Benefits of preceptorship for strengthening nursing students' clinical competence in professional nursing education

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Abstract

Background: Preceptor ship is a structured clinical supervision model that facilitates nursing students' transition from academic learning to professional clinical practice. By integrating theoretical knowledge with supervised clinical experience, preceptorship plays a crucial role in developing students' clinical competence and professional readiness.
Purpose: To analyze the implementation of preceptorship and explore the contextual factors related to the development of nursing students' clinical competence during professional education.
Methods: This study employed a convergent mixed-methods design, integrating a quantitative descriptive component with a qualitative component. Quantitative and qualitative data were collected simultaneously, analyzed separately, and integrated during interpretation. A total of 51 clinical preceptors participated in the quantitative phase. From this cohort, 12 preceptors who met the predefined inclusion criteria were purposively selected for in-depth interviews in the qualitative phase. Quantitative data were analyzed using descriptive statistics, whereas qualitative data underwent thematic analysis. Findings from both datasets were integrated during the interpretation phase.
Results: The majority of preceptors were female (96%), had a bachelor's degree in nursing (84%), and had attended preceptor training (96%). Most respondents viewed the implementation of preceptorship positively, with 74% rating it excellent and 26% rating it good. Qualitative findings identified themes related to institutional support, preceptor competency, student preparedness, communication and collaboration, learning strategies, barriers to implementation, enabling factors, and preceptor expectations. Challenges included workload constraints, the theory-practice gap, and inconsistencies between academic and clinical practice.
Conclusion: Preceptorship was perceived positively as a support for clinical learning. Strengthening preceptor development, communication, and institutional collaboration is important to improve preceptorship implementation and students' clinical competence.

Keywords: clinical competence; clinical rotation; preceptorship

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Introduction

Preceptorship is a structured clinical supervision approach designed to support nursing students' transition to professional practice and enhance their readiness to meet clinical competency standards. This provides ongoing, high-quality support and facilitates the integration of theory into clinical application. Generally, preceptorship has been recognized as an important strategy in bridging the gap between academic preparation and clinical performance (Alhassan et al., 2024). However, a major challenge in its implementation is the high workload of clinical nurses, which often

limits their capacity to fulfill their preceptor roles (Davis, 2024). Consequently, limited interaction between preceptors and preceptees can hinder effective communication, reflective learning, and optimal learning outcomes (Varghese et al., 2023). Preceptors are expected to demonstrate clinical expertise, teaching skills, and a professional attitude during clinical supervision of students (Chipwanya et al., 2024). However, they often seek institutional recognition and structured support for their role (Chan et al., 2025). Effective preceptorship requires a balance between the challenges of clinical care and the responsibilities of clinical supervision, while maintaining ongoing professional development. Preceptorship models vary across countries and institutions, depending on organizational structure, policies, and available resources (Ardinata et al., 2018; Davis, 2024). Ensuring adequate facilities and standardized clinical learning experiences is crucial for improving the quality of nursing care and educational outcomes (Dube & Rakhudu, 2021). Previous research has demonstrated the effectiveness of preceptorship in developing students' critical thinking, communication, interaction, and adaptation skills (Chua et al., 2022; Jung et al., 2020). Additionally, a study reported that preceptorship implementation was influenced by communication patterns and professional interactions between preceptors and students, which significantly affected students' clinical competency achievement (Wahyuni et al., 2019). However, qualitative evidence continues to highlight issues such as the preceptor's professional role, limited time for clinical supervision, and unmet expectations during the preceptorship process (Chan et al., 2025). Despite these challenges, there is limited empirical evidence on how preceptorship is implemented and the contextual factors associated with its implementation, particularly within Indonesian nursing clinical education (Chan et al., 2025). In Indonesia, preceptorship faces additional challenges, including inadequate preceptor preparation, heavy clinical workloads, and inconsistencies between hospital policies and academic curricula (Irwan et al., 2021). Therefore, this study aims to analyze the implementation of preceptorship and explore the contextual factors surrounding its implementation from the perspective of clinical preceptors to provide evidence for strengthening preceptorship practices and improving clinical learning outcomes.

Materials and Methods

Design

The study used a convergent mixed-methods approach in which quantitative and qualitative data were collected simultaneously and analyzed separately (Creswell, 2022). Quantitative data from clinical preceptors and nursing students were analyzed descriptively using frequencies and percentages to describe participants' characteristics and perceptions of preceptorship implementation. Quantitative data were analyzed descriptively using frequency distributions and percentages. Questionnaire responses were classified into four implementation categories: excellent (81-100%), good (61-80%), fair (41-60%), and poor (<40%) based on predefined scoring criteria. In addition, questionnaire items were grouped into major domains of preceptorship implementation to evaluate trends across specific aspects of clinical supervision and preceptorship implementation. The qualitative data consisted of focus group discussions (FGDs) and in-depth interviews with clinical preceptors. Qualitative data were analyzed thematically through coding, categorization, and theme development to identify patterns and experiences related to the preceptorship implementation. Findings from the quantitative and qualitative data were integrated during the interpretation phase to provide a comprehensive understanding of preceptorship implementation in clinical nursing education (Fetters & Molina-Azorin, 2017).

Although the parent mixed-methods study involved both clinical preceptors and professional nursing students, the present article reports only findings related to preceptors' perspectives on preceptorship implementation. Data collected from nursing students were analyzed independently and are presented in a separate manuscript to provide a more in-depth understanding of students' perspectives.

Population and Sample

The target population consisted of 59 clinical preceptors who served as clinical supervisors during students' clinical rotations. The study employed a descriptive survey design involving a finite population. Therefore, the minimum sample size was estimated using the Slovin formula with a 5% margin of error, resulting in a required sample of 51 participants. Eligible preceptors who met the predefined inclusion criteria were subsequently recruited for the quantitative component. The final sample represented approximately 86% of the target population.

Data Collection

Quantitative and qualitative data were collected from December 2024 to January 2025 using two complementary approaches.

First, a quantitative approach was implemented by distributing structured questionnaires to students and preceptors. Before distributing the preceptors' questionnaires, an orientation session was held to foster a common understanding of the preceptorship concept and align perceptions of the implementation process. The questionnaire for preceptors focused on their experiences and roles in guiding students. Data collection was conducted using a structured questionnaire to facilitate accessibility and response accuracy.

Second, a qualitative approach was conducted through semi-structured interviews

followed by Focus Group Discussions (FGDs) involving preceptors and relevant stakeholder. Semi-structured interviews were undertaken to explore participants' individual experiences and perspectives in depth. Subsequently, FGDs were conducted to clarify and enrich the findings obtained from the interviews through discussion among clinical preceptors, academic preceptors, and key nursing leaders responsible for clinical education and quality management. The qualitative data were collected using semi-structured interviews and FGD guides developed from the literature on preceptorship implementation. The guides consisted of open-ended questions exploring institutional support, preceptor roles, student preparedness, communication, learning strategies, institutional policies, implementation processes, and both facilitating and inhibiting factors related to preceptorship implementation. All interviews and FGDs were conducted in the Indonesian language.

Research Instruments

The research instruments consisted of two components: a structured questionnaire assessing preceptorship implementation plus semi-structured interviews and FGD guides developed in accordance with the study objectives. Preceptorship implementation was measured using a structured Likert-scale questionnaire with four response options: never, rarely, sometimes, and often.

The questionnaire was adopted from a previously validated preceptorship questionnaire developed by Nurhidayah et al. (2019) and Nurhidayah et al. (2021). The original instrument consisted of 40 items assessing multiple aspects of preceptorship implementation. Following validity testing, six items were excluded, resulting in 34 valid items. The original study reported acceptable content and construct validity, with a Cronbach's alpha coefficient of 0.729, indicating acceptable internal consistency.

Data analysis

The study used a convergent mixed-methods approach, collecting quantitative and qualitative data simultaneously and analyzing them separately. Quantitative data from clinical preceptors were analyzed descriptively using frequencies and percentages to describe participants' characteristics and perceptions of preceptorship implementation. Qualitative data from FGDs were analyzed thematically through coding, categorization, and theme development to identify patterns and experiences related to the preceptorship process. Both datasets were integrated during the interpretation phase to complement and strengthen the overall understanding of preceptorship implementation in clinical nursing education.

Ethical consideration

Ethical approval for this study was obtained from the Health Research Ethics Committee of Universitas Sumatera Utara (Number:142/EC/KEPK/USU) in 2024. Prior to data collection, coordination and administrative approval were obtained from Dr. Pirngadi General Hospital in Medan to facilitate the research process. All participants were informed about the purpose of the study, the procedures, the confidentiality of their data, and their right to withdraw from the study at any time without consequences. Written informed consent was obtained from all participants before participation. Participant anonymity and confidentiality were maintained throughout the research process.

Results

These study findings were derived from quantitative data collected through questionnaires and qualitative data obtained from interviews and focus group discussions. The analysis aimed to evaluate the effectiveness of preceptorship, identify supporting and inhibiting factors, and explore preceptors' perceptions of clinical supervision of students.

Most respondents were female (96%) and held a bachelor's degree in nursing (84%). Over half of the preceptors were aged 40-50 years (57%) and had 5-15 years of professional nursing experience (57%). Nearly all respondents (96%) had completed preceptorship training in accordance with AIPNI standards, whereas only 4% had participated in hospital-based preceptorship training.

Most preceptors perceived the implementation of preceptorship as excellent (74%), whereas 26% rated it as good. None of the respondents rated the implementation as fair or poor. These findings indicate that preceptors generally perceived the implementation of preceptorship positively during clinical rotations.

The strongest aspects of preceptorship implementation were guidance and supervision (78%), and professional role models (75%), categorized as excellent. Reflective feedback (69%), facilitation of learning and discussion (65%), and competency assessment (61%) were categorized as good. However, post-conference activities (52%) were categorized as moderate, and facilitation of independent learning (49%) shows lower levels of implementation, indicating that these domains still require continuous improvement. Overall, the findings indicate that preceptorship is implemented positively, particularly in the domain of clinical supervision and professional role modeling. However, reflective learning and the facilitation of independent student learning were implemented less consistently.

Qualitative Findings

The qualitative findings revealed several contextual factors influencing the implementation of the preceptorship phase clinical rotation. The thematic analysis identified eight major themes related to the implementation of preceptorship during clinical rotation. These themes reflected the experiences, perceptions, supporting factors, and challenges

Table 1. Preceptor of Characteristics (n=51)

Characteristic	f	%
Gender		
Female	49	96
Male	2	4
Education Level		
Bachelor Degree	43	84
Master Degree	8	16
Age		
30-40Years	22	43
40-50Years	29	57
Years of Work as Nurse		
5-15Years	29	57
16-25Years	22	43
Years of Work as Preceptor		
1-5Years	33	39
6-15Years	18	61
Preceptorship Training Experience		
Yes	49	96
No	2	4
Number of Preceptorship Trainings Attended		
Once	41	80
Two to Three times	10	20

Table 2. Distribution, Frequency of Preceptorship Implementation Categories (n = 51)

Category Implementation Perceptorsip	Frequency	Percentage
Excellent	38	74
Good	13	26
Fair	0	0
Poor	0	0

Table 3. Domains of Preceptorship Implementation Based on Preceptors' Perceptions

Domain of Preceptorship	Dominant Positive Response (%)	Interpretation
Guidance and Supervision	78	Excellent
Professional Role Modeling	75	Excellent
Reflective Feedback	69	Good
Competency Assessment	61	Good
Learning Facilitation & Discussion	65	Good
Post-Conference Activities	52	Moderate
Independent Learning Facilitation	49	Needs Improvement

Interpretation: Higher percentages indicate stronger implementation of the corresponding preceptorship domains during clinical supervision.

encountered by preceptors and stakeholders in the clinical learning process. The identified themes included: (1) institutional preceptorship policy, (2) preceptor roles and competence, (3) student preparedness and response, (4) communication and collaboration, (5) learning and evaluation strategies, (6) barriers to implementation, (7) supporting factors, and (8) preceptor expectations and reflections. These themes reflect the comprehensive nature of preceptorship practice, including both organizational and individual factors that influence the success of clinical learning.

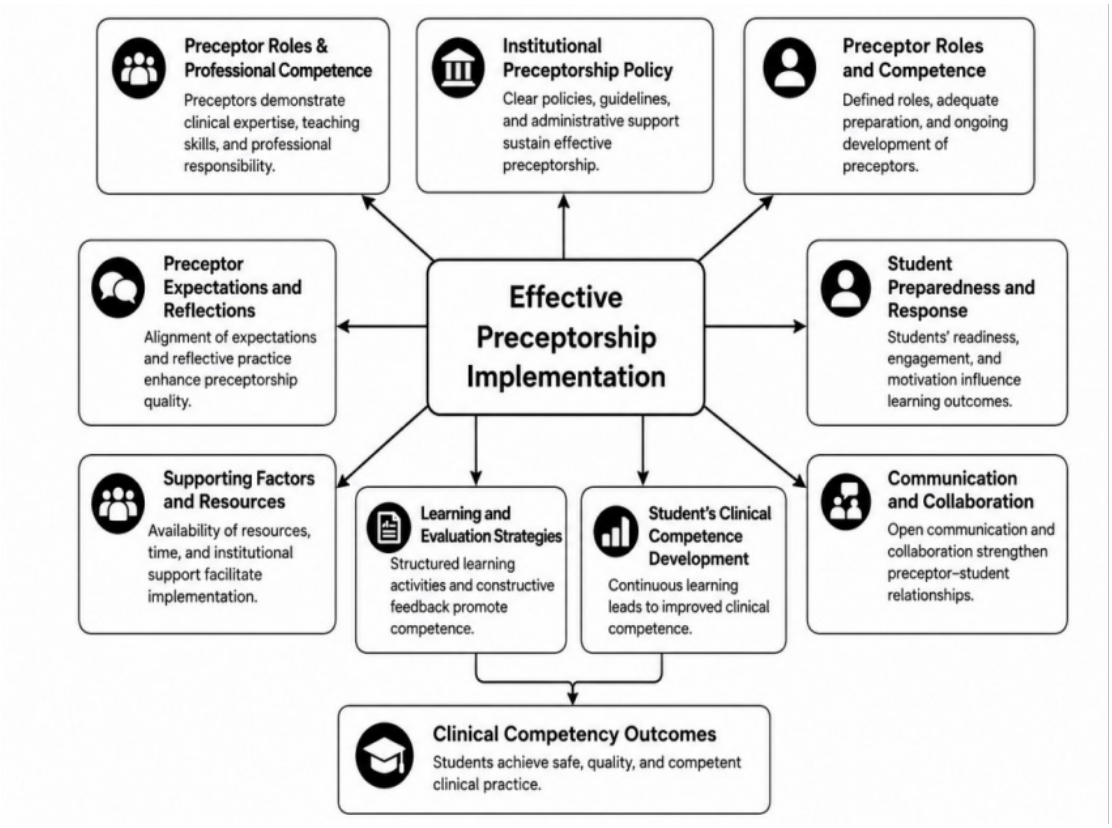

Figure 1. Thematic framework of preceptorship implementation on clinical rotation

Figure 1 illustrates the interaction among institutional support, preceptor competence, student readiness, communication processes, learning strategies, supporting factors, and implementation barriers influencing preceptorship implementation during clinical rotation.

Theme 1: Institutional Policies and Managerial Support

Institutional policies and managerial support were identified as fundamental components influencing the successful implementation of preceptorship programs in clinical learning. Participants described the presence of formal regulations related to preceptorship, clear preceptor selection mechanisms, structured socialization of preceptorship guidelines, and the provision of both basic and advanced training as essential. Institutions such as Pringadi Hospital had established support systems, including monitoring and evaluation systems to maintain the quality of preceptorship implementation.

"This preceptorship program was implemented based on hospital policy, with responsibilities coordinated under the head of the nursing division and the Komkordik" (P2).

Participants also reported limitations in access to training opportunities for preceptors.

"Every year we submit requests for the necessary training, but only one or two staff members are accommodated" (P1).

"Each preceptorship assignment has been guided by operational indicators aligned with the hospital's quality standards" (P2).

These findings highlight that formal policy support, training allocation, and managerial consistency are essential to sustaining high-quality preceptorship, though limited training access remains a challenge.

Theme 2: Preceptor Roles and Professional Competence

Preceptors played a strategic role as mentors and facilitators, guiding students toward achieving clinical competency. Their responsibilities included supervising case studies, facilitating clinical reasoning, and providing continuous feedback. However, challenges such as time constraints, limited refresher training, and frequent rotations between clinical units affected role consistency. Effective communication and continuous professional updating were identified as critical elements in the implementation of preceptorship.

Several preceptors reported difficulty maintaining up-to-date clinical skills due to limited refresher training. One preceptor described,

"*Sometimes we are not able to answer the students' questions because we haven't practiced in that section for a long time, and there hasn't been an update on preceptorship knowledge and clinical guidance skills*" (P6).

To overcome this issue, some preceptors

initiated peer-support mechanisms to exchange information and support one another,

"*We created a communication group between preceptors so they can share and help each other exchange information"* (P5).

Despite these efforts, communication between hospitals and academic institutions remained limited, leading to inconsistencies in student competency achievement.

"*The implementation of preceptorship in hospitals and education should have a shared perspective, but in fact, communication between preceptors is still lacking. Consequently, student competency targets are not met. This needs to be communicated to academics to prevent recurrence*" (P11).

Preceptor emphasized the importance of a shared understanding of clinical expectations,

"We need to improve our shared perceptions about the difficulties faced in clinical guidance, so it will be easier for us to provide direction, for example, shared perceptions about students' readiness for practice, case presentation procedures, and other requirements" (P12).

These findings showed that sustained communication, collaboration, and consistent updates on clinical guidance standards are essential for strengthening the quality of preceptorship between hospitals and educational institutions.

Theme 3: Student Readiness and Engagement

Clinical practice was perceived as an important process in developing students' clinical competencies. Participants reported that students' readiness and adaptability to standardized digital nursing documentation systems influenced the effectiveness of clinical learning. Several preceptors explained that some students still had difficulty applying standardized nursing diagnosis, outcome, and intervention documentation systems used in hospitals, leading to inconsistencies in clinical documentation and increasing the preceptors' supervisory responsibilities.

"There are still students who have not been adequately exposed to standardized digital nursing documentation systems used in hospitals. Some students still apply older nursing documentation approaches that differ from the documentation standards currently implemented in clinical practice settings" (P1).

In addition to limited technical readiness, absenteeism and low participation were also reported as barriers to effective clinical learning.

"There were some who did not come for several days due to personal reasons, and there was no confirmation from education, so they did not fully understand the development of patient nursing care" (P4).

Another preceptor reported that some students were less proactive in seeking learning opportunities and clinical cases during practice.

"Sometimes students tend to be shy and less proactive, giving the impression that they're lazy about seeking out cases to build their competency. In this case, it's the preceptor's responsibility to motivate and assist them" (P7).

These findings suggest that student readiness, particularly in adapting to digital documentation systems and maintaining active engagement, plays a crucial role in determining the effectiveness of preceptorship. When students are less prepared or less engaged, preceptors must assume additional responsibilities to ensure clinical learning objectives are achieved.

Theme 4: Communication and Interinstitutional Collaboration

Communication and collaboration were identified as critical components of successful preceptorship. Effective interaction among clinical preceptors in hospitals, academic preceptors from educational institutions, and students in clinical learning contributed significantly to the program's success. However, coordination between student shifts and ward nurses presented unique challenges in maintaining the continuity and consistency of clinical guidance. It was reported as an essential yet challenging aspect of preceptorship implementation. Several preceptors described inconsistencies in coordination and unclear boundaries of responsibility between hospital preceptors and academic supervisors.

"Sometimes the supervising lecturer only meets with the student in the clinic, where they discuss the matter, and we, the hospital preceptors, don't know the extent of the student's supervision. This must be agreed upon to avoid complicating the supervision process" (P6).

The involvement of institutional structures, such as the hospital-academic clinical education coordination committee (Komkordik), was considered crucial in bridging communication gaps.

"The involvement of the Education Coordination Committee in the guidance process is to maintain good relations and communication between the hospital and education so that student learning progress can be monitored" (P13).

Another preceptor emphasized the importance of clarity regarding evaluation responsibilities between academic and hospital preceptors.

"From what we feel, communication with students is not a problem, but communicating the way in which hospital preceptors have a role in evaluating students who are practicing is important" (P2).

These findings indicate that while interpersonal communication between preceptors and students functioned well, institutional collaboration between hospitals and academic settings remained fragmented. Strengthening coordination mechanisms, clarifying evaluation responsibilities, and establishing joint feedback systems are essential steps to enhance the effectiveness and continuity of preceptorship.

Theme 5: Learning and Evaluation Strategies

Various learning methods were implemented in clinical practice, including direct clinical supervision and bedside teaching, handovers, procedural demonstrations, group patient visits, pre- and post-conferences, case studies, and case seminars. The Education Coordination Committee played a central role in monitoring and supervising students' competency development ensuring systematic and consistent implementation through established competency lists and stage-specific evaluation criteria. The implementation of diverse learning methods in clinical settings was supported by structured coordination to ensure that students achieved the required clinical competencies. When clinical case exposure was limited, adaptive learning strategies, such as the Education Coordination Committee, facilitated case reallocation and simulation-based activities to provide students' competency achievement.

"If a student has not yet received a case, the Coordinating Committee will look for a case in another treatment room so that the student's competency can be achieved" (P2).

"If there are student competencies that have not been achieved for cases that cannot be handled directly by patients, then we conduct workshops like real cases" (P3).

These findings illustrate that clinical learning in nursing education requires adaptive strategies to maintain competency standards. Through proactive case management and alternative learning approaches such as workshops and simulations, preceptors and coordinators collaboratively ensured that students achieved their learning outcomes despite variations in clinical case availability.

Theme 6: Barriers to Preceptorship Implementation

The implementation of preceptorship learning faced several challenges that should be considered for future improvement. These included reduced numbers of hospitalized patients, increased preceptor workloads, and limited integration between academic curricula and clinical practice. Differences in academic standards among educational institutions also created inconsistencies in students' abilities and placed additional burdens on preceptors during competency evaluation. Several challenges were identified during the implementation of preceptorship in clinical learning, particularly related to patient availability, workload distribution, and policy alignment between educational institutions and hospitals. A shortage of patients was reported to hinder students' ability to meet case study milestones and achieve competency targets.

"*The small number of patients is a constraint, making it difficult for students to meet the case study milestones and competency targets. Consequently, room transfers are often necessary*" (P2).

Another challenge involved excessive academic workloads, requiring students to complete numerous assignments from both the university and their preceptors. Many students experienced fatigue and reduced performance.

"*We saw that the students had a lot of assignments from the campus, and then there were also some from us as preceptors, and finally, the students complained and were unable to complete the assignments given by the clinical preceptors*" (P7).

Preceptor further reported inconsistencies in policies between the hospital and academic institutions, which affected the implementation of clinical supervision and competency evaluation.

"*Sometimes we experience difficulties when there is a mismatch between the policies of educational institutions and hospitals, and there are hospital policies that also have different rules from educational ones*" (P11).

These findings highlight the need for improved coordination between hospitals and educational institutions to harmonize curriculum, synchronize student workload, and ensure sufficient clinical case exposure. Strengthening institutional collaboration and aligning policy frameworks are essential to enhancing the sustainability and effectiveness of preceptorship implementation.

Theme 7: Supporting Factors for Success

Several factors were identified as supporting the successful implementation of preceptorship. These included strong institutional commitment and managerial support from both hospitals and educational institutions, students' motivation and readiness for clinical learning, and the active participation of trained preceptors. Although still limited, the implementation of clinical workshops and collaborative practice programs between hospitals and academic institutions has fostered a more comprehensive understanding of clinical learning and strengthened the overall preceptorship experience. Motivation and commitment from both preceptors and students were identified as key drivers of successful preceptorship implementation. Preceptors demonstrated enthusiasm in guiding students to develop clinical competence and professional confidence.

"*We are committed to helping students improve their clinical skills. We also believe it's important to improve student morale in nursing education for their future careers as nurses*" (P10).

"*We are very enthusiastic because the preceptors here already have special training certificates in their fields, such as dialysis and wound care*" (P4).

The preceptors also emphasized the reciprocal nature of motivation in clinical learning.

"*If the students are enthusiastic about clinical learning, we will be enthusiastic about guiding them*" (P2).

This finding underscores the importance of emotional engagement and mutual motivation between preceptors and students in fostering

a supportive clinical learning environment and sustaining the overall effectiveness of the preceptorship program.

Theme 8: Preceptors' Reflections and Future Expectations

Preceptors expressed their aspirations for a fairer and more transparent evaluation system that actively involves hospital-based clinical supervisors. They emphasized the need for formal recognition, through institutional support, professional development opportunities, and involvement in academic activities.

"*If we as clinical preceptors could be assessed and recognized as field supervisors, perhaps our enthusiasm would be even higher*" (P3).

Others highlighted the importance of preceptor collaboration between academic institutions and the hospital in clinical evaluation and decision- making processes,

"*The hospital's preceptorship should play a role in determining whether a student graduates or not*" (P3).

Participants expressed strong motivation to improve their academic and research competencies through training, seminars, scientific writing, and collaborative scholarly.

"*We want to be able to write case reports and be taught how to publish*" (P8),

"*We hope that educational institutions can facilitate further training and participation in seminars*" (P5).

These reflections indicate a growing motivation among preceptors to expand their academic and research competencies. A further theme emerging from the data was the need for both financial and non-financial recognition.

"*We remain enthusiastic about carrying out our preceptorship duties and hope that our leaders will pay attention to incentives, not based on quantity, but on value. For educational institutions, preceptors can be facilitated in self-development, for example: becoming a supervisor for practical work, teaching practitioners on campus, conducting joint research, and engaging in other scientific activities*" (P9).

Preceptors also recognized that professional development should extend to scholarly collaboration and the development of academic competence.

"*As hospital assessors, we must enhance our scientific capabilities through collaboration with academic advisors, such as producing case reports, case studies, and joint publications in scientific journals. This is a requirement and component of hospital accreditation in human resource development* (P8).

These findings indicate that preceptors expect greater institutional recognition, stronger academic-clinical collaboration, and expanded opportunities for professional and scholarly development. Continuous support through training, collaborative research, and involvement in academic activities was perceived as essential to sustain motivation and strengthen the quality of preceptorship implementation.

Discussion

The findings of this study indicate that preceptorship was generally perceived positively in supporting students' clinical learning during clinical rotation. Preceptors played important roles as facilitators, supervisors, and professional role models in helping students integrate theoretical knowledge into clinical practice.

The preceptorship has been recognized as an effective clinical learning method that enables nursing students to develop their cognitive, affective, and psychomotor competencies through continuous supervision, guidance, and role modeling (Wahyuni et al., 2020). Effective preceptorship processes provide a structured framework that clearly defines their goals, objectives, and learning outcomes (Chipwanya et al., 2024). Preceptors, as experienced professional nurses, play a pivotal role in bridging the gap between theory and clinical practice by supporting students or novice nurses in applying theoretical knowledge within real healthcare settings. Compared with the traditional facilitator model, the preceptorship approach fosters greater engagement, interaction, and experiential learning opportunities for students (Irwan et al., 2021; Mathisen et al., 2023). Furthermore, the program strengthens clinical competence by emphasizing critical knowledge discussions, skills assessments, and direct demonstrations of clinical procedures (Lima & Alzyood, 2024).

The positive perceptions identified in this study reflect the important contribution of preceptors in creating supportive clinical learning experiences for nursing students. Preceptors functioned as clinical supervisors and as professional role models who facilitated students' adaptation to clinical environments, strengthened communication skills, and supported the development of critical thinking during patient care activities (Thompson et al., 2024). Previous study reported that supportive clinical environments, institutional collaboration, and effective supervision can strengthen students' clinical learning experiences (Mathisen et al., 2023). These findings suggest that the effectiveness of preceptorship depends on the integrating individual competencies, institutional support systems, and collaborative clinical learning processes. A study by Lau et al. (2024) highlighted the importance of institutional support systems and collaborative communication among stakeholders in sustaining positive preceptorship experiences. However, the study also identified several contextual challenges influencing the implementation of preceptorship, including communication barriers between academic and clinical supervisors, workload constraints, limited reflective learning opportunities, and inconsistencies between academic preparation and the demands of clinical practice. These findings indicate that successful preceptorship requires

competent preceptors, structured institutional collaboration, adequate training systems, and supportive learning environments to ensure the sustainability and quality of clinical competencies (Mathisen et al., 2023; Chan et al., 2025). A previous study showed that institutional support systems, stakeholder dialogue, and recognition of preceptors are important for strengthening positive precepting experiences and sustaining commitment in clinical education (Lau et al., 2024).

The results of this study indicate that preceptors effectively performed their roles in fundamental areas, including providing guidance, offering constructive feedback, and serving as professional role models for students. The success of clinical supervision is closely linked to students' perceptions of their preceptors' teaching competence and interpersonal approach. Effective preceptorship supports students' adaptation to clinical environments, strengthens communication skills, and enhances critical thinking during patient care activities (Thompson et al., 2024). Previous findings reported by Alhassan et al. (2024) that preceptors with strong clinical expertise tend to possess superior teaching and communication skills, enabling them to build trust and foster professional behavior among students. The importance of ensuring that preceptors remain adequately prepared and supported to fulfill their educational responsibilities (Irwan et al., 2021). Conversely, when students lack trust in their supervisors, they may resist new information and fail to internalize professional attitudes through preceptorship. Competent preceptors thus play an important role in developing nursing students' clinical abilities and in facilitating their adaptation to the work environment. Strengthening preceptors' role as clinical role models has been shown to enhance students' critical thinking, problem-solving, communication, social interaction, and adherence to professional ethics (Fadhlan et al., 2023). The research study aligns with Chipwanya et al. (2024), who reported that preceptorship implementation improves students' self-confidence, job satisfaction, retention, and clinical performance. Structured preceptorship training significantly improved preceptors' knowledge, thereby enhancing their ability to facilitate post-conference sessions (Likewise et al., 2023), serve as effective clinical role models, and increase student satisfaction with clinical guidance. These outcomes collectively reinforce the significance of preceptor training and mentorship systems as effective strategies for improving the quality of nursing professional graduates (Hong & Yoon, 2021).

Despite the generally positive perceptions, several challenges affecting preceptorship implementation were identified. The implementation of reflective learning activities, including post-conference sessions and early competency evaluations, remained suboptimal due to workload constraints, limited supervision time, and communication barriers (Lima & Alzyood, 2024). Similar findings were reported that identified time limitations and ineffective communication as major barriers to reflective clinical learning during the preceptorship process in the hospital (Chan et al., 2025). Limited supervision time may reduce opportunities for reflective discussion, feedback, and competency evaluation, potentially affecting students' clinical learning experiences and competency development. The findings also demonstrated that preceptors played important roles in strengthening students' clinical reasoning and independent problem-solving abilities through case study, discussions, and implementation of the nursing process. Experiential learning approaches helped students integrate theoretical concepts into real clinical situations and supported the development of critical thinking during patient care activities. However, integrating updated theoretical approaches, evidence-based practice, and technology-assisted learning into clinical supervision still required improvement (Nurhidayah et al., 2022). Similar findings were reported by Kim and Shin (2025), who emphasized the importance of preceptors' clinical expertise and theoretical mastery in developing novice nurses' clinical reasoning. These findings highlight the need for continuous preceptor development and innovative learning strategies to support effective clinical learning.

Students' readiness and adaptability to clinical learning environments also influenced the effectiveness of preceptorship implementation. Preceptors reported difficulties related to students' understanding of standardized nursing documentation systems and inconsistencies between academic preparation and clinical practice demands. These conditions increased supervisory responsibilities and highlighted the importance of experiential learning approaches, effective communication, and continuous guidance in supporting students' adaptation during clinical practice (Hong & Yoon, 2021; Kim & Shin, 2025).

The findings of this study showed that preceptors demonstrated professionalism, ethical attitudes, patience, and commitment in guiding students during clinical learning. Preceptors were perceived as clinical supervisors and professional role models who supported students' confidence, problem-solving abilities, and adaptation to clinical practice (Wahyuni et al., 2019). However, limited continuing education opportunities and insufficient training remained challenges affecting preceptors' roles in professional learning environments. Previous studies have emphasized that structured preceptor development implementation is important to strengthen teaching competence, professional confidence, and the quality of clinical supervision (Hong & Yoon, 2021; Chan et al., 2025). These findings highlight the importance of continuous training and institutional collaboration to maintain consistent standards of preceptorship in clinical education.

However, the findings also revealed challenges related to limited opportunities for innovative and

technology-supported learning during clinical supervision. Previous studies have emphasized that experiential learning, simulations, and collaborative learning approaches can strengthen students' clinical reasoning, communication skills, and readiness for professional practice (Kim & Shin, 2025; Thompson et al., 2024). In addition, supportive clinical learning environments and adaptive supervision strategies are important for facilitating the effective implementation of innovative learning methods in clinical education (Mathisen et al., 2023).

The integration of technology and innovative learning strategies was also considered important in strengthening clinical learning (Hong & Yoon, 2021). The use of digital learning resources, simulations, bedside teaching, and experiential learning approaches may enhance students' clinical reasoning, knowledge retention, and readiness for professional practice (Kim & Shin, 2025). Previous studies have demonstrated that technology-supported learning methods contribute positively to students' clinical competence and learning satisfaction (Thompson et al., 2024).

Limitation of the study

This study was conducted in a single teaching hospital, and the qualitative findings reflect participants' experiences within one institutional context. Therefore, caution should be exercised when transferring these findings to other clinical education settings.

Implication of the study

The findings of this study provide important implications for nursing education and student clinical practice, particularly in strengthening the implementation of preceptorship during clinical rotations. Institutional collaboration between hospitals and educational institutions, structured ongoing preceptor development programs, effective communication systems, and supportive clinical learning environments are crucial for improving the quality of clinical supervision and students' clinical learning experiences. Furthermore, ongoing training and organizational support for preceptors may enhance the effectiveness and sustainability of preceptorship practices in clinical settings.

Conclusion

The study found that clinical preceptors generally perceived the implementation of preceptorship positively during professional nursing education. Preceptors effectively performed their roles as clinical facilitators and professional role models in supporting students' clinical learning. However, challenges remained in communication and coordination, in students' readiness to apply standardized nursing documentation systems, in workload management, and in ongoing training opportunities for preceptors. These findings highlight the importance of strengthening institutional collaboration, structured preceptor development, and supportive clinical learning environments to improve preceptorship implementation and support students' clinical competence development.

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