Interprofessional clinical simulation in enhancing patient centered care competency among Indonesian nursing students: A mixed methods design

Galih Jatnika[1*], **Jordan Tovera Salvador**[2]

[1] Faculty of Health and Technology Sciences, Jenderal Achmad Yani University, Cimahi, Indonesia
[2] Department of Nursing Education, College of Nursing, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia

Abstract

Background: Nursing clinical simulations to improve patient centered care (PCC) competency are currently often limited to nursing students. Interprofessional clinical simulations are designed to improve PCC competency by involving students from various health professions, including medicine, physiotherapy, nutrition, and medical laboratory technology.
Purpose: This study aimed to identify the effect of interprofessional clinical simulation on patient centered care competency.
Methods: This research used a convergent parallel mixed methods design. The quantitative study involved 50 respondents, and the qualitative study involved 9 participants. Two case scenarios were given in the simulation. The instrument was used patient centered care competency scale. Quantitative data were analyzed using the Wilcoxon test, qualitative data using thematic analysis, and the two data sets were integrated using a joint display table.
Results: Quantitative results showed a significant effect of the interprofessional clinical simulation in enhancing PCC competency ($p<0.001$). Qualitative findings identified four themes and fourteen subthemes. The themes are valuing and honoring the patient's viewpoint, ensuring patients are fully engaged in their treatment plan, addressing the patient's discomfort for peace and well being and protecting the patient's rights and needs. The integration of the two data showed that the quantitative research results converged with the qualitative research results.
Conclusion: The results of the increase in PCC competency scores converged with most themes and subthemes from nursing student's experiences.

Keywords: competency; interprofessional clinical simulation; mixed-methods; nursing student; patient centered care

OPEN ACCESS

Jurnal Keperawatan Padjadjaran (JKP)

Volume 13(3), 320-331

http://dx.doi.org/10.24198/jkp.v13i3.2907

Article Info

Received : August 21, 2025
Revised : October 08, 2025
Accepted : December 18, 2025
Published : December 25, 2025

Corresponding author

Galih Jatnika*
Faculty of Health and Technology Sciences, Jenderal Achmad Yani University, Cimahi, Indonesia; Address: Jl. Terusan Jenderal Sudirman, Cimahi, Jawa Barat, Kota Cimahi, Jawa Barat 40525; Mobile Phone: 08121468631, Email: galih_ikd@yahoo.com

Citation

Jatnika, G & Salvador, J. T. (2025). Interprofessional clinical simulation in enhancing patient centered care competency among Indonesian nursing students: A mixed methods design. *Jurnal Keperawatan Padjadjaran, 13*(3), 320-331. http://dx.doi.org/10.24198/jkp.v13i3.2907

Website

http://jkp.fkep.unpad.ac.id/index.php/jkp

E-ISSN: 2442-7276
P-ISSN: 2338-5324

Introduction

Currently, many nursing services and their management have applied the principle of patient centered care (PCC). Patient centered care is defined as respected patient's preference, needs, values, and ensures that patient's value is guided in all clinical decision making. PCC Implementation can improve patient adherence, encourage patients to be more responsible for their health and can guide the direction for achieving health outcomes (Araki, 2019). Patient centered care is a crucial component of modern healthcare, but its implementation still faces several barriers, including staff shortages and time constraints, inadequate communication training, environmental issues, and resistance to change (Alqahtani et al., 2023). Several barriers to PCC implementation have been identified from a multidisciplinary perspective (patients, nurses, doctors, and managers): organizational barriers, including staff shortages, high workloads, and lack of guidelines; and barriers from the service provider perspective, including a lack of a holistic perspective and the dominance of a medical perspective (Charosaei et al., 2023). Currently, many healthcare services are still oriented toward

disease centered care or medical centered care. Most healthcare organizations worldwide focus solely on medical centered care rather than patient needs (Edgman-Levitan & Schoenbaum, 2021). The implementation of PCC by nurses in hospitals in Indonesia shows that it is still ineffective and it is recommended that in its implementation, training and introduction regarding patient centered care be provided to health workers so that they can implement it well and thus improve the quality of service (Putra et al., 2021).

PCC can improve the quality of healthcare services, enhance patient satisfaction, and reduce the length of hospital stays, but PCC implementation by healthcare members is still not as expected. PCC implementation by nurses still requires improvement so that services provided can be more oriented to patient's needs. As nurse educators, PCC models must be trained since these nurses are taking their nursing education. To address this problem, academia must collaborate with clinical settings to bridge the gap and achieve quality services (McKeon et al., 2009). PCC is one of six skills including healthcare competencies that must be mastered by nursing students. Competency is a measurable performance that is expected to integrate knowledge, attitudes and skills that must have by someone. Actually, the gold of competence is to provide quality service. This competency must be given and trained from an early age as an effort to bridge the problems in the nursing service order. Increased competence to bridge the gap in this problem can be done by increasing PCC competency since this nurse take their nursing education.

One of the learning methods in enhancing competency among nursing students is by giving clinical simulation. Interprofessional clinical simulation is a technique that creates situations and experiences such as in real healthcare event situations and environments with the aim of learning, practicing, testing and evaluating experiences or increasing understanding of a healthcare event. Based on this description, the objectives of this study are to identify the effects of interprofessional clinical simulation in improving PCC competency among Indonesian nursing students, to explore the learning experience of using interprofessional clinical simulation as an effort to improve PCC competency among Indonesian nursing students, to integrate both data using a convergent parallel mixed methods study and to gain more comprehensive insight from both research results.

Material and Methods

Design

This study used a convergent parallel mixed methods design. A convergent parallel mixed method design is research that collects and analyzes quantitative data and qualitative data independently and continues by comparing and combining the two data at the interpretation stage (Creswell & Clark, 2018). Quantitative data in the form of changes in PCC competency score was collected simultaneously with qualitative data in the form of nursing student's experiences in carrying out interprofessional clinical simulations. The two data were then integrated to obtain more comprehensive research results.

Participants/sample

The results of calculating the number of quantitative phase was used G power analysis for one group sample t test by looking at the difference between two dependent means with actual power of 95% with an alpha level of 0.05 showed a total sample size were 50 respondents. The sampling method was used proportional stratified random sampling. The proportion of respondents from each level/year are: first year of 16 nursing students, the second year of 10 nursing students, the third year of 13 nursing students and the fourth year of 11 nursing students. Participants in qualitative research come from respondents in the quantitative research phase. The number of participants in qualitative research was 9 participants, which was determined based on data saturation. The nursing students who participated in this research were nursing students from the Faculty of Health and Technology Sciences, Jenderal Achmad Yani University.

Data collection

The research was conducted in three phases, namely the quantitative phase, the qualitative phase and the data integration phase. In the quantitative phase, respondents were given two cases about patients with cultural backgrounds who use alternative medicine to treat chronic diseases and a case about a patient who still wants to perform religious duties despite being sick. Then, they conducted a simulation on the application of patient centered care according to the cases by involving medical students, physiotherapy, nutrition, medical laboratory technology students in the simulation activities with a simulation implementation time of 30 minutes for each case. Before and after the simulation, PCC competency measurements were carried out using a patient centered care competency scale. In the qualitative phase, semi structured interviews were conducted with participants to explore their experience of conducting interprofessional clinical simulation. Interviews used semi structured guide questions based on the PCC competency scale dimensions. The interview process with participants was recorded using a voice recorder. In the third phase, data integration was carried out between data on improving PCC competencies and data on participants' experiences in participating in interprofessional clinical simulation using a joint display table. Data integration was carried out to compare whether quantitative data and qualitative data were converging or diverging.

Validity and reliability/Trustworthiness

The patient centered care competency scale

instrument can numerically assess the level of PCC competency among nursing students. Patient centered care competency scales instrument consists of four domains, seventeen items in PCC competency including Respecting Patients' Perspectives (6 items), Promoting Patient Involvement in Care Processes (5 items), Providing for Patients' Comfort (3 items) Advocating for Patients (3 items). This instrument used a five-point Likert scale (1) minimum, (2) below average, (3) average, (4) good, (5) excellent, which the participants chose to rate their competencies. (subjective, self-assessment). The Patient Centered Care Competency Scale was validated in two general hospitals in Seoul, Korea (Hwang, 2015). The Cronbach's alpha coefficient was 0.95 for the total PCC competency scales and 0.83, 0.91, 0.86, 0.83, and 0.85 for the subscales of PCC competency. Validity and reliability of the PCC competency scale were also tested on registered nurses in Finland, with Cronbach's alpha coefficients for the seventeen items instrument being 0.92 and for the subscales, 0.80–0.85 (Suhonen et al., 2021). The English version of the patient centered care competency scale has been translated into Indonesian and the results of the validity and reliability test show a Pearson correlation showing a significant correlation with the total score at the $p \leq 0.05$ level ($r = 0.632$ to $r = 0.930$) and a Cronbach's alpha coefficient value was 0.961 for all items of the patient centered care competency scale so that the patient centered care competency scale can be adapted to measure PCC competency among Indonesian nursing students. In the qualitative phase, semi structured interviews were conducted using an interview guide based on 4 domains in the patient centered competency scale by asking about participants' experiences in the implementation of the PCC domain in the simulation process, including respecting patients' perspectives, promoting patient involvement in the care process, providing for patient comfort, and advocating for patients. In qualitative research, data triangulation was carried out by comparing interview data and observation results by two facilitators to ensure consistency between answers and participant experiences. All interview data were

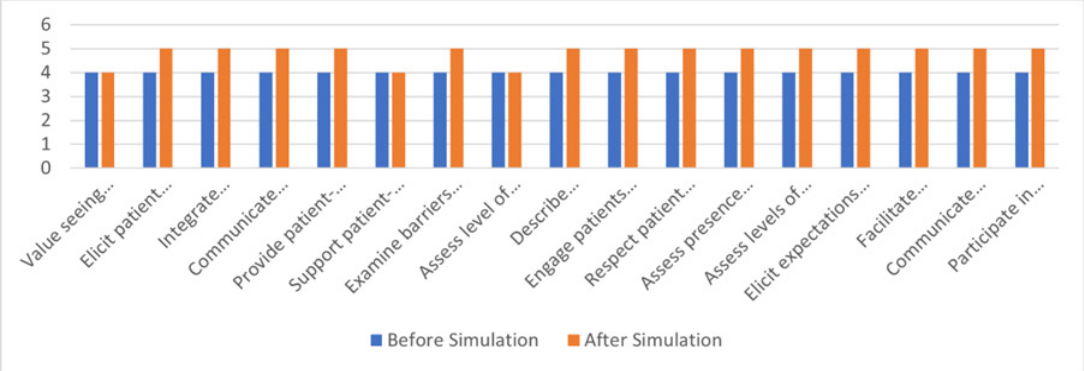

Figure 1. Changes in PCC competencies between before and after conducting interprofessional clinical simulation.

Table 1. Characteristics of Respondents (N=50)

Demoghraphical Characteristics	Frequency	Percentage	Mean	Standart Deviation
Age				
< 20	24	48 %	20.6	(SD ± 0.99)
> 20	26	52 %		
Gender				
Male	7	14 %		
Female	43	86 %		
Civil Status				
Single	50	100 %		
Year Level				
First Year	16	32 %		
Second Year	10	20 %		
Third Year	13	26 %		
Fourth Year	11	22%		

Table 2. The Effect of Utilizing the Interprofessional Clinical Simulation in Improving Patient Centered Care Competency Among Indonesian Nursing Students

Dimensions and Items	PCC Scores Pre (Median ± min - max)	PCC Scores Post (Median ± min - max)	P value
PCC total	4.0 (range 3.0 -5.0)	5.0 (range 4.0-5.0)	0.001
PCC Dimensions			
I. Respecting for Patients Perspective	4.0 (3.0-5.0)	5.0 (3.0-5.0)	0.001
1. Value seeing health care situations through patient's eyes.	4.0 (2.0-5.0)	4.0 (3.0-5.0)	0.001
2. Elicit patient values, preferences and needs as part of clinical interview, implementation of care plan, and evaluation of care.	4.0 (3.0-5.0)	5.0 (3.0-5.0)	0.001
3. Integrate understanding of multiple dimensions of patient centred care such as patient and family preferences.	4.0 (2.0-5.0)	5.0 (3.0-5.0)	0.001
4. Communicate patient values, preferences and need to other health care team members.	4.0 (2.0-5.0)	5.0 (3.0-5.0)	0.001
5. Provide patient centered care with sensitivity and respect for the diversity of human experience.	4.0 (2.0-5.0)	5.0 (3.0-5.0)	0.035
6. Support patient centred care for individuals and groups whose values differ from own	4.0 (3.0-5.0)	4.0 (3.0-5.0)	0.004
II. Promoting Patient Involvement in the Care Process	4.0 (3.0-5.0)	5.0 (4.0-5.0)	0.001
7. Examine barriers to active involvement of patients in the care processes.	4.0 (2.0-5.0)	5.0 (4.0-5.0)	0.001
8. Assess level of patient's decisional conflict and provide access to resources.	4.0 (2.0-5.0)	4.0 (3.0-5.0)	0.001
9. Describe strategies to empower patients or families in all aspects of care process.	4.0 (2.0-5.0)	5.0 (4.0-5.0)	0.001
10. Engage patients or designated surrogates in active partnerships that promote health, safety and well being, and self care management.	4.0 (3.0-5.0)	5.0 (3.0-5.0)	0.001
11. Respect patient preferences for degree of active engagement in care process	4.0 (3.0-5.0)	5.0 (4.0-5.0)	0.002
III. Providing for patients Comfort	4.0 (3.0-5.0)	5.0 (4.0-5.0)	0.001
12. Assess presence and extent of pain and suffering.	4.0 (3.0-5.0)	5.0 (4.0-5.0)	0.007
13. Assess levels of physical and emotional comfort.	4.0 (3.0-5.0)	5.0 (4.0-5.0)	0.001
14. Elicit expectations of patient and family for relief of pain, discomfort and suffering.	4.0 (3.0-5.0)	5.0 (4.0-5.0)	0.001
IV. Advocating for Patients	4.0 (3.0-5.0)	5.0 (3.0-5.0)	0.001
15. Facilitate informed patient consent for care.	4.0 (3.0-5.0)	5.0 (4.0-5.0)	0.001
16. Communicate care provided and needed at each transition in care.	4.0 (2.0-5.0)	5.0 (3.0-5.0)	0.001
17. Participate in building consensus or resolving conflict in the context of patient care	4.0 (3.0-5.0)	5.0 (3.0-5.0)	0.001

returned to participants for confirmability checks to ensure consistency of answers and credible data. Considering that this study used a self-assessment tool whose results can be subjective, the researcher emphasizes data confidentiality and anonymity and there are no right or wrong answers in the interview activities but focuses on the perception of each participant's experience is a valuable point in this study.

Data analysis

Before analyzing the quantitative data, a data

Table 3. Factor loading of individual items in CRAFTT

Participants	Age	Gender	Year/Level	Civil status
#1	20	Male	Year 3	Single
#2	23	Female	Year 4	Single
#3	22	Female	Year 4	Single
#4	21	Female	Year 4	Single
#5	21	Female	Year 3	Single
#6	21	Female	Year 3	Single
#7	21	Female	Year 2	Single
#8	20	Female	Year 1	Single
#9	22	Female	Year 4	Single

normality test was conducted and it was found that the PCC competency score data was not normally distributed, so the PCC competency score data was presented using the median value and added the minimum and maximum scores. The difference test between PCC scores before and after the interprofessional clinical simulation used the Wilcoxon test. In the qualitative study, analysis was carried out using the Colaizzi technique. The audio recordings were converted into interview transcripts for further coding to determine themes and subthemes using Nvivo 12 software. The two datasets from the quantitative study and qualitative study were merged using a joint display table for comparison to see whether the experience of conducting interprofessional clinical simulation converged or diverged with the PCC competency improvement score.

Ethical consideration

We strictly uphold and adhere to the ethical principles of the Declaration of Helsinki (World Medical Association [WMA], 1964) throughout the conducting of this study. We uphold the ethical principles of human research to ensure that no ethical violations occur in the research process. This study upholds ethical principles including, autonomy, confidentiality, informed consent, justice, beneficence, and nonmaleficence. This research was already approved by Health Research Ethics Committee, Faculty of Health and Sciences, Jenderal Achmad Yani University, ethical clearance letter number 088/KEPK/Fitkes-Unjani/VII/2024. This research was conducted in July 2024 in the laboratory of the Faculty of Health and Technology Sciences, Jenderal Achmad Yani University.

Result

The research results consist of three phases, namely the quantitative phase, the qualitative phase and the data integration phase.

Quantitative Phase

The Demographic profile in Table 1 shows respondents in the quantitative study were fifty nursing students with an average age of 20.6 (SD ± 0.99) years. Eighty six percent (n = 43) of respondents were female and seven percent (n = 7) were male. All respondents (n = 50) were unmarried. The number of nursing students based on year/level consisted of 16 (32%) respondents from first year, 10 (20%) respondents from second year, 13 (26%) respondents from third year and 11 (22%) respondents from fourth year.

Based on Table 2 there was a significant increase in the PCC total score from score 4.0 (range 3-5) to 5.0 (range 4-5) with a p value of 0.001 (p value < 0.05). There was a significant effect in enhancing PCC competency after utilizing interprofessional clinical simulation among Indonesian nursing students. In the PCC dimension 'Respecting for Patient's Perspective', there was a significant increase in the PCC score from 4.0 (3-5) to 5 (3-5) with a p value of 0.001 (p value < 0.05). In the PCC dimension 'Promoting for Patient's Involvement in the Care Process', there was a significant increase in the PCC score from 4.0 (3-5) to 5 (4-5) with a p value of 0.001 (p value < 0.05). In the PCC dimension 'Providing for Patient's Comfort', there was a significant increase in the PCC score from 4.0 (3-5) to 5 (4-5) with a p value of 0.001 (p value < 0.05). In the PCC dimension of 'Advocating for Patients', there was a significant increase in the PCC competency score from 4.0 (3-5) to 5 (3-5) with a p value of 0.001 (p value < 0.05). There were significant effects in all PCC dimensions after utilizing interprofessional clinical simulation in enhancing PCC competency among Indonesian nursing students. There was a significant increase in 17 PCC items after utilizing interprofessional clinical simulation in enhancing PCC competency among Indonesian nursing students (P value < 0.05).

Based on Figure 1 shows that all 17 PCC items score before simulation was rated between moderate and good level, while after simulation shows 14 PCC items were at good level and only 3 PCC items stayed between moderate and good level.

Qualitative Phase

Based on Table 3 shows nine nursing students as

Table 4. Empirical Data Correlation Matrix of CRAFFT (n=80)

Overall Pcc and Dimensions	Change in Pcc Scores (Quantitative Result)	Nursing Students Experiences (Qualitative Subthemes)	Quantitative and Qualitative Integrated
Respecting Patients Perspective	4.0 to 5 □1.0 Between moderate and good level to a good level (Significant)	• Learned new knowledge.“There are many lessons that can be learned from this regarding….” # 1 “This is my first experience, sir, appreciating the values of patients, so I learned a lot.”#3 “Well, we can do this by respecting opinions and as previously learned...” #7 • Shared decisions making. “In my experience, I respect the patient’s decision,sir.”#2. “we have to respect the patient’s decision...”#3 “Because everything was decided by the client…#4 • Communicating patients value, preferences, needs to other nurses and other health professionals. “… the method is by communicating to the doctor that the patient does not want to use conventional medicine.” #3 “I try to communicate with other professions ….”#4. “I will explain in as much detail as possible regarding what the patient has, how the patient’s values and beliefs are so that colleagues ...” #6. “I will first explain to my team members or other nurses ....” #9	Converge
Promoting Patient Involvement in The Care Process	4.0 to 5 □1.0 Between moderate and good level to a good level (Significant)	• Good communication between nurses and patients. “The communication factor itself...”#6. “then also the approach and communication ...” #7 • Striving to get patients actively involved in the care process. “… I ask little by little so that I can provoke the patient to talk, like how are you?, ...” #2 “… start to explore slowly with the client, this family we might play with questions sir so that the client can answer by for example we give open questions not closed questions.” #4 • Getting trust form patients and family. “… so the most important factor is the trust factor first sir.”#4. “… sometimes the patient also does not fully trust the medical staff so that is what must be attempted.”#6 “The factors can be the patient’s trust in nursing actions...” #7 • Involving family in care process “Maybe next e with the support of your family like having family beside you ...” #1. “.., yes so from the family.” #2 “In terms of family support. That’s it sir.”#3. “… you can ask the family if the patient is less willing to chat with us.” #8	Converge
Providing for Patient Comfort	4.0 to 5 □1.0 Between moderate and good level to a good level (Significant)	• Reducing pain and patient discomfort. “by asking whether the patient feels any pain or the patient feels discomfort...”#6 “Well, maybe we can do it by relaxing the pain that is felt and also distraction.” #7 • Sensitivity to the patients verbal and nonverbal response. “I have done the first from the expression of the face...” #1. “seen like that we have to see the expression on his face ...”#2 “… from the facial expression, emotional from a small sad tone of voice.”#3. “… we can assess and assess the level of physical and emotional comfort of the patient.”#7 “Uh, maybe for comfort, sir, if it is not comfortable, it can be seen from the expression,...” #8 “by examining their facial expressions when talking, ...” #9 • Feeling closeness with patients. “… I felt closer to the client.” #4. “yes, as previously reviewed, get closer to the patient, ….” #9	Converge

participants in the qualitative phase who conducted interprofessional clinical simulation. The average age of the participants was 21.2 years old (SD ± 0.97). There were eight female participants and one male participant. The nursing student’s participants consisted of four students from the fourth year, three students from the third year, one student from the second year and one student from the first year. All participants were unmarried.

This study identified several themes and subthemes about the experiences of nursing students utilizing interprofessional clinical simulation.The

Cont. Table 4. Empirical Data Correlation Matrix of CRAFFT (n=80)

Overall Pcc and Dimensions	Change in Pcc Scores (Quantitative Result)	Nursing Students Experiences (Qualitative Subthemes)	Quantitative and Qualitative Integrated
Advocating for Patients	4.0 to 5 □1.0 Between moderate and good level to a good level (Significant)	• Providing informed consent for patients. "so I do informed consent first before taking action."#2 "By telling them, explaining the positives and negatives, telling them slowly… giving information to patients about alternative medicine."#3 "Communicating patients' values, preferences, needs to other nurses and other health professionals "…we are open to patient care."#1 "The strategy is…by communicating to the doctor …."#3. "I try to communicate with other professions..."#4 "I will explain in… that colleagues will also understand..."#6 "I will first explain to my team members or other nurses so … so that they have the same perception when dealing with the patient." #9 • Provide complete, clear information, using language that patients can understand. "… explain in detail and use easy-to-understand language." #7. "by providing information as clearly as possible ...." #8 • Ensuring patients get the best care and good medication. "… consult more with the doctor, ensure patients get the right and good medicine."#3 "… not only from us but from other health workers so that they can support good client care."#4. "… we inform you first so that there are no mistakes." #7 • Communicate about patient condition in every shift change. "… provide the information they have received and tell it to the next shift." #1. "… writing and reading it to be communicated to the next shift nurse." #2. "I explain to the next shift regarding the client's general condition, ..." #4. "to the next nurse it is explained that we have conducted an assessment, ..."#5. "by maybe discussing sir so all the nurses from the previous shift and the next shift …."#8. "during the handover carried out by the next shift, I will explain again what the characteristics of the patient are...."#9	Converge
Overall PCC	4.0 to 5 □1.0 Between moderate and good level to a good level (Significant)	Observation score 3.75 (range 3.25 – 4.0) by facilitators was rated as competent.	Converge

results of qualitative research regarding participants experiences after participating in interprofessional clinical simulation based on PCC dimensions revealed 4 themes and 14 subthemes. The theme of Valuing and Honoring the Patient's Viewpoint was obtained by 3 subthemes including learning the ability to respect patient's values, preferences, needs, norms, religion and culture, shared decisions making, and communicating patient's values, preferences, needs to other nurses and other health professionals. The theme of Ensuring Patients are Fully Engaged in their Treatment Plan found 4 subthemes including good communication between nurses and patients, striving to get patients actively involved in the care process, getting trust from patients and family and Involving family in the care process. The theme of Addressing the Patient's Discomfort for Peace and Well Being obtained three subthemes including reducing pain and patient discomfort, sensitivity to the patients verbal and nonverbal responses and feeling closeness with the patient. Next, Protect the Patient's Rights and Needs has 4 sub themes including providing informed consent for patients, providing complete, clear information, using language that patients can understand, ensuring patients get the best care and good medication, communicating about patient condition in every shift change.

Data Integration Phase

Based on Table 4, the integration between quantitative results and qualitative findings shows that the results of the PCC competency score for the Respecting Patients' Perspective dimension converge with participants describing learned new knowledge after participating in the interprofessional clinical simulation. The results of integration in the PCC dimension of Promoting Patient's Involvement

in the Care Process between the results of increasing the PCC competency score converge with participants describing having tried to involve patients as active participants in their care by having good communication between nurses and patients and families and frequently greeting clients. The results of integration on the PCC dimension Providing for Patients' Comfort between the results of increasing PCC scores from between moderate and good level to a good level is converge with participants describe providing patient comfort can be done by being sensitive to the patient's verbal and nonverbal responses, reducing complaints and eliminating pain to provide for patient comfort and also expressing a feeling of being closer to the patient. The results of the integration of the PCC dimension of Advocating for Patients between the results of increasing the PCC scores from 4.0 to 5.0 or become a good level is converge with participants describe advocating for patients can be done by providing informed consent for patient, providing the clearest possible information to patients, ensuring that patients receive good care and treatment and always communicating with other nursing teams at every nursing transition. The integration results between the quantitative research results in the form of PCC competency scores converge with qualitative findings in the form of nursing students' experiences after utilizing interprofessional clinical simulation.

Discussion

Quantitative Phase

PCC competency total score before being given the interprofessional clinical simulation was rated between moderate and good level at 4.0 (range 3-5) and the PCC competency total score after used the interprofessional clinical simulation at a good level at 5.0 (4-5). The results of this study indicate that there is a conformity with the results of previous research by Kim (2022) on factors influencing patient centered care in nursing students at 3 universities in Korea after undergoing at least 6 months of clinical training, the PCC competency score was 3.69 + 0.46 (range 1-5) and nursing professional values were factors influencing patient centered care competency among nursing students.

The results of this research are also in line with previous research by Pakkonen et al. (2023) which stated that PCC competency total score among nurses working in long term care was found at 3.80 (SD ± 0.45) or was rated between moderate and good level. The results of this study are also similar to other studies by Hwang et al., 2019 who conducted a study on nurses in a hospital environment and found that the patient centered care competency total score was 3.61 (SD ± 0.46) or was rated between moderate and good level. The results of this study are also in accordance with the results of previous studies (Katja et al., 2023) that examined PCC competence in registered nurses who provide individualized care for older hospitalized patients, which found PCC competence was at a good level.

In the PCC dimension 'Respecting for Patients' Perspective', there was a significant increase in the PCC score from 4.0 (3-5) to 5 (3-5) with a p value of 0.001 (p value < 0.05). In the PCC dimension 'Promoting for Patients' Involvement in the Care Process', there was a significant increase in the PCC score from 4.0 (3-5) to 5 (4-5) with a p value of 0.001 (p value < 0.05). In the PCC dimension 'Providing for Patients' Comfort', there was a significant increase in the PCC score from 4.0 (3-5) to 5 (4-5) with a p value of 0.001 (p value < 0.05). In the PCC dimension of 'Advocating for Patients', there was a significant increase in the PCC competency score from 4.0 (3-5) to 5 (3-5) with a p value of 0.001 (p value < 0.05). The researcher argued that there was a significant increase in PCC competence because simulations involving interprofessionals such as doctors, lab analysts, can further improve the ability to master patient centered care. This is supported by previous research by Kari et al. (2022) who studied developing a patient centered care team model for home living older adults with multimorbidity in primary health care centers stated that an interprofessional patient centered care model will further improve holistic and more people centered care because interprofessionals benefit more from the skill mix.

At the PCC items level before being given the interprofessional clinical simulation, 17 PCC items with a score of 4.0 were rated between moderate and good levels. The researcher argued that the PCC score before intervention was already high, which could be caused by the nursing students having been exposed to clinical practicum so that they already had previous experience in providing patient care. The lack of PCC competency mastered by nursing students can also be caused by obstacles such as in previous research by Kim dan Kim (2023) which examined the experiences and perceptions of nursing students regarding barriers when implementing patient centered care in clinical settings including busyness, educational challenges, lack of awareness, lack of relationship building and lack of a policy approach. After these nursing students were given a patient centered care simulation packaged under the name interprofessional clinical simulation, an increase in PCC scores was found on 14 PCC items to a score of 5.0 or were at a good level and only 3 PCC items included value seeing health care situations through patients eyes, supporting patient centered care for individuals and groups whose values differ from own and assessing the level of patient's decisional conflict and providing access to resources got a median score of 4.0 or at between moderate and good level.

Nurse advocates provide support and empower patients and collaborate with interprofessional and also recommend support from other health care professionals to patients based on patient need and preference to ensure patients receive

the best care, examination and therapy from other health care workers. This is supported by previous research (Heier et al., 2024) which examined the effect of providing interprofessional communication skills training involving medical trainees and nurse trainees, which found a significant effect on improving interprofessional error communication skills, teamwork, roles, responsibilities and increasing patient centeredness in medical trainees and nurse trainees. Through the interprofessional clinical simulation, nursing student's PCC skills will be better trained. Researchers recommend a PCC competency learning simulation that also involves other health students such as medical students, analyst students, pharmacy students so that later these nursing students can provide holistic care and more patient centered care.

Qualitative Phase

The results of qualitative research regarding participant's experiences after participating in interprofessional clinical simulation based on PCC dimensions revealed 4 themes and 14 subthemes. The results of this study are consistent with previous research (Carlsson et al., 2022), who conducted an evaluation of registered nurses experiences of patient centered care competency after being given a digital competence in care (DCC) intervention was obtained the category of being open to change and new ways of working and the subcategories of feeling strengthened by new knowledge, being inspired by others and meeting demand with an open mind for seamless care.

Patient centered care is a care that encourages patients to be more active participants in their care. This result is in line with previous research (Lateef & Mhlongo, 2022) which examined the perceptions of 30 nurses in primary healthcare facilities in Nigeria towards patient centered care, which found 4 categories, namely poor approach by nurses, lack of enforcement agency, outcome driven healthcare, valued care provider, communication to sharpen care and driven healthcare service.

Ensuring patients are fully engaged in their treatment plan is one of the themes in PCC competency that further encourages patient engagement in their care process. This is also supported by the results of previous studies (Clavel et al., 2021) which state that there are 3 important components in patient engagement in care, namely empowerment, patient centeredness and shared decision making. More active involvement of patients and families in their care can better adjust care that fits the patients' needs, patients' preferences and increase patients' satisfaction.

Addressing the patient's discomfort for peace and well being is a theme in the principle of patient centered care. The results of this research are in accordance with previous research (Carlsson et al., 2022) which examined the experience of patient centered care competence in the register nurses after participating in digital competence in care (DCC). The category of focusing on patients despite the distance was obtained with 2 subcategories, namely initiating individually tailored meetings and creating closeness and a sense of security despite the distance.

Protect the patient's rights and needs is one of the themes in patient centered care that seeks to ensure that patients receive the best care and treatment according to their needs. The results of this study are in line with previous studies (Lateef & Mhlongo, 2022) that examined the experiences of registered nurses about patient centered care competence working in primary healthcare facilities in Nigeria, which found 4 categories including poor approach by nurses and lack of enforcement agency, outcome driven healthcare, valued care provider, communication to sharpen care and driven healthcare service.

Participants describe that through efforts to provide informed consent and communicate between other health teams is an effort to advocate for patients. It was found that there was conformity with the patient centered care competency scale measuring instrument used, namely items in the patient advocacy dimension including facilitating informed patient consent for care and communicating care provided and needed at each transition in care (Suhonen et al., 2021). Nursing students describe that advocating for patients is done by communicating the condition, results of studies and actions that have been given to patients to other health workers and also to other professionals such as physicians and laboratory analysts to ensure that patients will receive the best care, the best lab tests and the best treatment.

Data Integration Phase

Interpretation of the combined result between the respect for patient's perspective dimension using an increase in PCC competency score from 4.0 to 5.0 is consistent with the results of qualitative research in the form of 3 subthemes, including learned new knowledge, shared decision making, and communicating patient's values, preferences, and needs to other nurses and other health professionals. Gaining new knowledge can help them to become a basis for learning a skill. This is supported by the results of a study (Carlsson et al., 2022) that examined the evaluation of registered nurses experiences of PCC competence after being given digital competence in care, it was found that there was one subtheme of feeling strengthened by new knowledge which means gaining knowledge helped them articulate the practical work that they regularly perform, which strengthened their professional role. Interpretation of the combined result for the dimension of promoting patient involvement in the care process between the results of quantitative research in the form of an increase in the PCC competency score from 4.0 to 5.0 is consistent with the results of qualitative findings in the form of 4 subthemes, including good communication between nurses and

patients, striving to get patients actively involved in the care process, getting trust from patients and family, and involving family in the care process. The research analysis saw that good communication between patients and nurses can increase patient involvement in their care. This is in line with previous research (Holm et al., 2024) on integrating patient involvement interventions in clinical practice, which found that communication and interaction are the main aspects of patient involvement in the care process. Interpretation of the combine result for the dimension of providing for patient comfort between the results of quantitative research in the form of an increase in the PCC competency score from 4.0 to 5.0 or from moderate to a good level is consistent with the results of qualitative findings in the form of 3 sub themes including reducing pain and patient discomfort; sensitivity to the patients verbal and nonverbal responses; feeling closeness with patients. The researcher's analyzes that closeness with patients can be felt by participants, considering that this simulation used simulated patients. Nursing students felt more closeness to patients and families when doing simulations using simulated patients. This is also supported by previous research (Gorski et al., 2022) examining the effectiveness of simulated patients, stating that simulated patients are more effective than student role playing and fostering a patient centered. Interpretation of the combine result for the dimension of advocating for patients between the results of quantitative research in the form of an increase in the PCC competency score from 4.0 to 5.0 is consistent with the results of qualitative findings in the form of 4 subthemes including providing informed consent for patient, provide complete, clear information, using language that patients can understand; ensuring patients get the best care and good medication, communicate about patient condition in every shift change. Researchers analyzed that patient advocacy can be done by nurses by providing informed consent for patients, providing empathy, understanding and better understanding of patients, ensuring patient rights to receive good and quality care. This is supported by the results of previous studies (Davoodvand et al., 2016) examining the Iranian nursing perspective on patient advocacy which stated that there are 2 themes, namely empathy for patients (including giving sympathy, understanding, being closer to patients) and protecting the patient (including patient care, patient health, complete care and defending patient rights). The increase in the PCC competency score is confirmed by 4 subthemes of qualitative findings that are indeed in line including provide informed consent for patient; provide complete, clear information, using language that patients can understand; ensuring patients get the best care and good medication; and communicate about patient condition in every shift change It can be concluded that the interpretation of the combination for all PCC dimensions between quantitative results converges with most themes and subthemes from the qualitative findings. The author is aware of limitations by not using a control group in this study as a comparison group for the results of this study. The author also sees the possibility of previous differences in the knowledge or skills possessed by nursing students about patient centered care because in the simulation session there was no lecture session on patient centered care. The author suggests the intervention development program in the PCC competency by providing a Comprehensive patient centered care education program of 4 sessions over 2 weeks which includes an added lecture session on the application of patient centered care for nursing students which of course involves other health students before taking clinical practicum.

Conclusion

Result of quantitative analysis was obtained there was a significant effect of interprofessional clinical simulation on PCC total competency among Indonesian nursing students (p value: 0.001). Results of qualitative research regarding participant's experiences after using interprofessional clinical simulation based on PCC dimensions revealed 4 themes and 14 subthemes. The results of an increase in PCC competency scores in nursing students converge with most of the expressions of experience from nursing students who have participated in the interprofessional clinical simulation. Quantitative result data converge with most of the qualitative findings. The author suggests the development of further research with a comprehensive interprofessional simulation model of patient centered competency program which includes lecture sessions on PCC and involves all other health science fields through a multicenter study containing representatives from all health science fields that play a role in patient centered care so that nursing student graduates can be competent in implementing patient centered care to improve patient's outcomes and satisfaction.

Declaration of Interest

In the publication of the results of this research there is no conflict of interest.

Acknowledgment

This research is the result of collaboration between expert researchers in nursing science.

Funding

The implementation of this research was fully funded by the researcher's own personal funds.

Data Availability

The data obtained and published are entirely the result of direct data collection by researchers from respondents and participants. All data from this study has been presented in this article.

Reference

Alqahtani, S. Y. M., Darbi, G. A. Y., Alamri, H. M., Alkhateeri, S. H. A., Alsaiari, N. S. Y., Aljohani, K. M., Almabadi, N. K. F., Alghamdi, R. A., Alshaiki, A. A. S., & Alshamrani, A. J. B. (2023). Barriers to implementing patient-centered care in nursing practice: Review. *Review of Contemporary Philosophy, 22*(1), 1651-1659.

Araki, M. (2019). Patient centered care and professional nursing practices. *Journal of Biomedical Research and Clinical Investigation, 1*(1). https://doi.org/10.31546/jbrci.1004

Carlsson, M., Alm, A. K., & Rising, M. H. (2022). An evaluation of registered nurses' experiences of person-centered care and competence after participating in a course in digital competence in care. *BMC Nursing, 21*(1). https://doi.org/10.1186/s12912-022-01151-2

Charosaei, F., Rostami, S., Esmaeili, M., Molavynejad, S., & Vanaki, Z. (2023). Challenges in implementation of patient-centred care in cardiac care unit: A qualitative study. *Nursing Open, 10*(2), 838–849. https://doi.org/10.1002/nop2.1352

Clavel, N., Paquette, J., Dumez, V., Del Grande, C., Ghadiri, D. P., Pomey, M. P., & Normandin, L. (2021). Patient engagement in care: A scoping review of recently validated tools assessing patients' and healthcare professionals' preferences and experience. *Health Expectations, 24*(6), 1924–1935. https://doi.org/10.1111/hex.13344

Creswell, J. W., & Clark, V. L. P. (2018). Designing and conducting mixed methods research (Third Edition). New York: SAGE Publications.

Davoodvand, S., Abbaszadeh, A., & Ahmadi, F. (2016). Patient advocacy from the clinical nurses' viewpoint: A qualitative study. *J Med Ethics Hist Med, 9*(5), 1-8. PMCID: PMC4958925.

Edgman-Levitan, S., & Schoenbaum, S. C. (2021). Patient-centered care: Achieving higher quality by designing care through the patient's eyes. *Israel Journal of Health Policy Research, 10*(1). https://doi.org/10.1186/s13584-021-00459-9

Gorski, S., Prokop-Dorner, A., Pers, M., Stalmach-Przygoda, A., Malecki, Ł., Cebula, G., & Bombeke, K. (2022). The use of simulated patients is more effective than student role playing in fostering patient-centred attitudes during communication skills training: A mixed method study. *BioMed Research International, 2022*. https://doi.org/10.1155/2022/1498692

Heier, L., Schellenberger, B., Schippers, A., Nies, S., Geiser, F., & Ernstmann, N. (2024). Interprofessional communication skills training to improve medical students' and nursing trainees' error communication - quasi-experimental pilot study. *BMC Medical Education, 24*(1). https://doi.org/10.1186/s12909-023-04997-5

Holm, A., Rodkjær, L. Ø., & Bekker, H. L. (2024). Integrating patient involvement interventions within clinical practice: A mixed-methods study of health care professional reasoning. *MDM Policy and Practice, 9*(1). https://doi.org/10.1177/23814683241229987

Hwang, J. I., Kim, S. W., & Chin, H. J. (2019). Patient Participation in Patient Safety and Its Relationships with Nurses' Patient-Centered Care Competency, Teamwork, and Safety Climate. *Asian Nursing Research, 13*(2), 130–136. https://doi.org/10.1016/j.anr.2019.03.001

Hwang, J.I. (2015). Development and testing of a patient-centred care competency scale for hospital nurses. *International Journal of Nursing Practice, 21*(1), 43–51. https://doi.org/10.1111/ijn.12220

Kari, H., Kortejärvi, H., & Laaksonen, R. (2022). Developing an interprofessional people-centred care model for home-living older people with multimorbidities in a primary care health centre: A community-based study. *Exploratory Research in Clinical and Social Pharmacy, 5.* https://doi.org/10.1016/j.rcsop.2022.100114

Katja, L., Terhi, L., Minna, S., Jouko, K., & Riitta, S. (2023). Nurse competence provides more individuality in the care of older hospitalized people. *Nursing Open, 10*(5), 3191–3200. https://doi.org/10.1002/nop2.1569

Kim, M. (2022). The Factors Associated with Person-Centered Care Competence among Nursing Students. *International Journal of Environmental Research and Public Health, 19*(5). https://doi.org/10.3390/ijerph19052787

Kim, S., & Kim, M. (2023). Nursing students' experiences and perceptions of barriers to the implementation of person-centred care in clinical settings: A qualitative study. *Nursing Open, 10*(3), 1889–1899. https://doi.org/10.1002/nop2.1514

Lateef, M. A., & Mhlongo, E. M. (2022). A qualitative study on patient-centered care and perceptions of nurses regarding primary healthcare facilities in Nigeria. *Cost Effectiveness and Resource Allocation, 20*(1). https://doi.org/10.1186/s12962-022-00375-y

McKeon, L. M., Cardell, B., & Britt, T. (2009). Developing patient-centered care competencies among prelicensure nursing students using simulation. *Journal of Nursing Education, 48*(12), 711–715. https://doi.org/10.3928/01484834-20091113-06

Pakkonen, M., Stolt, M., Edvardsson, D., Pasanen, M., & Suhonen, R. (2023). Person-centred care competence and person-centred care climate described by nurses in older people's long-term care—A cross-sectional survey. *International Journal of Older People Nursing, 18*(3). https://doi.org/10.1111/opn.12532

Putra, Y., Bahtera, M., Setiawan, H., & Rizany, I. (2021). Implementation of Patient-Centered

Care (PCC) according to nurses as care providers: Literature review. *Nerspedia, 3,* 97–105.

Suhonen, R., Lahtinen, K., Stolt, M., Pasanen, M., & Lemetti, T. (2021). Validation of the patient-centred care competency scale instrument for finnish nurses. *Journal of Personalized Medicine, 11*(6). https://doi.org/10.3390/jpm11060583

World Medical Association [WMA]. (1964). Declaration of Helsinki: Recommendations Guiding Physicians in Biomedical Research Involving Human Subjects. Finland: Helsinki.