



EVALUATION OF PRECEPTORSHIP AND MENTORSHIP CLINICAL LEARNING METHOD ON NURSING STUDENTS' CRITICAL THINKING IN PROVIDING NURSING CARE IN A TEACHING HOSPITAL

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Abstract

The demand for high-quality health services is increasing. It motivates nurses to utilize the best evidence in making decisions. Professional nurses were born from an excellent education. Preceptorship and mentorship clinical learning methods are expected to be able to answer these demands. This study aims to identify the effect of preceptorship and mentorship methods on students' critical thinking skills. The study design applies a quasi-experimental type pretest and post-test with a control group. Twenty-six students were examined as respondents for each intervention and control group, using a purposive sampling technique. The survey took place at a teaching hospital in Semarang, using a student-evidence-based practice questionnaire (validity 0.584-0.904; reliability 0.821) developed by Upton et al. in 2014. The intervention during three weeks with the training stages of clinical advisors, clinical guidance, internalization, and evaluation. Univariate data analysis is described by frequency and percentage (categorical) and mean and SD (numerical). Bivariate data analysis using a paired t-test and independent t-test. There was a significant effect of the preceptorship and mentorship methods on students' thinking abilities (p-value = 0.006). Integrated academic and clinical learning could form critical thinking skills among students. Educational institutions play a role in providing training for clinical instructors oriented to improving the ability of students to provide scientific evidence-based nursing care. The clinical instructors are responsible for improving students' critical thinking skills through preceptorship and mentorship learning methods.

Keyword: *critical thinking; mentorship; nursing; preceptorship*

1. Introduction

Patients' demands on the quality of nursing services are increasing and a National Health Insurance (JKN) system. Patients begin to be critical of the health services provided. All forms of nursing actions must be logically acceptable to the patient. This developmental situation then demands nurses to apply Evidence-Based Practice (EBP) in the provision of nursing care. Nurses must use the best and most recent research evidence in making decisions, nurse clinical experience, and patient choice (Boström et al., 2013) (Harun et al., 2019). Based on (Hart et al., 2008), implementing EBP is to provide the

best service for patients. Based on this, several developed countries made EBP a top priority in health services.

Evidence-Based Practice (EBP) is currently the most recent issue in educational institutions and nursing services because it can provide compelling clinical evidence to improve the quality of nursing care (Zhang et al., 2019). Implementation of EBP depends on the ability of nurses as caregivers to clients. Previous studies have explained that nurses with higher qualifications can apply and value EBP values (Malik et al., 2015) (Gerrish et al., 2011). Supported by (Zeleníková et al., 2016) states that adequate nurses' knowledge and skills in conducting literature searches and critical assessments of research results are positive

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factors in the implementation of EBP. The development of knowledge and skills is preparing from the stage of higher education in nursing. (Dame Elysabeth; Gita Libranty; Siska Natalia, 2015) stated that the higher level of nursing education had an impact on the achievement of competencies in conducting EBP. Education can lead individuals to be more skilled in finding sources of research, organizing, being professional at work, increasing accesses to improving and implementing evidence-based nursing practice.

Nursing students to be more confident, intelligent, and skilled to engage in EBP in the future. This demand is a challenge for higher education institutions in nursing to prepare nursing students who have competence in the implementation of EBP. Changes that occur in nursing services in the clinical setting impact adjusting the curriculum of nursing education (Catherine V. Belden; Joan Leafman; Guy Nehrenz; Patricia Miller, 2012). It explained that EBP is the main competency that nurses must possess to improve patients' benefits so that it integrates into the nursing education curriculum. Research (Reid et al., 2017) explains that EBP module learning in nursing students impacts increasing self-confidence and implementation of EBP. Based on that, the integration of EBP into the nursing higher education curriculum is considered very important.

The implementation of EBP in Indonesia has not been fully implementing yet. The ability of nurses and nursing students to search, analyze and implement EBP is still limited. Research (Majid et al., 2011) showed that the implementation of EBP encountered obstacles, namely limited literacy, time, and good quality of research results. The ability of nursing students to understand EBP is also still low; this is supported by research by (Mehrdad et al., 2012), showing that nursing students' knowledge of EBP is still 47.1%. Students' understanding of interpretation, journal criticism, and research applications is still low (Leach et al., 2016). (Legita, 2012) also mentioned that most nursing students (69.7%) lack understanding of the concept of EBP. Based on these conditions, the increase in knowledge and skills in implementing EBP initiates the education stage earlier.

Nursing higher education institutions need to use practical approaches to enhance knowledge and skills in implementing EBP. The implementation of EBP is vital in building the nursing profession and integrating EBP in the

nursing higher education curriculum through Student Center Learning (SCL) method. SCL is one method that approaches student learning processes to understand the construction process, consisting of receiving, organizing, storing, and being digested again by the mind through the active role of students in learning (Dong et al., 2019). (Kyriakoulis et al., 2016) The method has positively impacted the ability of EBP implementation included lectures, tutorials, workshops, seminars, journal clubs, and online sessions. Supported by (Ramis et al., 2018), several methods used in implementing EBP are lectures, group discussions, cooperative learning, problem-based learning, or a combination of several methods.

Learning methods that have a significant impact (Burgess et al., 2016) are role modeling learning. This method can integrate skills and positive attitudes towards the evidence-based nursing practice. Role models are essential for nursing students in understanding and imitating appropriate professional behavior (Benbassat, 2014). One model in this method is preceptorship and mentorship. Mentors become role models for nursing students in clinical learning (Wilson, 2014). An effective mentoring relationship is the exchange of knowledge, which supports the development between mentees and mentors (Eller et al., 2015) Whereas, clinical preceptorship in the study of (Burgess et al., 2016) to be able to increase student confidence in providing nursing care. The level of competence level is positively related to the interaction between the preceptor and the student.

Preceptorship and mentorship learning methods are applied based on constructivism theory. Through this theoretical approach, students construct knowledge independently to make a new understanding more meaningful (Kim et al., 2009). Constructivism theory will stimulate nursing students to find information, analyze, and conclude problem-solving to improve students' critical thinking skills in discussions using relevant Evidence (Budiman & Septiawan, 2019). Critical thinking is the process of thinking to achieve goals that will provide reasons based on evidence, conceptualization, context, methods, and criteria (Larsson, 2017). Critical thinking is a component that students must possess in searching and processing information independently. While the concept of EBP is a strategy for finding scientific evidence, the ability to think critically in the implementation of EBP can be a determinant of the quality of nursing care.

Good learning outcomes are closely related to the selection of appropriate learning methods. The choice of clinical learning methods can determine the quality of graduates. So tertiary nursing institutions need to know the correct approach to teach EBP-based nursing care. Based on this, the researcher identified the effect of implementing mentorship and preceptorship learning methods on the critical thinking skills of nursing students in providing EBP-based nursing care in a teaching hospital.

2. Method

The research design used was a quasi-experiment with the type of pretest and post-test with the control group. The population in this study were students of the nursing profession majoring in health polytechnic, Ministry of Health, Semarang. A total sample is 25 students for each intervention and control group based on sample calculations. The sampling method used is non-probability sampling with the purposive sampling technique. The inclusion criteria were nurses professional students who were undergoing clinical practice in primary nursing professions. The study was conducted in several teaching hospitals in Semarang in August 2019. The instrument used was a Student-evidence Based Practice Questionnaire with a validity value of 0.584-0.904 and reliability of 0.821 developed by (Upton et al., 2012). The intervention is implementing during three weeks with the clinical advisory training stages (week 1), implementation of clinical guidance (week 2), and evaluation (week 3) – the implementation of clinical guidance was consist of pre conference, clinical direction, and post-conference. Clinical guidance methods used are bedside teaching, meet the expert, discovery learning. Evaluations are conducting in individual EBP seminars and Direct Observation of Procedural Skills (DOPS).

Univariate data analysis is described in frequency and percentage for the gender and mean and SD variables for nursing students' age and critical thinking variables. The normality test results with Kolmogorov-Smirnov data obtained critical thinking variables of nursing students were not normally distributed, with $p = 0.01$ (p -value < 0.05). Variance in sex data (p -value = 0.129), age (p -value = 0.632), and critical thinking of nursing students (p -value = 0.16) are homogeneous. Bivariate data analysis using paired t-test and Wilcoxon test. Poltekkes

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3. Result and Discussion

Table 1. Characteristics of nursing students by age (n = 52)

Variables	Mean ± SD	Min-Max
Age	22.65 ± 2.84	21-34
Intervention		
Control	23.23 ± 4.08	21-40

Table 1. shows the mean values the age of nursing students in the intervention group was 22.65 with SD 2.84 and control group 23.23 SD 4.08.

Table 2. Characteristics of nursing students based on gender (n = 52)

Variables	Intervention		Control	
	f	%	f	%
Gender				
Male	5	19.2	3	11.5
Female	21	80.8	23	88.5
Total	26	100	26	100

Table 2. illustrates the proportion of characteristics of nursing students by sex in the majority of women in the intervention group (80.8%) and control (88.5%).

Table 3. Description of critical thinking of nursing students (n = 52)

Critical thinking	Intervention		
	Mean	SD	95% CI
Pre-test	98.54	11.25	93.99 -103.08
Post-test	106.69	13.02	101.43 -111.95
Critical thinking	Control		
	Mean	SD	95% CI
Pre-test	105.19	16.01	98.72-111.66
Post-test	112.96	14.87	106.95-118.97

Table 3 shows a description of the mean value of nursing students critical thinking before the intervention in the intervention group 98.54 with SD 11.25 and the control group 105.19 with SD 16.01. The average nursing students' critical thinking after the intervention in the intervention group 106.69 with SD 13.02 and the control group 112.96 with SD 14.87.

Table 4. Differences in critical thinking of nursing students

Group	Mean	SD	MD	P value
Intervention				
Pre-test	98.54	11.25	8.15	0.003
Post-test	106.69	13.02		
Control				
Pre-test	112.96	16.01	7.77	0.009
Post-test	105.19	14.87		

Table 4 states that there are significant differences in critical thinking of nursing students before and after the intervention in the intervention group with a value of $p = 0.003$ (p -value < 0.05) and a control group with a value of $p = 0.009$ (p -value < 0.05).

Table 5. Effect of training on nursing students' critical thinking

Group	Mean	SD	MD	P-value
Intervention				
Pre-test	98.54	11.25	8.15	0.006
Post-test	106.69	13.02		
Control				
Pre-test	105.19	16.01	7.77	
Post-test	112.96	14.87		

Table 5 illustrates a significant influence of implementing the preceptorship and mentorship methods on critical thinking of nursing students with a value of $p = 0.006$ (p -value < 0.05).

The implementation of the training program increases knowledge, skills, and positive attitudes as written (Mulyasa, 2003). Competencies consist of three aspects: cognitive, affective, and individual abilities to perform assigned tasks or jobs. Achievement of competencies through training and program development stages as an ongoing organizational program process. The training of the model of preceptors focuses on developing hands-on practice methods in the respective workplace of the perceiver with guidance. Nursing students need clinical learning methods that are capable of demanding active involvement to explore the ability to analyze a problem. (Wahl & Thompson, 2013) Practical and creative teaching methods examine to facilitate and perfect critical thinking skills in nursing students-the competencies of hard skills and soft skills achieved through the preceptorship learning method at the clinical learning stage. One of the competencies soft skills that nursing students must possess is the ability to think critically. In a study conducted by (Mei Fitria Kurniati; Titih Huriah; Azizah Khiriyati, 2017),

most students (81.8%) could think critically with suitable criteria. The intervention group received a preceptorship method regularly and scheduled for three weeks. Students get the same opportunity to be able to follow the learning process accompanied by a preceptor. The forms of implementation of the preceptorship method are pre and post-conference activities and bedside teaching. Students discuss the patient's case starting from the assessment process, determining the nursing diagnosis, preparing a nursing action plan to choose the evaluation plan. Nursing students then conduct a post-conference with a discussion accompanied by a preceptor using critical thinking analysis (Lestari et al., 2019).

During the clinical learning process, trained receptors provide learning situations that encourage students to find solutions to one problem by finding and gathering information and analyzing relevant information through critical thinking. Students who can think critically will integrate theory into practice and be more sensitive and understand (Dina Alfiana Ikhwan; Wiwik Kusumawati; Moh Afandi, 2018). Factors that influence the implementation of EBP by nursing students, according to (Ashktorab et al., 2015) including the intention, knowledge, attitude, and behavior of nursing students. Of the three factors, the attitude of students in implementing EBP is a factor that strongly supports the implementation of EBP. To realize this, the introduction of EBP is an effort that educational institutions must make to improve the knowledge and attitudes of students so that they can support the application of EBP in clinical practice.

Based on (Ryan 2016), several intrinsic and extrinsic factors are associated with implementing EBP in nursing students. Intrinsic factors are the intention, knowledge, and attitude of nursing students. Outside factors are related to organizational and institutional organizational support, such as the facilitator or mentorship's ability to provide direction for implementing evidence in clinical practice, the availability of supporting facilities, and environmental support. The results of this study are consistent with the research (Mei Fitria Kurniati; Titih Huriah; Azizah Khiriyati, 2017), which states that there are differences in the ability to think critically after getting the method of preceptorship with the technique of pre and post-conference. Supported by research (Zeleníková et al., 2016) reported that adequate nurses' knowledge and skills in conducting literature searches and

critical assessments of research results increased after implementing EBP results in clinical practice. The development of knowledge and skills prepare from the stage of higher education in nursing. Nursing students are the main actors to support the implementation of EBP in the future.

Based on research (Legita, 2012), most students (69.7%) did not understand the concept of EBP. Under these conditions, an increase in knowledge and skills in implementing EBP since it is still in the stage of tertiary education is considered very necessary. This research result same with (Suprapti, 2020) which states that based on training participants' perceptions of the preceptor training model, the impact on competency mix has a significant effect. The better the participant's perception of the implementation of the training model, the better the participant's perception of competency achievement. (Zadeh et al., 2014) explains that evidence-based and critical thinking are two complementary things. Critical thinking is an essential part of directing students or nurses in making clinical decisions or implement *EBP*. The application of EBP is possible to improve critical thinking in searching, analyzing, synthesizing, and making decisions from various available information. Quality nursing services are very concerned about scientific, cultural, and technological developments. The formation of these capabilities requires forming the preceptor's professional character through training, continuous education improvement in shaping intellectual, technical, and interpersonal skills, working based on standards of practice, paying attention to ethical and moral rules. Preceptors are increasing the self-confidence of Nurse Professional students using Evidence Based Practice in interpreting, analyzing, explaining, and inferencing in finding information.

Preceptorship is a clinical learning method that has the potential to facilitate students to encourage reflection and improve critical thinking skills (Sulung, 2016). The limitation of this research is the respondents of the intervention group is students who practice in the type B teaching hospital, while the respondents in the control group are students who practice in the type A teaching hospital. The questionnaire was filled out independently by the students so that the results of the data collection were subjective. Assessment in future research can be carried out by clinical instructors

objectively using predetermined evaluation sheets.

4. Conclusion and Suggestion

Implementation of preceptorship and mentorship clinical learning methods can improve the critical thinking skills of nursing students in providing EBP-based nursing care. The clinical counselor is responsible for facilitating students in achieving predetermined clinical competencies, critical thinking in providing EBP-based nursing care. Component nursing students can master three essential aspects of the clinical learning process: knowledge, attitudes, and skills. Clinical instructors in carrying out their duties and responsibilities through training on implementing EBP to increase the capacity to direct, facilitate and assist nursing students in interpreting EBP in the provision of nursing care. Educational institutions play a role in providing training for clinical counselors oriented to improving the ability of students to achieve clinical competence.

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