



THE EFFECT OF PBL (PROBLEM BASED LEARNING) METHOD IN INCREASING KNOWLEDGE ABOUT STROKE NURSING CARE IN STUDENTS

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ABSTRACT

Nursing care is a systematic, structured and integrative nursing process in nursing science so that it is necessary to apply the PBL (Problem Based Learning) learning method, especially for stroke patients who have increased from year to year. The objective of this study is to determine the effect of the PBL method in increasing knowledge about stroke care in Sekolah Tinggi Santa Elisabeth Medan students. Method: The method used is a quasi-experimental design with pre-post design. The number of samples in this study was 70 people. The sampling technique used was non-probability sampling with a purposive sampling approach with the inclusion criteria being level III students and those who had passed the adult nursing course. There were two research instruments used in this study, namely guidelines for implementing the PBL method and a student knowledge questionnaire about stroke nursing care. Data analysis used to compare differences in student knowledge before and after the intervention is using paired t test statistical analysis and will be presented in the form of a t test table. The results of study show that there is an influence of PBL on students' knowledge about stroke management ($\alpha=0.001$). The results of the study show that there is an influence of PBL on increasing students' knowledge.

Keywords: nursing care; PBL; stroke; students

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INTRODUCTION

Higher education is a part of a national education system which has a vital role in educating the life of the nation and state. STIKes Santa Elisabeth is one of the health education institutions in the city of Medan which has the motto: "When I'm sick you care for me". So to achieve this goal, students must have good and correct knowledge about providing standardized nursing care. Students must have the awareness to obey and understand every standard that has been determined, these regulations are made in such a way that it is hoped that they will make students more aware of how important it is to follow the rules that have been determined, which will also be useful for disciplining themselves according to what is expected. (Kurian & James, 2017). One of the courses for nursing students at Santa Elisabeth High School is nursing care for stroke patients.

Stroke is the second leading cause of death after heart disease and the third cause of disability in the world. According to World Stroke Organization data, every year there are 13.7 new cases of stroke and around 5.5 million deaths due to stroke (Ministry of Health, 2018). Stroke or cerebrovascular disease is a cause of disability for sufferers, 25 – 74% of the fifty million stroke sufferers in the world are unable to carry out daily activities independently (Jeong,

Han, Jang & Lee, 2018). In Indonesia, the national stroke prevalence rate has reached 10.9 per mile, the stroke incidence rate in Indonesia is even increasing, including in people aged younger than 50 and 40 years based on basic health research, now at the age of 45-50 years the The incidence rate reached 14.2 per mile, which means that for every 1000 people there are 14 people who suffer a stroke in the next age range of 56-64 years, the incidence of stroke is 32.4 per mile based on basic health research. The prevalence of stroke in Central Java among those aged > 15 years reached 12.3% based on data obtained from the Surakarta City Health Service, amounting to 952 in 2016 with new cases reaching 365 people (Riskesdas, 2018). The increase in stroke cases above requires special attention and knowledge. about how to provide good and correct nursing care.

Nursing care is a process in nursing practice that is directly provided to patients in various health care settings. Nursing care is a systematic, structured and integrative nursing process in nursing science. This care is provided through the nursing process method (Koerniawan, et al, 2020). Students in the process of making nursing care documents experience difficulties in understanding the making of nursing care assignments which forces lecturers to look for methods that can help students facilitate understanding in preparing nursing care. Various learning methods that can be applied in teaching nursing care, one of which is the PBL (Problem Based Learning) learning method. Problem based learning (PBL) is a learning method that is triggered by problems, which encourages students to learn and work cooperatively in groups to obtain solutions, think critically and analytically, and be able to determine and use appropriate learning resources. Problem Based Learning (PBL) was developed for the first time by Prof. Howard Barrows around the 1970s while studying medical science at McMaster University, Canada (Amir, 2009). This learning model presents a real problem for students as the beginning of learning, then it is resolved through investigation and applied using a problem solving approach. Student knowledge about nursing care for stroke patients is very necessary considering the increase in the prevalence of stroke from year to year. The PBL method is an effective method in improving students' critical thinking. Therefore, researchers consider it necessary to determine the effect of the PBL method in increasing knowledge about stroke care. The purpose of this study is to determine the effect of the PBL method in increasing knowledge about stroke management in students.

METHOD

This type of this study is quantitative research. This study uses a quasi-experimental design with a pre-post design which aims to determine the effect of the PBL method on students' level of knowledge about basic medical care for stroke patients. The population in the study were all Ners Sekolah Tinggi Santa Elisabeth Medan students. Based on the formula above, the Z value used is 1.96, p (estimated score) is 0.1 and d (precision) is 0.5. So the number of samples in this study was 70 people. The sampling technique used is non-probability sampling with a purposive sampling approach with inclusion criteria were level III students and had passed the adult nursing course. There were two research instruments used in this study, namely guidelines for implementing the PBL method and a student knowledge questionnaire about stroke management. Askep consists of 5 nursing processes, namely assessment, diagnosis, intervention, implementation and evaluation and each part has a score of 20. Data analysis used to compare differences in student knowledge before and after the intervention is using Paired t test statistical analysis and will be presented in the form of a t test table. Data analysis used to compare differences in student knowledge before and after the intervention. If the α value <0.05 then there is a difference in student knowledge before and after the intervention. This research has passed the ethics of the health ethics commission with ethics number 002/KEPK-SE/PE-DT/I/2024.

RESULTS

The results of the study showed that the knowledge of STIKes Santa Elisabeth Medan students regarding stroke care was that 49 people had sufficient knowledge with a percentage of 70% and 21 people had good knowledge with a percentage of 30%. Frequency distribution and percentages can be seen in the table below.

Table 1.
Student Knowledge about Stroke Awareness Before Intervention (n= 70)

Respondent characteristics	f	%
Good	21	30
Enough	49	70
Bad	0	0

The research results showed that students' knowledge about stroke management after the intervention showed that 57 people had good knowledge with a percentage of 78.10% and 16 people had sufficient knowledge with a percentage of 21.90%. Frequency distribution and percentages can be seen in the table below.

Table 1.
Student Knowledge about Stroke Awareness After Intervention (n= 70)

Respondent characteristics	f	%
Good	57	78.10
Enough	16	21.90
Bad	0	0

The research results based on the Paired T-Test show that there is an influence of PBL on students' knowledge about stroke management ($\alpha=0.001$). The results of the influence can be seen in the table below.

Table 3.
The result of the influence of PBL on students' knowledge about stroke management

		After		Total	P Value
		Enough	Good		
Before	Enough	13	36	49	0,001
	Good	0	21	21	

DISCUSSION

Nursing care is an approach to problem solving that enables nurses to organize and provide nursing care. The standards of care listed in the Nursing Clinical Practice Standards consist of five phases of nursing care, namely nursing assessment, nursing diagnosis, nursing planning or intervention, nursing implementation and nursing evaluation (Yuliana, 2022). The results of the research above show that students' knowledge about stroke management is still in the sufficient category. According to the researchers' assumptions, this is because students have not received relevant information about the nursing care process from experts or professionals and there is a lack of training in providing nursing care. Based on the research instrument, students do not know enough about filling out the nursing process in the areas of diagnosis, nursing intervention, nursing implementation and nursing evaluation. Based on research conducted by Rosita (2022), it was found that in compiling nursing care documentation, it can be seen that the percentage of preparing nursing care for assessment is 80%, nursing diagnosis 70%, planning 55%, implementation 65%, and evaluation 50%. According to research conducted by Ozveren (2019), the results showed that the level of student knowledge in formulating a diagnosis was 24.1%. This is because during the problem identification process students do not carry out the assessment process optimally so that the problems that arise and the nursing diagnoses that are made are not continuous (Ozveren et al., 2019). This is because students do not understand and

do not master the theoretical knowledge of nursing diagnosis (Ardahan et al., 2019). Lack of exposure to theory in establishing a diagnosis of gas exchange disorders can occur because when carrying out nursing clinical practice students only confirm diagnoses that have often been established (Rofi`I., 2018). Where we gain theoretical knowledge through educational programs and from nursing clinical practice experience.

The nursing process is a series of systematic, continuous actions including actions to identify individual or group health problems, both actual and potential, then planning actions to resolve, reduce or prevent the occurrence of new problems and carrying out actions or assigning other people to carry out nursing actions and evaluating the success of the actions taken (Kemenkes, 2019) that is the important point that nursing students really need and it is very important to understand the concept of the nursing process. The nursing process is a scientific method used to provide professional nursing care. As a nurse, wherever he is assigned, facing clients with all kinds of cases, and serving clients at all age levels must also use the nursing process, therefore nursing students are certainly expected to understand the concept of the nursing process and be able to apply and compile it in a status document. health in order to provide the best nursing care to clients (Toney & Thayer (2022).

Learning methods have a large role in the learning process. Choosing the right learning method can foster students' interest in participating in teaching and learning activities. Learning methods function as a way to deliver learning materials to students to achieve the expected competencies. The ability to think critically is important for students, because by thinking critically students will use the potential of their minds to the maximum to solve the problems they face in everyday life. Critical thinking is also needed to improve students' language and analytical skills in understanding the reality and problems they face. With this ability, students can also develop their creativity in the learning process (Al Najjar & Bakar(2021). Critical thinking is also important for students to reflect on themselves so that students get used to being trained to think. Students' critical thinking abilities can be improved through the implementation of the Problem Based Learning model The increase in each indicator of critical thinking includes indicators for definition and clarification of problems, then indicators for assessing information and indicators for designing solutions based on problems, assessment criteria have increased (Darwati. & Puranas (2021).

Problem Based Learning is a learning model that presents various real problems in students' daily lives (contextual in nature), thus stimulating students to learn. Problem Based Learning challenges students to "learn how to learn", working in groups to find solutions to real world problems. The problem given is used to bind students to curiosity about the learning in question. Problems are given to students, before students learn the concept or material related to the problem that must be solved. Students need to have good knowledge regarding the nursing care process using SDKI, SIKI and Nanda NIC NOC so that students have sufficient provisions to document client nursing care in accordance with predetermined standards or SOPs (Benítez, et al. (2023). . One way that can be done to increase students' knowledge about stroke care is to apply the Problem Based Learning learning method Gonzalez & Castillo, (2024).

CONCLUSION

The results of the study show that there is an influence of PBL on increasing students' knowledge, therefore researchers recommend that education provide training on this learning method

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