



IMPROVING MEDICAL SURGICAL-NURSING CLINICAL COMPETENCY THROUGH CLINICAL LEARNING WITH A SCIENTIFIC APPROACH

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Abstract

Clinical learning in a hospital is a transformation process for students to become professional nurses. Achieving medical-surgical nursing clinical competence, including critical thinking skills and clinical decision-making, is crucial. The scientific approach is a learning method that uses scientific stages to implement the learning process. Therefore, students always try to find out from various sources and references through observing, asking, trying, processing, presenting, concluding, and creating. This is an integrated learning method between cognitive, affective, and psychomotor. This study aimed to assess the effectiveness of the scientific approach in improving the clinical competence of nursing students in medical-surgical nursing courses. This study used a quasi-experimental method with the subject of nursing professional education students. The data analysis technique uses the t-test with the help of the SPSS program. The results of clinical studies before and after applying the scientific approach showed differences in the pre and post-test scores, with a p-value of 0.000. The results of this study indicate that the scientific approach can improve students' clinical competence, including the ability to think critically and analyze cases.

Keywords: Scientific approach, Medical-Surgical Nursing, clinical competence, clinical learning

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1. Introduction

The clinical learning experience of nursing students is a process of transformation into a professional nurse because clinical learning can provide an opportunity to form a role as a professional nurse so that students have nursing knowledge and master professional skills properly and correctly.

In order to develop attitudes and ways of working with nurses, it is necessary to have a learning approach that can improve students' ability to think critically, analyze cases and solve patient problems. A clinical learning approach that can increase creativity, critical thinking and clinical nursing competence is scientific approach learning, which is a learning method that uses stages and scientific principles in implementing the learning process (Daryanto, 2014). So students learn from various sources and information through observing, asking, trying, processing, presenting, concluding, and creating (Sudarwan, 2013). Learning models touch the cognitive, affective, and psychomotor domains (Musfiquon & Nursyansyah (2015).

The principle of a scientific approach to medical-surgical nursing education is to develop integrated cognitive, psychomotor and affective abilities by carrying out clinical learning based on patient problems, namely a learning approach that presents contextual problems to stimulate students to learn. This learning is also a learning model that challenges students to learn how to work in groups to find solutions to real-world problems (Daryanto, 2014).

The current conditions are that clinical learning sometimes causes challenges that result in students experiencing stress or anxiety. High levels of anxiety can impact clinical performance, creating a threat to clinical learning success. Educational institutions need to foster a conducive learning environment, so there is a need for a special approach that can reduce student anxiety and support competency achievement.

The differences between nursing theory and practice, especially those related to clinical guidance factors, monitoring and evaluation from clinical supervisors, are very important for students. Implementing periodic and structured clinical supervision and supervision can support and increase the achievement of clinical competence.

The role of the clinical supervisor is shown through clinical supervision activities. This is useful for ensuring quality, support and guarantees for students' clinical learning experiences. The factor of clinical guidance is very important to improve the ability to think critically, as explained in the results

of Heyden's research (2014) that the results of mentoring preceptors (clinical supervisors) in clinical guidance are significantly related to changes in critical thinking in practice, communication, assessment and practical decision making. Akram's research also supports this; Akram (2018) suggests that a clinical instructor must use a clinical learning approach that can provide students with skills in solving problems or making clinical decisions with a case study approach in carrying out clinical learning. In addition to the clinical supervisor element, a factor that can determine the success of clinical learning is exposure to problems or cases. This can make students learn and practice critical thinking and analyze cases to solve problems that occur in patients.

2. Methodology

This study used a quantitative method with a quasi-experimental approach with two groups pre-post-test. The population in this study were nursing professional education students practising medical surgical nursing at a hospital. The sampling technique used a purposive sample involving 30 respondents, comprising 15 respondents in the control group and 15 respondents in the intervention group. The inclusion criteria were nursing students in professional nursing education, practising medical-surgical nursing at the hospital, and having passed the pre-clinical exam and theory exam in medical-surgical nursing courses. Data collection was carried out for six days, during which students carried out clinical learning by applying a scientific approach to providing nursing care. Before carrying out clinical learning at the hospital, students take tests in case questions, then carry out clinical learning with the assistance and guidance of a clinical supervisor; after carrying out practicum, students work on post-tests. During practice, students carry out clinical competency assessments and assignments consisting of case tutorials, case presentations, nursing care, clinical skills, and attitude assessment. The analysis used includes an analysis of clinical competency assessment, which includes cognitive, psychomotor and affective abilities.

3. Results And Discussion

Changes in health services due to the industrial revolution 4.0 create a challenge as well as an opportunity that the health profession, especially nursing, must utilize; this is in line with developments in the 21st century which demands a generation of students who can think critically, think creatively, solve problems, be able to communicate and collaborate. The needs of the 21st

century demand enormous changes in the world of education; this is in line with the policy of the Ministry of Education and Culture Research and Technology of the Republic of Indonesia, which has formulated a 21st-century learning paradigm emphasizing the ability of students to find out from various sources, formulate problems, analytical thinking and collaboration as well as collaborating in solving problems. These competencies are in accordance with the 21st century learning framework according to BNSP (2010), namely: (1) Critical-Thinking and Problem-Solving Skills, able to think critically, laterally and systematically, especially in the context of problem solving ; (2) Ability to communicate and collaborate (Communication and Collaboration Skills), able to communicate and collaborate effectively with various parties; (3) Ability to create and update (Creativity and Innovation Skills), being able to

develop their creativity to produce various innovative breakthroughs; (4) Information and Communication Technology Literacy, being able to utilize information and communication technology to improve performance and daily activities; (5) Contextual Learning Skills, being able to undergo contextual independent learning activities as material for personal development, and (6) information skills and media literacy, being able to understand and use communication media to convey various ideas and carry out collaborative activities as well interactions with various parties. So it is necessary to make adjustments and changes in the implementation of education so that student competencies can be fulfilled. This research is expected to increase nursing students' clinical competence in problem-solving. The results of the research and discussion can be explained below:

Respondent Characteristics

Table 1 .Respondent Characteristics

| No | Characteristic | Frequency | Percentage |
|----|----------------|-----------|------------|
| 1 | Sex | | |
| | - Female | 28 | 93 |
| | - Male | 2 | 7 |
| | Total | 30 | 100 |
| 2 | Age | | |
| | - 22 years old | 20 | 67 |
| | - 23 years old | 10 | 33 |
| | Total | 30 | 100 |

Table 1 shows that the majority of respondents were female, as many as 93% (28 people). The health profession, especially nursing, is dominated by females; this relates to the type of work done, namely caring for and caring for patients who are sick; mothers or females mostly do the instinct to care compared to males. While the age category shown in the table is mostly 22 years old, namely 67% (20 people).

Result of Analysis

This test was conducted to find answers to one of the indicators regarding the effectiveness of clinical learning in the intervention group: the achievement of complete learning outcomes (clinical competence) with a minimum mastery criterion of 75. In this study, data obtained from the clinical

competency assessment of the intervention class obtained a value of $t = 2.79$. Thus, H_0 is rejected, meaning the clinical competency score is above 75. The results found that the average clinical competency assessment was more than 75, so the clinical competency assessment of nursing students with a minimum of 75 criteria was achieved.

The result of the attitude competency assessment (affective) is that the average value of attitude is 94.8, meaning that the attitude of nursing students is included in the high category. Meanwhile, from the aspect of psychomotor competence (clinical skills), it was found that the average clinical skills of nursing students were 94.5; this means that students' clinical skills are included in the high category.

Table 2 Intervention Class Effect Test Results

| No | Characteristic | SD | df | t | sig |
|----|---------------------------------------|---------|----|--------|-------|
| 1 | Intervention Group Pre - Post test | 0,70373 | 14 | -9,539 | 0,000 |

The results showed a significant effect on the intervention group after carrying out clinical learning actions with a scientific approach; this is indicated by a p-value of 0.000. The scientific

approach effectively improves learning outcomes and nursing students' ability to achieve clinical competence. This shows that a scientific approach in clinical learning management of medical-surgical

nursing which refers to learning methods centred on observation, problem-solving, and hypothesis testing, can help students understand the concepts and principles of medical-surgical nursing better and more deeply. From the explanation above, it can be concluded that the scientific approach in the clinical management of medical-surgical nursing is to help students develop critical thinking skills, problem-solving skills, and the ability to make the right decisions in dealing with complex clinical situations, to improve learning outcomes. The achievement of clinical competence evidences it. Thus, students will acquire the knowledge and skills needed to become reliable medical-surgical nursing practitioners.

The steps of the scientific approach in clinical management of medical surgical nursing include:

Do observations

At this stage, students make observations and observations of the patient's condition; through this observation or observation, students will collect patient data subjectively and objectively. Some of the activities that can be carried out at this stage are making observations, interviewing patients and their families, carrying out physical examinations by measuring or using tools, reading, listening, and observing the patient's condition and behaviour. The results of observations and observations become data that will be analyzed in order to raise problems or patient nursing diagnoses.

Ask questions

To complete patient data, after getting cases and making observations and observations, students compile a list of questions on strange things or conditions that need further explanation, then look for answers through several relevant activities, namely conducting reassessments, examinations repeat, seeking information from other sources, and consult clinical supervisors, other health teams or nursing experts. The list of questions that have been compiled and the answers obtained make material for analysis in solving patient problems. Then students compile a list of nursing problems or nursing diagnoses, complemented by compiling a nursing plan according to the problems found.

Conduct experiments

At this stage, students carry out trials or experiments in nursing practice by providing nursing actions as a form of implementation of the nursing plans prepared in the previous stage. Supervising lecturers and clinical supervisors provide guidelines for directing student activities, provide direction and guidance, and formulate experimental objectives. In experimenting, students are accompanied by a clinical supervisor to prepare the equipment to be used and determine the place

and time. Students conduct experiments with the guidance of lecturers or clinical supervisors, then collect reports on the results of actions and activities, and clinical supervisors conduct evaluations. Activities carried out include exploring, trying, discussing, demonstrating, imitating shapes or movements, reading other sources, collecting data from sources/experts and modifying, adding to or developing the results of experiments/actions that have been carried out.

Reasoning/associating

The activity of associating or reasoning in clinical learning activities of Medical-Surgical Nursing is to process information that has been collected both from the results of the initial assessment through observation and observation, data collection activities, results of observing activities or from the results of nursing actions that have been carried out. The processing of information collected ranges from those that add breadth and depth to information processing that seeks solutions from various sources with different opinions. Information obtained from observations or experiments must be processed to find the linkage of one piece of information with other information, find patterns from the information linkages, and draw various conclusions from the patterns found. Activities include processing information, analyzing data in the form of or creating categories, associating or connecting related phenomena or information to find patterns, and drawing conclusions.

Build a network/communicate

The activity of communicating or building networks in clinical learning activities of Medical-Surgical Nursing is an activity of conveying the results of observations and conclusions based on the results of analysis orally, in writing, through discussion or sharing of the results of care management, case presentations, nursing rounds, writing published articles. Communicating activities can also be done by writing or telling what is found in information-seeking activities, associating and finding patterns. In this activity, supervising lecturers and clinical supervisors can clarify so that students know correctly whether the answers that have been done are correct or if there is anything that needs to be corrected. Next, the activities carried out are presenting reports in the form of diagrams, charts or graphs, compiling written reports, and presenting reports covering processes, results and conclusions. By applying the clinical learning stages of the scientific approach, students can have more experience in achieving clinical competence, analyzing cases and making clinical decisions. Because the scientific approach to clinical learning management in medical-surgical nursing has several advantages, including:

- a. Encouraging critical thinking: Students are taught to think critically and objectively in complex clinical situations.
- b. Improve problem-solving skills: Students will be trained to identify problems and find the right solutions to complex clinical situations.
- c. Improving the achievement of clinical competence or clinical skills while carrying out nursing practice at the hospital.

4. Conclusion

The scientific method can improve the completeness of student learning outcomes and clinical competence, including the achievement of critical thinking competence and case analysis. Strengthening critical thinking skills and case analysis will improve the quality of patient nursing services. This is following the quality standards of patient care that are synchronized. The ultimate goal of clinical nursing education is that there is a behaviour change process in the stages of achieving competence, the occurrence of behaviour transformation, which is an integrated maturity of the system prepared by education in input, process and output. Through clinical learning with a scientific approach, students are expected to be more active and creative, think critically in every action they take, and have continuous innovation, so that students will become people skilled in using theory. In addition, they also can make clinical decisions that integrate theory, law, knowledge, principles and the use of special skills according to their competence.

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