ORIGINAL ARTICLE

Clinical Competence of New Nurses: Challenges to the Impact of Online Learning During the Covid-19 Pandemic

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ABSTRACT

Introduction: The Covid-19 pandemic demands education adopt e-learning as a mandatory learning method. Discontinuation of learning at the clinic provides challenges in achieving new nurse candidates' clinical while caring for the patients. However, the description of online learning's impact on the clinical competence of new nurses is still limited. Purpose: To identify the clinical competence of new nurses after following the online learning system throughout the Covid-19 outbreak. **Methods:** A sequential explanatory mixed-method study. This research conducted quantitative and qualitative data collection by using online forms. The purposive sampling technique involved 120 new nurses. As quantitative respondents, seven new nurses, seven senior nurses, and seven head nurses as qualitative participants. The quantitative and qualitative data were analyzed by performing a chi-square test, and the Colaizzi method was, integrated into the result to get a complete understanding. **Results:** Online learning significantly impacted new nurses' clinical competence (p-value 0.031). This study results formulated seven main themes, including quickly learning to run digital medical devices, making good reports, lack of confidence in performing nursing implementation, being late in making decisions, lack of empathy, rarely communicating therapeutic, hard in building close relationships. Online learning positively impacts knowledge and administrative skills; the opposite occurs in attitudes, nursing procedural skills, values internalization, and communication. The integrated result shows that the online method is inappropriate for nursing clinical competency learning. **Conclusion:** Various online learning components shape nursing students' clinical competence. It recommended modifications to the orientation program for new nurses.

Keywords: Online learning, Clinical skills, Nurse competence, Practice methods, New nurses

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INTRODUCTION

The Covid-19 outbreak has posed unprecedented challenges to academic activities at universities, hospitals, communities, and society. The uncertainty of when the Covid-19 pandemic will end requires serious and immediate attention from nursing educator practitioners (1,2). The Covid-19 condition has had a tremendously significant impact on nursing education in the world. Based on the International Council of Nurses (ICN) survey on National Nursing Associations (NNA), almost half of countries globally have postponed or canceled student placements to clinics and nursing student placements in certain areas (3,4). This policy also impacts Indonesia's clinical nursing learning process (5). The phenomenon contributes to the quality of nursing education and can increase student stress and clinical areas. More than 50% of countries report late student graduation, including nearly 10% delays of more than one year. Even students expressed concern and anxiety due to the delay in completing the nursing education program (5,6). A prolonged period of discontinuation of clinical nursing practice can adversely affect student academic programs and create student unrest for more than one semester.

Nursing is a profession in a transitional condition because nurses are required to make decisions quickly when there is an increase in the complexity of patient problems (7,8). Clinical competence is the core competence of nursing education, and inadequate achievement of clinical skills has the potential to endanger patient safety and service quality (9–11). Adequate exposure in

clinical practice settings has always been a significant challenge in nursing education. To achieve nurses' clinical competence, students go through the learning process in a clinical setting by fulfilling the attributes of clinical learning, including knowledge, skills, attitudes, internalization of values, and communication (12–14). There is a relationship between features; the non-fulfillment of one attribute can affect the overall appearance of the nurse's clinic and the opportunity to endanger patient safety (15,16).

Adequate exposure in clinical practice settings has always been a significant challenge in nursing education. However, the current crisis is a unique challenge to develop a clinical learning system during a pandemic. The step of transferring clinical learning in the online form is questionable for its success. This study would like to identify the clinical competence of new nurses after following the online learning system throughout the Covid-19 outbreak.

MATERIALS AND METHODS

We conducted the sequential explanatory design of mixed-method research in this study. Quantitative data was collected using the online questionnaires in the google form and distributed via groups of new nurses who graduated in 2020 and have had online learning experiences during the Covid-19 pandemic. Before involving the participants, the researcher distributed informed consent to the WhatsApp group via a google form to be signed by the participants if they were willing to be involved in the study. Researchers provide equal opportunities for respondents to obtain in-depth explanations if there is unclear information on informed consent. Convenience sampling was employed to recruit 120 new nurses involved in the quantitative research. All new nurses who graduated in 2020 in Palembang became the research population. The inclusion criteria for the research sample included: working in a hospital inpatient room and being willing to be a participant.

Quantitative data was collected using instruments made by researchers modified from The Nursing Clinical Teacher Effectiveness Inventory (NCTEI) developed by Knox and Mogan (1985). Validity and reliability tests involve participants who are not research respondents, and the implementation is before conducting research. After the questionnaire was declared valid and reliable, then the questionnaire was distributed to research participants. The questionnaires consisted of respondent characteristics, experience in implementing online learning, and clinical competence of new nurses. The data analysis in this study is a univariate analysis of the clinical competence variables, including components of knowledge, skills, attitudes, values, and communication. Each attribute of clinical competence consists of five statements, using alternative answer choices on a Likert scale and chi-square statistical test. The chi-square test was conducted to determine the relationship between participants' perceptions of online learning and their clinical competence.

It determines qualitative research participants by selecting quantitative research participants and choosing the number by considering data saturation from in-depth interviews. This study used triangulation involving seven senior and seven head nurses to achieve data validity. Carry out discussions to find out the results of their observations regarding participants' appearance. Furthermore, comparing information obtained with information derived from participants to determine the suitability of the data. The in-depth interview was conducted online via video to all participants and recorded. Before completing the interview, the researcher obtained consent from the qualitative respondents through the method carried out on the quantitative respondents. This study transcribed the interview recording verbatim and used the Colaizzi method to analyze the transcripts. The integration process was performed by connecting and building. One type of information was linked to other data in a sample frame, followed by integrating to create unified communication, integration at the narrative level of interpretation and reporting, and the use of shared views. In this study, the integration process used is based on a framework (17,18) because the combination is general (according to principles), specific (practice-based), and pragmatism (easy to apply). This study has obtained ethical approval from the Palembang Health Polytechnic Ethics Committee, No. 1272/ KEPK/ Adm2/ VIII/2021.

RESULT

The following explains the study results in the quantitative and qualitative research phases.

A. Quantitative Phase

The quantitative phase of the study involved 120 new nurses who graduated in 2020. Table I shows the characteristics of samples who participated in this study. Most respondents worked at male/female medical ward and female new nurses. All respondents were Diploma degrees from part-time workers generally. The majority of the respondent was married with aged 22 years old.
Table II presents the correlation between online learning and clinical competence. The finding showed a significant correlation between online learning and clinical competence among new nurses (p= 0 .031).

B. Qualitative Phase

The qualitative phase of the study invited seven new nurses as key informants aged 21-23 years, with Diploma in Nursing degree with 1-2 months of work experience. Seven senior nurses held. Bachelor in Nursing degree was also invited for ages 40-45 years with a minimum working period of 18 years. Seven head nurse aged 32-

Table I. The characteristics of samples (n= 120)

Variables	n	%
Department		
Outpatient	35	29
Male/female medical ward	85	71
Gender		
Male	18	15
Female	102	85
Education		
Diploma	120	100
Employment status		
Full time	11	9
Part time	109	91
Marital status		
Single	102	85
Married	18	15
Age		
20	4	3.3
21	31	26
22	85	70.7

Table II. The correlation between online learning and clinical competence

Online Learning	Clinical Competence								*p*-value
	Very Good		Good		Less adequate		Poor		
	n	%	n	%	n	%	n	%	
Positive	6	13,3	11	24,4	6	13,3	22	48,9	0,031
Negative	16	21,3	32	42,7	9	12,0	18	24	

38 years old that held Bachelor's in Nursing was invited to participate in this study.

Table III represents theme formation and emerged seven themes.
The emerging themes were quickly learning to run digital medical devices, capable of making good reports, lack of confidence; being late in making decisions, lack of empathy for patients, rarely communicating therapeutically, and is hard to build a close relationship.

Table IV shows the integration of quantitative and qualitative research results poured in the form of meta-inference. It shows that the online method was not adequate for nursing clinical competence learning.

Table III. Theme Formation

	Theme 1: Quickly learn to run digital medical devices
	Category Easy to Understand Technology
	Coding Understand, Know, Be Exposed
Quotation	Now if there is a new tool, so it's faster to understand (W3, P5), So get used to all-technology tools that are (W2, P2) No surprise anymore, it is common to use all digital (W3, P7)
	Category Familiar with Digital Systems
	Coding Near, Often, Habits
Quotation	If I used to see the operational ways of the machine through youtube (W2, P2) Since online learning often uses digital media such as zoom and learning applications W1, P1) Now the all-digital yes, samples to cookware to digital (W2, P3) They entered the digital generation, so it is not challenging to use medical devices(W1,P5)
	Theme 2 :Capable of making good reports
	Category Many tasks in the form of writing
	Coding References, report examples, appropriate sources
Quotation	We should be used to making tasks by looking for references (W1,P4) If you want to make a task, trus the book read and change according to the existing conditions (W2, P6) If they are asked to make good nursing documentation (W3, P3) On google, all kinds of examples of reports exist, we just look for those that fit our theme, and in the mix of other articles, the report is appropriate (W2, P6)
	Category Nursing Intervention Simulation
	Coding Role-playing, observing, trying
Quotation	If we learn the practice, we practice it like the original condition (W2, P3) If we write them after try to practice, we will clever (W1, P4) Family members at home or neighbors who are asked to be patients (W3, P1) Yes, we were asked to try the act of doing everything as a nurse that can be done at home with the family (W3, P2)
	Theme 3: Lack of confidence
	Category Less sure to intervene
	Coding Doubt, fear of being wrong, not daring, cbonfused
Quotation	Sometimes feel afraid of being wrong when giving action to the patient (W1, P1) I'm not sure what we're doing to our patients (W2, P3) We do not dare the initiative to be, because worried is not following the procedure (W3, P7)

CONTINUE

Table III. Theme Formation (Cont.)

	Theme 3: Lack of confidence
	Category
	Fear of intervening
	Coding
	Rarely tried, lack of understanding, lack of experience
Quotation	While still, in academic stage we have no experience in clinical practice (W2, P7)
	It's still running, I don't think I've tried it yet (W2, P2)
	Online lectures are sometimes inappropriate and don't seem to understand anything (W1, P3)
	During covid-19 never practiced in the hospital, to the laboratory also a little (W2, P5)
	Theme 4: Late in making decisions
	Category
	Unable to think fast
	Coding
	Slow response, long thought, unreasonable
Quotation	If you want to do something, sometimes doubt, it's following the procedure no (W2, P3)
	I felt unable to act quickly, even though it was already in my mind(W3, P6)
	I feel less quickly responded to the situation (W3, P2)
	Sometimes it doesn't seem to be a quick respons (W2, P1)
	Category
	The information is not in-depth
	Coding
	Not reading thoroughly, rarely discussion,
Quotation	Maybe because of my lack of knowledge, sometimes I have to think about a new old thing (W2, P4)
	Rarely question and answer session in campus class, so we're not ready if there are questions (W1, P2)
	It seems like the understanding of their theory is less pronounced (W2, P6)
	There are many tasks, sometimes not having to read until you understand (W1, P1)
	Theme 5: Lack of empathy for patients
	Category
	Unconditioned trust
	Coding
	not therapeutic, rare contact, not deep
Quotation	Sometimes afraid of the patient's room, afraid of being questioned.(W1, P3)
	We are afraid to meet patients(W1, P6)
	Only contact with the patient in a few minutes (W2, P2)
	Category
	Not knowing the patient
	Coding
	Restrictions, procedures
Quotation	Since the pandemic, there has been no free contact with patients (W2, P1)
	We animate the spread risk (W1, P5)
	It is indeed restricted to talking to patient (W1, P2)
	It's limited because of this pandemic(W2, P7)

CONTINUE

Table III. Theme Formation (Cont.)

	Theme 6: Rarely communicate therapeutically
	Category
	Less understanding
	Coding
	Unidirectional information, no validation of information
Quotation	The practice of communication through online only, do not meet lecturers (W1, P7)
	In online learning, it's hard to ask a lot, time is limited (W2, P1)
	A lot of learning online, less asking back material that is less served(W2, P3)
	Category
	Limitations of Trying
	Coding
	Online learning, individual assignments
Quotation	Communication is practiced through internet media (W3, P3)
	Simulation with friends, and also present it through zoom (W1, P2)
	In our new nurse understanding online program, should be improved (W3, P6)
	Theme 7: Hard to build a close relationship
	Category
	Selfishness
	Coding
	Less care, less compassion
Quotation	Yes the name is already a sick destiny, it's important to be patient (W2, P7)
	This generation of pandemics, lost its sense of sensitivity (W3, P3)
	With each other sometimes we just don't care, what about the patient(W1, P5)
	Category
	Difficult to work together
	Coding
	Working alone, hard to share
Quotation	I myself prefer to design my own work, many give advice, but in the end it's not finished (W3, P5)
	It's hard to learn how to work together, you have to learn it, don't just ask questions (W2, P3)
	It's been said, the work is together let each other exchange ideas, but it seems difficult to say (W2, P4)

Table IV. Integrated Quantitative and Qualitative result

Quantitative Result		Qualitative Results		Meta -inference
Results	**Summary**	**Sample themes**	**Summary**	
p-value: 0.031	online learning correlates with clinical competence	Quickly learn to run digital medical devices Capable of making good reports	improvement of skills in using digital technology	The online method not adequate to be implemented in nursing clinical competency learning
		Lack of confidence Late in making decisions Lack of empathy for patients Rarely communicate therapeutically It is hard to build a close relationship	nursing skills, empathy, value internalization and communication are still lacking	

DISCUSSION

As the core of professional education, clinical nursing competence is crucial for receiving special attention. The COVID-19 pandemic can influence the achievement of nursing student competencies (19–21), and it has forced changes in the clinical education process (12,22) by using multimedia facilities (23). This condition creates stress for students, and an adaptation process is needed (11,24,25). Unfortunately, students have no experience in clinical nursing practice because of the prohibition to care directly during the pandemic (26).

Based on participants' experience, an online learning process can facilitate their knowledge. Some applications provide immense opportunities to study repeatedly using a recorder, as previous research explains the impact of repeated learning (27–29). Likewise, triangulation data shows that new nurses have good clinical knowledge. However, it turns out that the accomplishment of learning theory does not directly impact clinical nursing competence. Skills as basic human abilities should be trained, honed, and developed continuously in clinical settings (12,21,30).

Participants in this study were new nurses who graduated in 2020 and did not get to learn in the clinic for one year, namely in the third year. This condition occurred because of the implementation of clinical learning prohibition because of the Covid-19 outbreak in Indonesia in early 2020. The clinical supervisors assisted students in guiding the learning process through videos. Implementing an integrated web-based learning program enables students to develop better clinical skills and minimize patient risks. However, learning clinical skills is highly dependent on hands-on practice; doing the simulation via video is not enough. Applying skills directly under clinical instructor guidance is a powerful way of clinical learning (22). Exposure to conditions gives insight and special education because students acquire complex situations (10,30,31). Nurses' clinical competence focuses on encountering human needs comprehensively (1,19), including values, beliefs, and culture (32–35). The participants gain less experience and learn how to interact with patients. Student competence in self-confidence, analysis, decision-making, empathizing, and establishing professional relationships with patients is inadequate.

On the other hand, improving new nurses' skills in using equipment and making reports involving digitalization is very quickly mastered. The new nurse is a millennial generation who can quickly adapt to technological developments (22,29,31). New nurses seem skilled at operating digital-based equipment and preparing reports that utilize technology, as revealed by senior nurses and head nurses.

Nursing students are learning attitudes in clinical competence related to their patients' responses. Some individual attitudes can differ from the same thing because circumstances, experiences, information, and personal needs influence them. A person's attitude towards an object forms an individual's behavior (11,27,36). The online learning experience can create student awareness to observe and analyze patient needs and foster nurse empathy in a therapeutic relationship (19,35). The previous information influenced the assessment of the individual's personal experience during social processes and reciprocal relationships between individuals and their surroundings. Based on the analysis results, it was explained that new nurses had a bad attitude about the lack of confidence and doubts when treating patients, as conveyed by senior nurses and head nurses.

Nurses' clinical decision-making is complex, affecting the quality of services and patient outcomes(22,27). Clinical judgments and decisions are needed to obtain optimal service quality. The clinical decision-making process is an essential component of the nursing process (36). Skills are required because nurses' limited knowledge and ability can prevent nurses from making decisions about the care of clients. Critical to understand decision-making in clinical nursing practice as a series of decisions in the interaction of nurses with patients. After conducting nursing assessments, they formulate nursing diagnoses, action plans, implementation, and evaluation (31,36). Nurses' ability to identify client problems and choose appropriate intervention solutions cannot be separated from nurses' knowledge to think critically based on the evidence base of each issue and solution (21,36). Critical thinking is essential before making decisions in nursing care as one of the scientific methods of solving client problems. Online learning is less able to train students to develop critical thinking skills. Consequently, they cannot think fast in making decisions quickly and accurately.

Internalization of compassion and cooperation values is essential in nurses' care. Arranging the noble nursing values in the clinical setting (11,19,36), and the capability of sensitivity, compassion, empathy, and tolerance should be instructed adequately (36,37). The loss of a nurse's conscience will perform a nurse like a robot, taking action without comprehensively exploring the patient's condition. Effective communication is supposed to be the solution to comprehending goals achievement (19,28,29). The nurse's reliability significantly establishes patient satisfaction in communicating, providing confidence, calming, empathy, reflecting giving whole-heartedly care.

According to the findings of quantitative data analysis, there is a general correlation between online learning and the clinical competence of new nurses. However, after further investigation, it was discovered that the enhancement of clinical competence focused on

mastering technology and documentation. Although without having to interact with patients, nurses' technology competencies can enhance. Nurses developing self-confidence, analyzing, making decisions, empathizing, and interacting with professionals require interaction with patients, which cannot accomplish due to the clinic's restriction on learning.

CONCLUSION

The lack of nursing skills, attitudes, internalization of values, and communication of new nurses indicate that online learning systems cannot wholly replace face-to-face learning methods. Emphasis on modifying learning methods refers to clinical competence by taking into account the flexibility and dynamics of the learning process becomes the main weight in special conditions to overcome time and place limitations. Academic management facilitates clinical nursing practice in clinical settings, even in pandemic situations. Modifying clinical orientation programs prepares new nurses for natural nursing care. By collaborating with nursing skills educators in the laboratory, academics administrator can implement technology more intensive in describing conditions in the clinic and its service system and interact therapeutically with patients.

ACKNOWLEDGEMENTS

We would like to thank the participants for their willingness to take their valuable time to conduct this research and management of the Health Polytechnic of Palembang.

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