The Effectiveness of the Implementation of the Hospital Clinical Practice Based Simulation Model on the Practice Learning Outcomes of Nurse Profession Students During the Covid-19

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Abstract

Introduction: In connection with preventing the spread of Covid-19, all forms of education, including nursing education, are carried out by videoconference or e-learning (online). This also has an impact on nursing professional students where the application of skills for practice in hospitals is limited so that it greatly affects learning achievement. The application of the model is Hospital Clinical Practice Based Simulation an alternative for nurse students to practice during the Covid-19 pandemic so that learning outcomes can still be achieved. The purpose of this study is to analyze the effectiveness of the application of the HCPBS Model on the practical learning outcomes of Nursing Profession students at STIKES Suaka Insan Banjarmasin during the Covid-19 pandemic.

Methods: This study uses a quasi-experimental design with posttest control group design approach. The research sample was students who underwent the nursing profession stage at STIKES Suaka Insan Banjarmasin Force X as many as 30 students. Sampling was carried out using the technique of Exhaustive Sampling. The statistical test used an independent sample t-test with a significance level of <0.05. The research measuring tools are in the form of guidebooks and SOPs for the HCPBS model as well as learning outcomes by looking at assessments from cognitive, psychomotor, and affective aspects.

Results: Based on the results of the study, it was found that the significance value of the p-value was 0.001 with a 95% confidence interval of 4.971-9.042. The difference in the mean value between the intervention group and the control group was 7.007. Where the average value for the intervention group is greater than the control group, namely 89.57 for the intervention group and 82.57 for the control group.

Conclusion: So, it can be concluded that the Hospital Clinical Practice Based Simulation model is effective in increasing the practical learning achievement of the Nursing Professional Nurse STIKES Suaka Insan Banjarmasin during the Covid-19 pandemic, especially in the intervention group.

Keywords

covid-19; learning outcomes; model Hospital Clinical Practice Based Simulation; nursing profession; student practice

INTRODUCTION

The existence of the COVID-19 pandemic has changed all sectors, including the education sector where a policy has emerged by the Minister of Education as stated in Circular Number 4 of 2020 concerning the implementation of education in the COVID-19

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emergency period (Pusdiklat, 2020). All types of education implementation are carried out online (on the network) to break the chain of the COVID-19 virus. This, of course, also has an impact on the world of health, especially nursing. Nursing learning does not only emphasize cognitive but also psychomotor and affective. Especially for nursing students, where they are required to be able to apply the theory and skills that have been obtained in college into actual practice or real practice, namely in hospitals (WHO, 2014).

Sekolah Tinggi Ilmu Kesehatan Suaka Insan Banjarmasin has implemented online learning by utilizing media e-learning. This is stated in the decision letter from the Chairperson of the Sekolah Tinggi Ilmu Kesehatan Suaka Insan Banjarmasin No.015/Pend-Adm/STIKES-SI/III/2020 in connection with preventing the spread of COVID-19 with policies from the South Kalimantan Provincial Health Office and LLDIKTI Region XI Kalimantan. In this case, lecturers should not conduct face-to-face lectures in one class, and lectures are conducted by videoconferencing or e-learning (online).

In nursing education, lectures using e-learning are a challenge because nursing students are required to progress not only in cognitive terms but also in skills and affective, especially for nursing professional students, where the level of depth of mastery of learning at the professional stage is at level 7, namely the application of theory in the field of nursing knowledge and professional nursing skills (AIPNI, 2021).

However, due to the COVID-19 pandemic, students cannot practice in hospitals. This is following policies issued by several regional hospitals, especially to avoid the transmission of the virus. However, several teaching hospitals are willing to become student practice places if various requirements are met, namely one ward for no more than three people, the use of PPE is at least level 2 and must include a parental consent letter along with the results of a swab. The wards that can be used for practice are limited, while the number of nursing students who want to practice is large (the ratio of rooms and the number of students who will be on duty is not appropriate). Service hours are also limited to five hours (from 08.00 WITA – 12.00 WITA). In Singapore, for professional licensing of registered nurses, special approval was obtained from the Singapore's nursing regulatory board to replace 160 consolidated clinical practice hours with 80 hours of simulation-based learning during the pandemic, to develop graduating students' competence in patient care management and fulfil the accreditation requirements. Thereafter, graduating students were permitted to resume clinical postings (Seah et al.,2021).

Based on the results of the literature study that the researchers conducted, it was concluded that in the practice of the nursing profession it is necessary to have a learning model that can be developed and applied to assist nursing professional students in achieving their learning achievement targets, especially during the COVID-19 pandemic. Learning methods include bedside teaching, simulation, demonstration, experiential, problem solving/problem solving, conference method, self-directed coupled with a module as a practice guide that contains various case scenarios to help nursing professional students in practicing critical thinking, increasing skills and confidence in students when carrying out practicals. Based on the phenomena that occurred in the field and the literature study that the researchers did, finally, the researchers and the team tried to adapt and apply the various learning methods described above into a model, namely the Hospital Clinical Practice Based Simulation Model.

The HCPBS model was applied by researchers and the team to answer the current global challenges where, due to the COVID-19 pandemic, nursing professional students were limited in applying skills in practice. The HCPBS model provides a practical experience that is close to conditions in a hospital where nursing professional students gain experience in caring for patients, communicating with patients and families in role play, and case management is managed following the real conditions in the hospital setting, all of which are carried out in the STIKES Suaka Insan laboratory. The implementation strategy applied in this model is based on student center learning following the 2016 Higher Education curriculum by adjusting learning according to the decision of the Minister of Education regarding the implementation of education during the COVID-19 emergency which causes the field

of clinical learning to move to the laboratory. This HCPBS model is a breakthrough made for an alternative learning method for nursing professional students at the Insan Asylum STIKES during the COVID-19 pandemic.

The Hospital Clinical Practice Based Simulation model expected to be a solution when nursing students practice during the COVID-19 pandemic whereby the cognitive, psychomotor/skills, and affective skills they acquired during the lecture period can still be applied even in a laboratory setting and this method is also expected to be a solution for limited space provided by the hospital for nurse students to practice so that learning outcomes can be achieved.

MATERIALS AND METHODS

Study Design

The design of this study used a quasi-experimental design with a post-test control group design approach.

Population and Sampling

The population in this study was students who underwent the nursing profession stage at the STIKES Suaka Insan Banjarmasin as many as 30 students using total sampling. Inclusion criteria are: nursing professional students willing to be respondents, have completed the previous Professional Basic Nursing practice. Exclusion criterion is: nursing professional students with positive antigen swab results. The independent variable is the Hospital Clinical Practice Based Simulation model and the dependent variable is the practice learning achievement of the nursing profession student.

Instrument

Measuring Instruments Research in the form of learning outcomes is carried out by nursing professional students by looking at the assessment of cognitive, psychomotor, and affective aspects to see learning outcomes. The following is the description:

1) Cognitive Aspect: Nursing care reports made by nursing professional students based on cases given using the SOCA (student Oral Case Analysis method). Case analysis was carried out through oral tests and measured objectively. The purpose of this SOCA is to assess the ability of nursing professional students in analyzing a clinical case based on a comprehensive concept. Nurse profession students are expected to analyze cases by explaining the problem and how the basic mechanism of the problem occurs; making rational nursing diagnoses, and explaining the provision of therapy based on evidence.
2) Psychomotor Aspects:
   (1) The competency checklist is used to measure students' clinical competence
   (2) OSCE scores (*Objective Structured Clinical Exam)*
   During the exam, students are observed and evaluated through a series of stations consisting of history taking, physical examination, diagnosis determination, giving nursing actions, and preparation of nursing documentation. OSCE can be performed on live patients, simulated patients, or manikins.
3) Affective Aspects: judging from the attitude and performance values when carrying out the practice measured using the attitude and performance assessment form

The assessment sheet to measure the cognitive, psychomotor, and affective aspects was not tested for validity and reliability because this instrument was standardized following the Standard Operating Procedure (SOP) assessment for the implementation of the nursing profession that was used by STIKES Suaka Insan Banjarmasin. In assessing the effectiveness of the Hospital Clinical Practice Based Simulation model, the HCPBS model implementation manual is used.

Data Analysis

Univariate analysis in this study was carried out on age and gender variables, while bivariate analysis used independent sample t-test with a significance level of <0.05.

Ethical Clearance

Table 1. Frequency distribution of respondents' characteristics by gender (n=30)

No.	Gender	Total	
		f	%
1	Female	22	73
2	Male	8	27
Total		30	100
No.	Age	Total	
		f	%
1	21 years	23	77
2	22 years	3	10
3	23 years	3	10
4	24 years	1	3
Total		**30**	**100**

Table 2. Results of analysis. *Independent sample t-test*

Description	Group	N	Mean	Std. Deviation	Std. Error Mean	Sig.	95% Confidence Interval of the Difference	
							Lower	Upper
Model Application HCPBS	Intervention	15	89.57	2.782	0.718	0.001	4.971	9.042
	Control	15	82.57	2.659	0.687			

Source: Primary Data, 2021

This researcher has conducted an ethical feasibility test at the University of Muhammadiyah Banjarmasin with Number: 115/UMB/KE/VI/2021.

RESULTS

Identifying the characteristics of the nursing profession students of STIKES Suaka Insan Banjarmasin based on gender and age.

Based on Table 1, it shows the characteristics of the largest respondents by gender, namely female as many as 22 students (73%) and the rest male as many as eight students (27%). The characteristics of respondents based on age were mostly in the age range of 23 years, namely 23 students (77%), then 24 years old as many as three students (10%), age 22 years as many as three students (10%) and age 21 years as many as one student (3%).

Analyzing the effectiveness of the implementation of Hospital Clinical Practice Based Simulation model on the learning outcomes of nursing profession students.

Based on the results of data analysis in Table 1, it shows that the significance value of the p-value is less than 0.05, which is 0.001 (Ha accepted), which means that the implementation of the Hospital Clinical Practice Based Simulation model is effective in increasing the practical learning achievement ofCOVID-19 pandemic. The value of the 95% confidence interval is 4.971-9.042. The difference in the average value between the intervention group and the control group is 7.007.

DISCUSSIONS

Learning outcomes of the Nursing Profession Study Program are set according to the 2021 AIPNI curriculum standards, stating that: The depth level of mastery of learning at the professional stage is at level 7, namely: application of theory in the field of nursing knowledge and professional nursing skills (AIPNI, 2021).

However, as a result of the COVID-19 pandemic, students were unable to meet the learning achievement target at level 7, namely the application of knowledge and skills, especially to carry out practice in hospitals. This is following policies issued by several

regional hospitals, especially to avoid the transmission of the COVID-19 virus. This causes nursing profession students during the COVID-19 pandemic not to be able to achieve the competency targets as targeted by the Nursing Education standards so that learning outcomes cannot be fulfilled optimally.

In addition to the concerns of educational institutions to send nursing students to a practice area at risk of exposure to the COVID-19 virus, it turns out that the concerns and worries are even greater experienced by students. Ulenaers et al. (2021) stated that the pandemic resulted in the impropriety of foster care, communication, interaction with patients in the hospital due to worries on the practice ground and anxiety facing the field situation. Therefore, psychological support is needed for students to practice during the pandemic period, such as being heard, noticed and supported in order to provide learning opportunities and reduce doubts of prospective students to become nurses. The concerns of students during the pandemic are also categorized as moderate-severe due to economic instability during the pandemic, the risk of exposure to infection and lack of support for personal protective equipment (Savitsky et al., 2020; Wallace et al., 2021).

There needs to be a learning model in the practice of the nursing profession that can be developed and applied to help students in achieving learning achievement targets, especially during the COVID-19 pandemic to prevent nursing students losing a lot of clinical knowledge and skill. Learning methods such as bedside teaching, simulation, demonstration, experiential, problem solving, conference method, and self-directed coupled with a module as a practice guide that contains various case scenarios to help nursing profession students in practicing critical thinking, increasing skills, and confidence. Park et al. (2013) stated that the competence that nurses must master is the ability to think critically both in decision-making and problem solving on the complexity of the patient's condition. To improve the critical thinking power of nursing students, a Practice-Based Simulation model was developed into a curriculum that has five elements, namely practical situations, simulations, structured learning, inquiry, and assessment processes.

Other supporting research results were put forward by Cordeau (2012) who stated that the simulation method was very necessary to improve cognitive, affective, and psychomotor learning. In line with the statement above, based on the results of research conducted by Kamaryanti, et al. (2017), the learning methods of bedside teaching, conference, and case study are appropriate learning models to be applied in clinical practice.

Model Hospital Clinical Practice Based Simulation was developed by researchers by adapting and combining methods practice-based simulation, bedside teaching, conferences, and case study methods. The Hospital Clinical Practice Based Simulation model provides a practical experience that is close to the conditions in a hospital where nursing profession students gain experience in caring for patients, communicating with patients and families in role play, and case management is managed following the real conditions in the hospital setting, all of which are carried out in the STIKES Suaka Insan laboratory. The implementation strategy applied in this model is based on student center learning by the 2016 Higher Education curriculum by adjusting learning according to the decision of the Minister of Education regarding the implementation of education during the COVIDd-19 emergency which causes field learning to move to the laboratory.

In the Hospital Clinical Practice Based Simulation model, learning activities are a combination of 50% offline teaching, 30% online, and 20% self-study for nurse students, which are directed with the help of learning modules and online learning media. The module here contains scenarios of cases that often occur in hospitals, so it is hoped that, even in the Covid-19 pandemic, nursing students can continue to learn and be able to think critically in solving problems that exist in these cases using a holistic nursing approach. Starting from assessment, determination of diagnosis, appropriate nursing interventions, the implementation can be carried out by evidence-based practice, evaluation with an SOAP approach, and implementing family-centered care. The Hospital Clinical Practice Based Simulation model involves components such as station coordinators, clinical land and academic instructors, students, laboratory

assistants, and study program managers so that this process takes place and achieves goals.

Based on the results of the study, it was found that the Hospital Clinical Practice Based Simulation model was effective in increasing the practical learning achievement of nursing professional students of STIKES Suaka Insan Banjarmasin during the COVID-19 pandemic, especially in the intervention group, the significance value of p-value was 0.001 with a 95% confidence interval of 4.971. -9.042. The difference in the average value between the intervention group and the control group is 7.007, where the average value for the intervention group is greater than the control group, namely 89.57 for the intervention group and 82.57 for the control group.

The results of indirect interviews via WhatsApp video with the intervention group showed that they were very happy with the implementation of the Hospital Clinical Practice Based Simulation model because they felt it was very helpful to review the theories that had been obtained previously while still in the Bachelor of Nursing program. The HCPBS model does not only review theory but is also carried out in the form of practice both with friends and with phantoms so that they can still apply their expertise/skills according to theory even in the COVID-19 pandemic, which is limited to direct nursing care with patients. The Hospital Clinical Practice Based Simulation model was carried out in the STIKES Suaka Insan laboratory, and students said the interaction between academic preceptors and students in the form of pre-conference and post-conference-related or case studies that often occurred in hospitals helped hone their power of critical thinking so that, when carrying out practice in the hospital and encountering similar cases, they are more prepared and confident to carry out nursing care. The rational explanation of the actions delivered by the academic preceptor is very easy for students to accept and understand when discussing a case so that students say they are not stressed when undergoing the professional stage even though they still have to work on a written report.

According to Nursalam and Efendi (2008), simulation learning is a learning method that provides learning using real situations or situations, using students being actively involved in the process of interacting with their environmental situation. The practice-based simulation model is a learner-centered learning model developed to achieve effective simulation integration. The practice-based simulation model is based on constructive learning theory which asserts that knowledge is not passively transferred from educators to students, but is built by students through processing experiences and interactions with their environment (Park, 2009). Omer (2016) found that using simulation as a strategy for clinical education can increase students' self-confidence. Simulations prepare students to have real-life experience before moving on to a career. Although simulation is proven to be an effective strategy for learning, it cannot replace real life, but must be used as an addition to the learning process.

CONCLUSION

The implementation of the Hospital Clinical Practice Based Simulation model is effective in increasing the practical learning achievement of professional students in Nursing STIKES Suaka Insan Banjarmasin during the COVID-19 pandemic.

The COVID-19 pandemic in Indonesia will continue for a long time, so the results of this study can be used as evaluation material and policies for institutions to be able to incorporate the Hospital Clinical Practice Based Simulation model into the student learning curriculum at the professional stage. Researchers hope that the HPBSC model applied at the STIKES Suaka Insan can also be applied by other universities to overcome the limited practice activities of nursing professional students in hospitals due to the COVID-19 pandemic so that nursing professional students can achieve the competency targets as targeted by Nursing Education standards.

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Conflict of Interest

The authors declare that there is no conflict of interest in this study.

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