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## **The Development of Nursing Diagnosis-based Indonesian Nursing Diagnosis Standard on Clinical Clinical Pathway among Patients with Stroke Infarction**

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**Abstract.** Infarction stroke is a significant health issue in developing countries and developed countries. The purpose of this study was to create a nursing diagnosis based on the Indonesian nursing diagnosis standard on clinical pathway clients with infarction stroke. The research design used to research and develop using a descriptive approach. The sample of this research was the clinical pathway toward the client with infarction stroke and their medical records through medical records search. The development of clinical pathways developed by researchers is the clinical pathway instrument with four nursing diagnoses based on Indonesian nursing diagnosis standards such as impaired physical mobility, risk of falls, impaired verbal communication, and the risk of ineffective cerebral perfusion. The majority (93%) of nursing diagnoses that arise are disorders of physical mobility. Determination of appropriate nursing diagnosis in clinical pathway clients with infarction stroke is essential as a guideline in performing nursing care to the clients, especially for a nurse. Consequently, the nurse can perform nursing care based on nursing care standards.

**Keywords:** nursing diagnosis, clinical pathway, infarction stroke



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## INTRODUCTION

Infarction stroke is a significant health problem in developed and developing countries. In some countries in Asia, infarction stroke is the second most common cause of death. Half of all stroke patients like stroke infarction have a permanent disability. Treatment in a hospital stroke unit can reduce the risk of death and disability that occurs after a stroke (1).

A clinical pathway is an integrated service-planning concept that summarizes the steps given to clients based on service standards, nursing care standards, and other evidence-based health-worker service standards with measurable results and within a specified period (2). Hospitals usually lack comprehensive and evidence-based services regarding care for clients due to different patient responses (3).

A clinical pathway is an operational version of clinical guidelines that determine the time and sequence of care needed to reduce variations in resources and attention and improve education and quality of care for patients (4). Besides, the clinical pathway is used as a means to reduce the length of stay (5). Strengths in clinical pathways, namely the development of clients, can be monitored every day, both interventions and outcomes.

A study conducted among acute stroke ischemic patients showed that the clinical pathways could shorten the length of stay, reduce hospitalization costs, improve compliance with evidence-based critical medicines, and improve clinical outcomes. The length of stay in the treatment group was 17.2 days, and in the control group was 21.4 days. While the cost of hospitalization was higher in the control group (6). The integrated clinical pathway system can significantly reduce errors and length of stay so that the quality of health can be more effective (7). Besides, the rate of postoperative complications, preoperative length of stay, length of stay in the hospital, and the cost of hospitalization were significant (8).

Clinical pathways are best made for diseases or clinical conditions that require a multidisciplinary approach, and the clinical course is predictable (in at least 70% of cases). If clinical pathways are found in the clinical course, this should be recorded as a variant that must be further assessed (5). One effort to optimize services to clients with infarction stroke requires a clinical pathway that aims to organize and streamline the care of infarction stroke clients based on appropriate evidence and guidelines.

Clinical pathways compiled are a reflection of the interdisciplinary team, including medical staff, nursing staff, and other health workers in the form of service standards from each of these professions. Nurses must be included in the implementation, intervention, and evaluation on an ongoing basis and have an essential role in all aspects, especially in establishing a nursing diagnosis (4-5). Enforcement of nursing diagnoses in care planning is one of the competencies of nurses who are the entry points for formulating nursing care. This confirms the authority of nurses as formulators of nursing diagnoses. Nursing diagnoses must be accurately stated to achieve positive and specific patient outcomes (6).

Efforts can be made by developing a clinical pathway for infarction stroke clients with nursing diagnoses based on the Indonesian nursing diagnosis standard in improving the quality of nursing services. Indonesian nursing diagnosis standard is a standard nursing diagnosis issued by the Indonesian National Nurses Association (INNA). This diagnosis standard was used to standardize nursing diagnoses in Indonesia to create uniformity of terminology to describe the scope of interventions carried out by nurses and increasingly show nursing contributions in health services (11). The development of nursing diagnoses in clinical pathway clients of stroke infarction based on Indonesian nursing diagnosis standard has never been developed before

## OBJECTIVE

The study aimed to create a nursing diagnosis based on the Indonesian nursing diagnosis standard on clinical pathway clients with infarction stroke.

## METHOD

This study used to research and develop a design using a descriptive approach. The sample in this study was a clinical pathway for infarction stroke and medical records of clients with infarction stroke. It took 122 medical records and clinical pathways of infarction stroke clients through the medical record period from June 2018 to November 2018 at Hospital.

The sampling technique was purposive sampling by setting inclusion and exclusion criteria. The research instrument used an observation sheet. The development of nursing diagnoses in clinical pathway clients of infarction stroke was carried out through focus group discussions and continued with expert discussions. Participants for the focus group discussion activities included management (head of nursing and inpatient nurse head) and nurses (nurse team leader and implementing nurse). The data in this study were analyzed using univariate analysis. The study was conducted from March 28, 2019, to April 31, 2019, at the hospitals. Ethical approval was obtained from the hospital research ethics committee with no. 893.3/0122/438.6.7/2019

## RESULTS

### Characteristics of Nursing Diagnosis Based on Indonesian Nursing Diagnosis Standard

Table 1 showed that based on medical record searches for 122 medical records, it is found that most (93%) nursing diagnosis of infarction stroke clients are physical mobility disorders (D.0054), neuromuscular disorders, challenging to move extremities, decreased muscle strength and decreased range of motion

Table 1 Characteristics of nursing diagnosis based on Indonesian nursing diagnosis standard on infarction stroke

No	Nursing Diagnoses	Type	Category	%
1.	Impaired physical mobility (D.0054), neuromuscular disorders, challenging to move extremities, decreased muscle strength and reduced range of motion	Actual	Physiological	93
2.	Risk of falling (D.00143); muscle strength decreases	Risk	Environment	32
3.	Verbal communication disorder (D.0119), decrease in cerebral circulation and unable to speak	Actual	Relational	31
4.	Risk of ineffective cerebral perfusion (D. 0017); hypertension	Risk	Physiological	5

### Characteristic of patients

Table 2 explained the characteristics of patients for conducting focus group discussions with management ranks consisting of nursing and inpatient nurse heads in terms of age, sex, education, and employment status. It was found that all participants (100%) were > 35 years old, female sex, the final education bachelor of nursing, and civil servant

employment status.

**Table 2. Characteristic of respondents**

No	Characteristics of Participants	Parameter	n	%
1.	Age	26-30 years' old	0	0
		31-35 years' old	0	0
		>35 years' old	5	100
		Total	5	100
2.	Sex	Male	0	0
		Female	5	100
		Total	5	100
3.	Last Education	Diploma of nursing	0	0
		Bachelor of nursing	5	100
		Master of nursing	0	0
		Total	5	100
4.	Employment Status	Civil servant employment	5	100
		The fixed regional public service agency	0	0
		The non-permanent regional public service agency	0	0
		Total	5	100

**Effect of health coaching on the perceived benefit of the action**

Based on table 2, Wilcoxon signed-rank test statistic results with a 95% confidence value obtained P-value = 0.000 (<0.05), meaning that there are significant differences between the mean values of control asthma test before and after the Theory of Planned Behavior-based educational intervention. It was indicated that the intervention group had 2,4688 times higher asthma control than the control group increasing intestinal peristalsis 0,0313 times of asthma control

Table 2. Effect on the face to face education based on the theory of planned behavior on asthma control in Sosodoro Djatikoesoemo Bojonegoro Hospital

	Asthma Control				<i>P-value</i>	<i>delta</i>
	Pre-test		Post-test			
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>		
Intervention Gorup (n=32)	13.68	4.61	16.15	4.38	0.000	2.4688
Control Group (n=32)	18.71	4.52	18.75	4.35	0.854	0.0313

**DISCUSSION**

Education face to face based on the Theory of Planned Behavior influenced asthma control. The result of this study showed that an increasing mean knowledge after receiving the intervention was higher than before the intervention in the treatment group. The treatment group experienced an increase in scores after being given face to face education based on the Theory of Planned Behavioral to bring up respectful behavior in the treatment of asthma.

Education face to face education is very influential in improving asthma control (14). Another study about effect education stated that the influence of educational

interventions increased the patient's knowledge, control of asthma, and also found that education made emergency unit visits and hospitalizations decrease (15). In applying face to face, education shows a significant effect because there is an underlying belief relationship that occurs a good communication relationship between physician nurses and patients so that specific behaviors obey and produce controlled asthma (16). Education by specialist nurses for patient control is effective in improving asthma control, and being followed up every three months shows an increase in the value of asthma control (17). the study, which depends on an individualized asthma education program, found improvement in the use of relievers for asthma control and a decrease in the number of emergency room visits (18).

Behavior changes or adopt new behaviors through various processes, knowledge (attitudes) - attitudes (attitude) - actions (practice) (19). In the Theory of Reasoned Action said attitudes affect behavior through a careful and reasoned decision-making process whose impact is limited to three things. First, the behavior is not only determined by a general attitude but by a specific attitude towards something. Both behaviors are not only influenced by attitudes but are also improved by subjective norms, namely, belief. Third, attitudes toward shared behavior with beliefs form an intention to behave in a certain way. Briefly, the practice or behavior according to the Theory of Reasoned Action is influenced by intention.

In contrast, the intention is influenced by attitudes and subjective norms; beliefs influence self-attitudes about the results of past actions. A person will do an act when looking at and believing the action is affirmative and useful for himself and others (20)

Education in improving asthma control can be an essential parameter in the long-term treatment of asthma by not overriding pharmacological treatment because education is also a supportive therapy in improving asthma control and long-term treatment that patients must meet in their treatment targets

## CONCLUSION

Based on this study, it can be concluded that the Theory of planned behavior-based education affects positively patient asthma control. Controlled behavior in asthma patients will be formed if the patient has the intention to do a routine. Intention can be formed from attitudes toward behavior, subjective norms, and perceptions of control. Limitation of this study is researchers cannot control the behavior of asthma patients directly, especially regarding the use of inhalers, exposure to allergens so that they can influence the patient's clinical condition

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