves will also have a higher desire to do a good and effective job. Nurses need to be given something that can increase their motivation at work such as rewards in the form of praise from superiors or

bonuses from the hospital, good relationships with fellow nurses and other medical personnel, as well as a good and comfortable work environment.

Relationship between Supervision and Handover Quality
Based on research from 101 respondents at Sari Asih Serang Hospital, the results showed that there was a significant relationship between the supervision of the head of the room with the quality of handover in the Inpatient Hospital Sari Asih Serang known p value of 0.016. The correlation coefficient (r) of 0.240 means that the strength of the relationship between the supervision variable and the quality of handover to nurses in the Inpatient Room of Sari Asih Serang Hospital has a sufficient level of relationship closeness.

In accordance with previous research by (Franisha, 2021) from the results of his research it is known that there is a significant relationship between the supervision of the head of the room and handover compliance with a known p value of 0.002 <0.05. Supervision is a guiding and mentoring initiative carried out by supervisors (head of care / team leader) on implementing nurses when providing nursing care to patients in the treatment room. The implementation of supervision can result in nurse motivation to improve for the better. Supervision is an important part of nurse protection, always open to the preservation of receiving new knowledge, and an inseparable part of good trust development and commitment (Franisha, 2021b).

According to the researcher's analysis, supervision is a support process where nurses are facilitated through an activity to maintain and improve professional nursing skills. The results showed that good supervision activities of the head of the room influenced the quality of handovers performed by nurses in the inpatient room of Sari Asih Serang Hospital. Supervision activities that are carried out repeatedly can reduce nurse errors in carrying out handover activities and supervision that is carried out properly can lead to increased handover implementation to be of higher quality.

Final Modeling of Multiple Logistic Regression Factors Affecting Handover Quality
Nurses with good knowledge have a chance to apply good handover quality by 3.993 times compared to nurses with less knowledge after being controlled by the supervision of the head of the room, this is in accordance with the statement (Notoatmodjo, 2016) that knowledge is the mental components resulting from any process achieved through experience. Knowledge is a very important component in determining human behavior; a lack of nurse knowledge can lead to complaints and complications that are harmful to patients. Knowledge is also important for implementing health care practice guidelines in hospitals.

From the results of the study it is also known that nurses with good motivation are likely to apply good handover quality by 3.684 times compared to nurses with less motivation after being controlled by the supervision of the head of the room. This is in accordance with the statement (Alfira, 2024) that motivation in the nursing context acts as the main driver in carrying out tasks with high standards, including the application of handover communication methods. Nurses who have high motivation tend to be more disciplined in carrying out communication and handover procedures according to the applicable SOPs. Conversely, nurses with low motivation are more prone to negligence in conveying accurate information, which can increase the risk of errors in patient care.

In the implementation of nursing care, supervision from the head of the room is very necessary. This supervision is carried out through supervision activities. The purpose of handover supervision is to improve care for nursing quality and nursing ethics. In addition, handover supervision also aims to ensure continuity of care and patient safety. According to

the researcher's analysis, the implementation of quality handovers must be based on strong knowledge and motivation from nurses, without knowledge and motivation nurses do not have the drive to produce quality handovers. With good work motivation in the work environment can lead to feelings of pride and satisfaction when carrying out work. While knowledge in this study is the dominant variable to create quality handover. Nurses' knowledge can be improved by providing regular training to nurses, providing opportunities to participate in existing seminars, and providing opportunities and support to nurses if they want to continue their education to a better level. The better the education of a nurse, the more motivated they will be to utilize their knowledge and skills so that they can implement quality handovers under the supervision of the head of the room.

CONCLUSION
There is a significant effect of knowledge variables on the quality of handover in nurses at Sari Asih Serang Hospital after being controlled by the supervision of the head of the room with a p value of 0.043 and there is a significant effect of motivation variables on the quality of handover at Sari Asih Serang Hospital after being controlled by the supervision of the head of the room with a p value of 0.036. The dominant variable affecting the quality of handover at Sari Asih Serang Hospital is knowledge with a p value of 0.043 and OR 3.993 after being controlled by the supervision of the head of the room.

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