

# The Relationship Between Nurse's Knowledge And The Ability To Carry Out The Nursing Process At The Regional Hospital

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## **Abstract:**

**Background:** The nursing process has not been implemented optimally until now. The ability of nurses to carry out the nursing process is critical so that errors and negligence in providing nursing services do not occur, which will impact patient safety and lower the quality of nursing services. This study aimed to determine the relationship between nurses' knowledge and ability to carry out the nursing process.

**Materials and Methods:** Materials and Methods: The sample of this cross-sectional study was 197 respondents who were selected using the Proportional Random Sampling technique. The data were collected using a nurse's knowledge questionnaire about the nursing process and the Nursing Professional Competence (NPC) Scale questionnaire, which had been tested for validity with an  $r$  count value greater than the  $r$  table value (0.361) and reliability with a Cronbach Alpha value  $> 0.6$ . Data were analyzed using the Chi-Square test.

**Results:** The results showed a significant relationship between knowledge ( $p=0.027$ ) and the ability of nurses to carry out the nursing process.

**Conclusion:** The more knowledge a nurse has, the better the nurse's ability to carry out the nursing process. Hospitals must improve nurses' knowledge and skills in implementing the nursing process to improve the quality and quantity of nursing care services provided to patients.

**Key Word:** Nursing Process; Nurse ability; Knowledge.

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## I. Introduction

The nursing process is crucial to professional nursing practice because it allows nurses to provide quality nursing care within a systematic goal-directed framework [1]. Implementing an effective nursing process improves the quality of care, facilities, and the healing process, reducing patient hospitalization, increasing patient satisfaction, increasing service utilization, decreasing hospital stay, decreasing health care costs, and increasing patient working time, resulting in economic benefits of the nursing process [2][3][4]. Patients who receive care based on the nursing process are more satisfied than those who receive regular nursing care because nurses spend more time and involve patients in their care [5]. Nurses must also be able to carry out the nursing process to improve the quality and quantity of nursing care documentation [6] to recognize the nursing profession as a professional, independent, and dignified scientific discipline [3].

The nursing process is critical in providing nursing care to patients to avoid errors caused by negligence and a nurse's inability to provide nursing services [7]. Errors in the nursing care process at the hospital will impact patient safety. The evidence showed that errors in implementing the nursing process occur at the stages of assessment (44%), planning (71%), and nursing actions (73%)[8]. About 30-40% of patients need appropriate, unnecessary, and dangerous health care [9]. Suppose nurses do not apply and use the nursing process according to the steps. In that case, it can result in less optimal nursing care and how nurses can bear their responsibilities and accountability to patients because nurses still perceive that the nursing process is time-consuming and impractical [1].

According to a study of 200 nurses conducted in Ethiopia, 70 (35%) had implemented the nursing process, and 130 (65%) had not [10]. Nurses perform 73.9% of the nursing process [1]. The nursing process was carried out by 102 nurses, and it was discovered that 57% of nurses performed nursing assessments and diagnoses, 46% implemented planning, 38% performed implementation, and 36% performed evaluations [2]. Furthermore, the study found that 264 (78.1%) of the 338 documents reviewed had a nursing process format attached to the patient's medical record, 107 (31.7%) did not have a nursing diagnosis, 185 (57.7%) nurses stated plans of care based on priority, 173 (51.2%) nurses did not document their intervention based on the plan, and 179 (53.0%)

nurses did not evaluate their intervention [9]. This finding is in line with research conducted at the Jakarta Hospital; from 173 documents, it was discovered that nurses whose nursing documentation was complete (57.2%) and nurses whose nursing documentation was incomplete (42.8%) [11]. This data showed that there were still many nurses whose nursing documentation was incomplete, resulting in poor nursing care quality [11].

Another study, conducted at a private hospital in Palembang, analyzed 105 documents using the quality of documentation of nursing diagnosis, intervention, and outcome (Q-DIO) measuring instrument, which has four assessment dimensions, revealing that the majority of the documents have moderate quality in all dimensions. However, there are still documents that are not well documented, such as 20 documents (19%) for diagnosis as a process, 26 documents (25%) for diagnosis as a product, 26 documents (25%) for nursing interventions, and 22 documents (21%) for nursing outcomes/objectives [12].

According to research, a lack of knowledge about the nursing process can affect nurses' ability to carry out the nursing care process, according to research [13]. This finding is consistent with other studies that show that a lack of knowledge influences the nursing process [14]. Nurses with good knowledge will have a positive attitude toward the nursing process implementation but are not used and practiced frequently [15].

Based on the problems mentioned, the researcher wanted to identify whether there is a relationship between knowledge and the ability of nurses to carry out the nursing process. If the nursing process is not implemented properly and follows the stages, it will result in repeated nursing care errors because of the interdependence of each stage of the nursing process. This can reduce the quality of nursing services and the ineffectiveness of services.

## **II. Material And Methods**

**Study Design:** Cross-Sectional study

**Study Location:** This research was conducted at the Central Aceh District General Hospital.

**Study Duration:** 19 December to 26 December 2022.

**Sample size:** 197 Nurses.

**Sample size calculation:** The sample size in the study was determined based on the Slovin formula with a population of 389 nurses and a 95% confidence level, so a sample size of 197 respondents was obtained.

**Subjects & selection method:** The sampling technique used was proportional random sampling to determine the number of samples from 16 inpatient rooms.

**Instruments:** Data was collected using two questionnaires; a knowledge questionnaire about the nursing process adapted and modified from previous research, consisting of 10 questions with multiple answer choices, with a score of 10 if the answer was correct and 0 if the answer was incorrect [10]. The second instrument was a nurse ability questionnaire adapted and modified from the Nurse Professional Competence (NPC) Scale instrument, which consists of 15 questions on a four-point Likert scale, with one corresponding to the lowest level, two corresponding to a fairly low level, three corresponding to a fairly high level, and four corresponding to the highest level [16]. Before conducting the research, the two questionnaires were tested for validity and reliability on 30 nurses. The Cronbach Alpha on the knowledge questionnaire was 0.767, and the Cronbach Alpha on the nurses' ability questionnaire was 0.962. The calculated value of  $r$  was greater than the  $r$  table ( $n=30$ ,  $r$  table=0.361), so the questionnaire was declared valid.

### **Inclusion criteria:**

1. Nurses working in the inpatient room of the Central Aceh District Hospital.
2. Nurses graduated with Diplomas in Nursing and Nurse profession.
3. Nurses who are willing to be respondents.

### **Exclusion criteria:**

1. Nurses who are on leave, sick, and study leave,
2. Nurse manager
3. The new nurse who is in orientation

### **Procedure methodology**

The researcher met with the respondent directly in the inpatient room. Following that, they were given an explanation of the study's objectives, benefits, and procedures, and were asked if they were willing to participate as research participants. The nurses who wanted to participate in the research were asked to sign an informed consent form before filling out the questionnaires.

### **Statistical analysis**

After the data was collected, it was coded and analyzed using a computerized program after re-examining the completeness of filling in all parts of the research instrument collected individually. Descriptive statistics were

used in the data analysis, including each variable's frequency and percentage. The Chi-square test is used to determine statistical significance and whether or not there is a relationship.

### III. Result

The proportion of nurses with high nursing process knowledge is 100 (50.8%), and good nurse skills is 118 (59.9%) (Table 1). Based on the results of the chi-square test, it was found that there was a significant relationship between knowledge and the ability of nurses to carry out the nursing process at the Aceh Regional Hospital ( $p=0.027$ ) (Table 2).

**Table 1: Frequency distribution of nurses' knowledge and ability in carrying out the nursing process at the Central Aceh District Hospital (n=197)**

No.	Variable	f	%
1.	Knowledge		
	a. High	100	50,8
	b. Low	97	49,2
2.	Nurse's ability to carry out the nursing process		
	a. Good	118	59,9
	b. Poor	79	40,1

**Table 2: The Relationship between Knowledge and the Ability of Nurses in Carrying Out the Nursing Process at the Central Aceh District Hospital**

Variable	nurses' ability						P
	Good		Poor		Total		
	f	%	f	%	f	%	
Knowledge							0,027
a. High	68	68,0	32	32,0	100	100	
b. Low	50	51,1	47	48,5	97	100	

### IV. Discussion

Knowledge results from curiosity through perceptual processes, especially in the eyes and ears of particular objects. Knowledge is an essential factor in developing open behavior [17].

The study's findings revealed a significant relationship between knowledge and the ability of nurses to carry out the nursing process at the Aceh Regional Hospital ( $p=0.027$ ), implying that the higher nurses' knowledge of the nursing process, the better their ability to carry out the nursing process.

In addition, the study's findings showed a significant relationship between knowledge and nurses' performance in carrying out the nursing process, with  $p = 0.001$ . The findings of this study could be linked to clinical nursing practice because nurses require knowledge about the steps of the nursing process and how to implement them [18]. Nurses must understand the nursing process and its stages to implement it effectively [2].

These findings are also supported by a study that revealed a significant relationship between knowledge and the nursing process implementation [10]. Highly knowledgeable nurses were 15.09 times more likely to apply the nursing process than nurses with insufficient knowledge, indicating that knowledge of the nursing process enabled nurses to perform the assessment, diagnosis, planning, implementation, and evaluation of nursing care given to patients [10]. This is also consistent with research, which shows that nurses with high knowledge are 8.78 times more likely than nurses with insufficient knowledge to use the nursing process [5].

A study revealed that adequate knowledge positively impacts the nursing process's implementation. Therefore, adequate knowledge of the nursing process is required so that nurses can apply the nursing process effectively [13].

According to the critical thinking model, broad knowledge insight significantly impacts nurses' ability to think critically to make clinical decisions and solve patient nursing problems when applying the nursing process. In this case, nurses must also broaden their knowledge by reading evidence-based nursing literature to remain updated on nursing science and theory [19].

This study confirms a relationship between knowledge and the ability of nurses to carry out the nursing process in this study because knowledge is the most important thing and the main factor that nurses must have in increasing their ability to carry out the nursing process. The implementation of the nursing process, of course, follows professional nursing practice standards so that the nursing care services provided for patients are quality service and impact improving the quality of service in hospitals.

## V. Conclusion

Based on the results of this study, it can be concluded that there is a relationship between knowledge ( $p=0.027$ ) and the ability of nurses to carry out the nursing process at the Aceh Regional Hospital.

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