JURNAL KEPERAWATAN KOMPREHENSIF

OPEN ACCESS

Jurnal Keperawatan Komprehensif

(Comprehensive Nursing Journal)

A Journal of Nursing Values, Innovation, Collaboration, and Global Impact

Volume 12, Issue 2, April 2026

Published by STIKep PPNI Jawa Barat

ISSN 2354-8428, e-ISSN 2598-8727

Original Article

The Role of Clinical Instructors in Preventing Adverse Events Among Nursing Students

Diwa Agus Sudrajat[1], Nida Yunia Wardani[2]

[1,2]STIKep PPNI Jawa Barat, Bandung, Jawa Barat Indonesia

Jurnal Keperawatan Komprehensif (Comprehensive Nursing Journal)

Volume 12 (2), 269-277
https://doi.org/10.33755/jkk.v12i2.972

Article info

Received : December 22, 2025
Revised : April 21, 2026
Accepted : April 23, 2026
Published : April 30, 2026

Corresponding author

Diwa Agus Sudrajat*
STIKep PPNI Jawa Barat
Jl. Muhammad No. 34, Pamoyanan, Cicendo, Kota Bandung, Jawa Barat – 40173
Phone : 022-6121914
Email: diwasudrajat75@gmail.com

Citation
Sudrajat, D. A., & Wardani, N. Y. (2026). The role of clinical instructors in preventing adverse events among nursing students. *Jurnal Keperawatan Komprehensif (Comprehensive Nursing Journal)*, 12(2), 269–277. https://doi.org/10.33755/jkk.v12i2.972.

Website
https://journal.stikep-ppnijabar.ac.id/jkk

This is an **Open Access** article distributed under the terms of the Creative Commons Attribu tion-NonCommercial 4.0 International License

p-ISSN : 2354 8428
e-ISSN: 2598 8727

Abstract

Background: Patient safety is a fundamental aspect of healthcare delivery and a major concern in nursing education, particularly during students' clinical practice, which carries a high risk of adverse events. Nursing students are in a transitional phase from theoretical learning to real clinical practice and therefore require adequate supervision to prevent clinical errors that may compromise patient safety.
Objective: This study explored how clinical instructors perceive and enact their role in preventing adverse events during students' clinical practice.
Methods: A qualitative study with a descriptive phenomenological approach was conducted. Data were collected through in-depth semi-structured interviews with five clinical instructors who supervised nursing students across various hospital care units. The data were analyzed using thematic analysis to identify patterns of meaning related to clinical supervision and patient safety practices.
Results: The analysis revealed that clinical instructors operate not only as supervisors but also as safety gatekeepers. Their role extends across several domains, including direct supervision, assessment of student readiness, real-time correction of unsafe practices, and modeling of professional behavior. Adverse events were largely viewed as preventable, but only when supervision was consistent and context-aware. Organizational factors, particularly workload and collaboration, shaped how effectively instructors could perform this role.
Conclusion: Clinical instructors occupy a critical position at the intersection of education and patient safety. Strengthening their role requires not only individual competence but also institutional support and realistic workload structures.

Keywords: Adverse events; clinical instructor; clinical supervision; nursing education; patient safety.

INTRODUCTION

Patient safety has become a central concern in contemporary healthcare systems, as adverse events continue to pose significant risks to patient outcomes and the overall quality of care. Adverse events, defined as unintended injuries or complications resulting from healthcare management rather than the underlying disease, remain largely preventable through effective supervision, communication, and safety-oriented systems. In the context of nursing education, patient safety is particularly critical during clinical practice, where nursing students are directly involved in patient care while still developing clinical competence, decision-making skills, and professional judgment (1,2).

Clinical learning environments represent a high-risk setting for adverse events, especially when

students transition from theoretical learning to real-world practice. Nursing students are required to perform complex clinical tasks, adapt to fast-paced hospital environments, and interact with multidisciplinary teams, often under conditions of stress and uncertainty. Limited clinical experience, performance anxiety, and insufficient readiness may increase the likelihood of clinical errors, particularly when supervision is inadequate or inconsistent. Previous studies have reported that medication errors, patient falls, and failures in infection prevention frequently occur during student clinical placements and are closely associated with gaps in supervision and patient safety culture (3,4).

Clinical instructors play a pivotal role in mitigating these risks by guiding, supervising, and evaluating students during clinical practice. As experienced practitioners and educators, clinical instructors function as key gatekeepers who balance students' learning needs with patient safety requirements. Through direct supervision, validation of clinical competence, and provision of constructive feedback, clinical instructors influence not only students' technical skills but also their professional attitudes and safety behaviors. Effective clinical supervision has been recognized as a fundamental strategy for preventing adverse events and fostering safe clinical practice among nursing students (5,6).

Despite growing recognition of the importance of clinical instructors in nursing education, existing research has predominantly focused on quantitative outcomes such as student competence scores, clinical performance indicators, or incident rates. While these studies provide valuable insights, they offer limited understanding of how clinical instructors perceive their roles, implement preventive strategies, and navigate organizational challenges in daily clinical practice. In particular, there is a notable lack of in-depth qualitative research exploring the lived experiences of clinical instructors in preventing adverse events caused by nursing students within hospital-based clinical education settings (7,8).

Understanding the role of clinical instructors from a qualitative perspective is essential for strengthening patient safety culture and improving the quality of clinical education. Qualitative inquiry allows for exploration of the relational, contextual, and ethical dimensions of clinical supervision that are often overlooked in quantitative studies. Insights into instructors' experiences can inform the development of more effective supervision models, support institutional policies that prioritize patient safety, and enhance collaboration between educational institutions and healthcare organizations.

Therefore, this study aimed to explore the role of clinical instructors in preventing adverse events among nursing students during clinical practice in hospital settings. By examining instructors' experiences and perspectives, this research seeks to contribute to a deeper understanding of how patient safety is actively promoted at the intersection of nursing education and clinical care.

METHODS

Study Design

This study employed a qualitative research design with a descriptive phenomenological approach. A qualitative approach was chosen to gain an in-depth understanding of the roles, experiences, and meanings constructed by clinical instructors in preventing adverse events among nursing students during clinical practice (6). The phenomenological approach enabled the exploration of participants' lived experiences related to clinical supervision and patient safety practices as they occurred within real clinical learning environments. This design was considered appropriate for capturing the complexity and contextual nature of clinical instructors' roles in safeguarding patient safety in hospital-based education settings.

Research Setting

The study was conducted in a teaching hospital that serves as a clinical placement site for nursing students enrolled in a professional nursing program. The hospital comprises multiple clinical units with varying levels of patient acuity and clinical risk, providing a relevant context for examining patient safety and adverse event prevention. Data collection took place in inpatient wards, the intensive care unit, and isolation units. These settings represent complex clinical environments where effective supervision is essential to ensure safe nursing practice by students.

Participants and Sampling

The study population consisted of clinical instructors responsible for supervising nursing students during clinical practice. Participants

were selected using purposive sampling to ensure that individuals had relevant experience and knowledge aligned with the research focus. Inclusion criteria were registered nurses who served as clinical instructors, had a minimum of five years of clinical experience, had performed the clinical instructor role for at least two years, and were directly involved in supervising nursing students. Nurses who were not engaged in clinical instruction were excluded. A total of five participants were included. Sample size was determined based on data saturation, defined as the point at which no new themes or insights emerged from subsequent interviews.

Interview guideline

Data were collected using a semi-structured interview guide developed from a literature review on patient safety and clinical supervision. The guide included open-ended questions exploring participants' understanding of adverse events, supervisory experiences, prevention strategies, and factors influencing patient safety practices. Probing questions were used to obtain deeper insights (Tabel 1). Content validity was established using the Content Validity Index (CVI) with three experts. Items with an I-CVI ≥ 0.80 were retained, while others were revised accordingly.

Table 1. Semi-Structured Interview Guideline

Domain	Main Questions	Probing Questions
1. Background and Experience	Can you describe your experience as a clinical instructor in supervising nursing students?	How long have you been working as a clinical instructor? In which clinical settings do you usually supervise students? What are your main responsibilities?
2. Understanding of Adverse Events	How do you understand or define adverse events in clinical practice involving nursing students?	Can you give examples of adverse events you have encountered? What types of incidents are most common? How serious are these events?
3. Supervisory Role in Clinical Practice	Can you explain your role when supervising nursing students during clinical procedures?	How do you monitor students' activities? How do you provide guidance during procedures? Do you directly intervene when needed?
4. Strategies for Preventing Adverse Events	What strategies do you use to prevent adverse events during student clinical practice?	Do you provide orientation or briefing before practice? How do you ensure adherence to SOPs? How do you evaluate student performance?
5. Clinical Teaching and Feedback	How do you provide feedback to students regarding patient safety and clinical performance?	Do you conduct reflection sessions? How often do you give feedback? What methods do you use (verbal, written, demonstration)?
6. Facilitating Factors	What factors support effective supervision in preventing adverse events?	Does hospital policy support you? How about teamwork with ward nurses? Are there sufficient resources and training?
7. Inhibiting Factors / Challenges	What challenges do you face in supervising students and preventing adverse events?	Does workload affect supervision? Are there too many students? Are there limitations in time, staff, or facilities?
8. Patient Safety Culture	How do you promote patient safety awareness among nursing students?	Do you provide safety briefings? How do you encourage students to report errors? How do you model safe practice?
9. Improvement and Recommendations	What improvements are needed to enhance the role of clinical instructors in preventing adverse events?	What support do you expect from institutions? What training or systems should be improved?
10. Closing	Is there anything else you would like to share regarding your experience in supervising students and ensuring patient safety?	Any additional thoughts, examples, or suggestions?

Data Collection Procedure

Data were collected through face-to-face in-depth interviews with each participant. Prior to the interviews, participants were informed about the study objectives, procedures, and ethical considerations, including confidentiality and voluntary participation. Each interview lasted approximately 30 minutes and was conducted in a quiet area within the hospital to ensure privacy and participant comfort. With participants' consent, all interviews were audio-recorded. Field notes were also taken to capture non-verbal expressions, contextual information, and situational details that could enrich data interpretation. All collected data were securely stored and used solely for research purposes.

Data Analysis

Data analysis was conducted using thematic analysis, guided by the qualitative data analysis framework proposed by Creswell and the phases outlined by Braun and Clarke (3). The process began with verbatim transcription of the interview recordings, followed by repeated reading of the transcripts to achieve data immersion. Initial codes were then generated by identifying meaningful units of data relevant to the research objectives. Codes with similar meanings were grouped into categories, which were subsequently synthesized into overarching themes representing the roles of clinical instructors in preventing adverse events. Interpretation involved examining the meanings of these themes and relating them to concepts of patient safety and clinical supervision. The findings were presented in descriptive narratives supported by direct quotations from participants.

Trustworthiness

Several strategies were employed to ensure the trustworthiness of the study (9). Credibility was enhanced through member checking, whereby participants were invited to review and confirm the accuracy of the researchers' interpretations. Triangulation was achieved by comparing data across participants from different clinical units. An audit trail documenting methodological and analytical decisions was maintained to support dependability. Reflexivity was practiced throughout the research process to minimize potential researcher bias.

Ethical Considerations

Ethical approval for the study was obtained from the relevant institutional ethics committee prior to data collection. All participants provided written informed consent after receiving detailed information about the study. Confidentiality and anonymity were ensured by using participant codes and excluding identifying information from transcripts and reports. Participation was entirely voluntary, and participants were informed of their right to withdraw from the study at any time without any consequences.

RESULTS

General Description of Informants

This study involved five Clinical Instructors (CIs) who were actively engaged in supervising nursing students during clinical practice in a teaching hospital. Participants were drawn from different clinical units with varying levels of patient acuity and clinical risk, including inpatient wards, the intensive care unit, and isolation units. All participants had more than five years of clinical experience and had served as clinical instructors for at least two years, indicating adequate expertise and familiarity with clinical supervision and patient safety practices (Table 2).

Table 2. Characteristics of Study Participants

Participant Code	Clinical Unit	Role
CI1	Inpatient Ward	Clinical Instructor
CI2	Intensive Care Unit	Clinical Instructor
CI3	Inpatient Ward	Clinical Instructor
CI4	Inpatient Ward	Clinical Instructor
CI5	Isolation Unit	Clinical Instructor

Table 3. Development of Themes from Initial Codes to Conceptual Categories

Representative Meaning (Condensed Data)	Initial Code	Category	Theme
Staying close to students and monitoring procedures	Direct supervision	Clinical practice monitoring	Clinical instructors as primary supervisors of safe student practice
Observing students during clinical procedures	Clinical observation	Clinical practice monitoring	Clinical instructors as primary supervisors of safe student practice
Guiding actions based on SOPs	Action guidance	Clinical guidance and validation	Active supervision and competency validation
Ensuring students are capable before independent practice	Competency validation	Clinical guidance and validation	Active supervision and competency validation
Providing feedback and reflection after practice	Reflective learning	Safety-oriented learning strategies	Active supervision and competency validation
Giving safety briefings before procedures	Safety briefing	Safety-oriented learning strategies	Active supervision and competency validation
Recognizing risks and preventing incidents early	Risk awareness	Risk perception	Adverse events perceived as preventable incidents
Understanding adverse events as preventable harm	Preventive mindset	Risk perception	Adverse events perceived as preventable incidents
Referring to hospital safety policies	Organizational support	System-level facilitators	Organizational conditions shape supervision effectiveness
Support from hospital management	Policy support	System-level facilitators	Organizational conditions shape supervision effectiveness
Managing large numbers of students	Workload burden	System-level barriers	Organizational conditions shape supervision effectiveness
Limited supervision due to workload	Student–CI ratio	System-level barriers	Organizational conditions shape supervision effectiveness
Coordinating with ward nurses	Team collaboration	Collaboration and communication	Interprofessional collaboration strengthens safety
Communicating with academic supervisors	Academic coordination	Collaboration and communication	Interprofessional collaboration strengthens safety
Demonstrating safe clinical behavior	Safety role modelling	Patient safety culture development	Clinical instructors as role models of patient safety culture
Encouraging incident reporting	Open reporting culture	Patient safety culture development	Clinical instructors as role models of patient safety culture
Need for training and support for instructors	Capacity development	System strengthening	Need for capacity building and structural support

Thematic Findings
The analytic process moved from descriptive coding toward conceptual interpretation, allowing patterns across participants to be identified and synthesized into broader themes. As shown in Table 2, initial codes were not treated as isolated elements but were integrated into categories that reflect how clinical instructors navigate supervision and patient safety in practice. These categories were further developed into overarching themes that capture both individual practices and contextual influences. The analysis identified several themes that together describe how clinical instructors contribute to the prevention of adverse events during student clinical practice. These themes are interrelated and reflect both individual practices and contextual influences (9,10).

Clinical instructors as primary supervisors of safe student practice
Participants consistently described supervision as an active and continuous process. They emphasized staying close to students during clinical procedures, observing their actions, and intervening when necessary. Supervision was not limited to oversight but involved real-time engagement with students' performance.

"I don't just watch from a distance. I stay nearby, especially when they are doing procedures, because small mistakes can happen quickly." (CI2)

This theme highlights the role of clinical instructors as immediate safety checkpoints, ensuring that unsafe actions are identified and corrected before they affect patient outcomes.

Adverse events perceived as preventable incidents
Participants viewed adverse events not as inevitable consequences of learning, but as events that could largely be avoided through proper supervision. They emphasized vigilance and early detection of risk as key strategies.

"Most incidents can actually be prevented if we pay attention early—usually there are warning signs." (CI4)

This perception reflects a proactive safety mindset, where prevention is embedded in everyday supervisory practices.

Active supervision and competency validation
Clinical instructors described the importance of verifying students' readiness before allowing them to perform tasks independently. Competency was not assumed based on prior learning but reassessed in the clinical context.

"Even if they have learned it before, I still need to make sure they can do it correctly here." (CI1)

Supervision included safety briefings, direct observation, and immediate correction, particularly during high-risk procedures. This indicates that supervision operates as a preventive strategy rather than a reactive one.

Organizational conditions shape supervision effectiveness
While participants recognized their responsibility for supervision, they also acknowledged constraints related to workload and the number of students. These factors influenced how closely they could monitor students.

"Sometimes there are too many students, and it becomes difficult to supervise all of them closely." (CI3)

This finding suggests that effective supervision is not solely dependent on individual effort but is also shaped by organizational context.

Interprofessional collaboration strengthens safety
Participants emphasized the importance of working with ward nurses and academic staff. Collaboration facilitated information sharing and supported consistent supervision.

"We need to communicate with the ward nurses so everyone knows what the students are doing." (CI5)

This theme highlights that patient safety in clinical education is a shared responsibility.

Clinical instructors as role models of patient safety culture
Participants described how their own behavior influenced students' attitudes toward safety. Demonstrating correct practices and encouraging open communication were seen as essential.

"Students follow what we do. If we are careful, they will learn to be careful too." (CI1)

Role modeling emerged as a key mechanism through which safety values are transmitted.

DISCUSSION

The present study provides a more nuanced understanding of how clinical instructors operate at the frontline of patient safety within nursing education. Rather than functioning solely as facilitators of learning, they emerge as active agents who continuously negotiate risk, responsibility, and student autonomy. This finding reinforces the idea that patient safety in clinical education is not a static outcome of curriculum design, but a dynamic process shaped by real-time supervision, contextual awareness, and human judgment. At a micro level, the findings highlight the centrality of situational judgment in clinical supervision. Instructors described how they constantly read subtle cues, hesitation, uncertainty, or overconfidence before deciding whether to intervene. This aligns with the human factors perspective, which emphasizes that safety is not merely a function of technical competence but also of perception, attention, and decision-making under pressure (11). In this sense, clinical instructors act as adaptive safety buffers, detecting weak signals before they escalate into adverse events. Their role mirrors the "sharp end" of healthcare, where safety is enacted through moment-to-moment actions rather than predefined protocols (12).

Importantly, the instructors' perception that adverse events are largely preventable reflects a mature safety mindset. This perspective is consistent with global patient safety frameworks, which position most clinical errors as system-related and preventable rather than inevitable (13). However, what this study adds is the recognition that prevention in educational settings depends heavily on supervision quality, not only system design. Even well-structured clinical environments can become unsafe when supervision is diluted or inconsistent.

Another critical insight concerns the concept of competency as context-dependent rather than fixed. Participants did not assume that students who had passed academic assessments were ready for independent practice. Instead, they re-evaluated competence in situ, taking into account patient complexity, environmental pressures, and student readiness. This challenges the traditional assumption that competency is transferable across settings without adaptation. It also supports the growing emphasis on competency validation within real clinical contexts as a cornerstone of patient safety (8,17).

Beyond technical ability, the study highlights the importance of non-technical skills in shaping safe clinical performance. Instructors paid close attention to students' communication, confidence, emotional regulation, and willingness to seek help. These findings resonate strongly with previous research demonstrating that failures in non-technical skills rather than lack of knowledge are often the root cause of clinical errors (14). In this regard, supervision becomes a process of cultivating professional behavior, not merely correcting procedural mistakes. At the same time, the findings bring forward the often-underestimated role of the hidden curriculum. Students learn what is acceptable not only from formal instruction but from observing how instructors behave in real situations. When instructors demonstrate vigilance, transparency, and accountability, these behaviors are internalized by students. Conversely, inconsistencies between what is taught and what is practiced may weaken safety culture (15). This underscores the idea that clinical instructors do not simply teach safety, they embody it.

Moving to a meso level, the study highlights how organizational conditions shape the effectiveness of supervision. Participants frequently referred to workload, student–instructor ratios, and competing clinical responsibilities as barriers to maintaining optimal supervision. These constraints are not trivial. Evidence from workforce research shows that inadequate staffing and excessive workload are directly associated with increased risk of adverse events (15). In the context of clinical education, these factors may reduce supervision from proactive to reactive, thereby weakening its preventive function.

This finding also suggests that patient safety in nursing education cannot be fully addressed at the individual level. While instructor competence is essential, it is insufficient without supportive organizational structures. Institutions must recognize that safe supervision requires time, attention, and manageable workloads. Without these, even experienced instructors may struggle to maintain consistent oversight. Interprofessional collaboration further emerged as a critical component of safe clinical education. Effective communication between clinical instructors, ward nurses, and academic staff contributed to shared responsibility for patient safety. This reflects broader evidence that teamwork and collaborative practice are fundamental to reducing errors and improving

care quality (16,17). In clinical education settings, such collaboration ensures that supervision is not fragmented but integrated across roles and responsibilities.

At a macro level, the findings point to the need for a system-oriented approach to clinical supervision. Patient safety should not be viewed as an outcome of individual vigilance alone but as the result of coordinated efforts involving educational institutions, healthcare organizations, and policy frameworks. The World Health Organization has emphasized the importance of embedding patient safety into health professional education systems (18,19), yet implementation often remains uneven. This study suggests that strengthening the role of clinical instructors could be a practical entry point for operationalizing these global recommendations (11,20).

Implication

Another important implication is the need to reconceptualize clinical instructors as key actors within the patient safety system, rather than as peripheral educators. Their role sits at the intersection of service delivery and education, making them uniquely positioned to influence both learning outcomes and patient safety practices. However, this position also places them under significant pressure, particularly when expectations for teaching and service are not aligned. The study also raises questions about how clinical instructors are prepared for this complex role. While technical expertise is often emphasized, fewer training programs address supervisory decision-making, risk anticipation, and feedback in high-stakes environments. Given the findings, there is a strong argument for expanding professional development programs to include these competencies, particularly those related to patient safety and human factors (5,18).

Limitation

Despite its contributions, this study should be interpreted within its limitations. The small sample size and single-institution setting limit the transferability of findings. However, the depth of qualitative insight provides valuable understanding of processes that are often invisible in quantitative research. Future studies could extend this work by including multiple institutions, incorporating perspectives from students and nurses, and using observational methods to capture supervision in action.

CONCLUSION

In conclusion, this extended analysis reinforces that clinical supervision is not merely an educational function but a critical component of patient safety infrastructure in nursing education. Clinical instructors operate as frontline safety agents who interpret, anticipate, and respond to risk in real time. Strengthening this role requires not only individual competence but also supportive systems, collaborative practice, and institutional recognition of supervision as a safety-critical activity.

Acknowledgements

The authors would like to express their sincere gratitude to all clinical instructors who participated in this study and generously shared their experiences. The authors also acknowledge the support of the teaching hospital and STIKep PPNI Jawa Barat for facilitating the research process.

Funding Statement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contributions

D.A.S. conceptualized and designed the study, conducted data collection, performed data analysis, and drafted the manuscript. N.Y.W. contributed to study design, data interpretation, critical revision of the manuscript, and final approval of the version to be published. All authors have read and agreed to the published version of the manuscript.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request. Due to ethical considerations and participant confidentiality, the data are not publicly available.

REFERENCES

1. Eldridge N, Wang Y, Metersky M, Eckenrode S, Mathew J, Sonnenfeld N, et al. Trends in adverse event rates in hospitalized patients, 2010-2019. JAMA. 2022;328(2):173–83.

2. Christensen L. Are clinical instructors preventing or provoking adverse events involving students: A contemporary issue. 2018.
3. Bickel AE, Villasecas VX, Fluxá PJ. Characterization of adverse events occurring during nursing clinical rotations: A descriptive study. Nurse Educ Today. 2020;84:104224.
4. Zhang J, Shields L, Ma B, Yin Y, Wang J, Zhang R, et al. The clinical learning environment, supervision and future intention to work as a nurse in nursing students: a cross-sectional and descriptive study. BMC Med Educ. 2022;22(1):548.
5. Rodríguez-García MC, Gutiérrez-Puertas L, Granados-Gámez G, Aguilera-Manrique G, Márquez-Hernández V V. The connection of the clinical learning environment and supervision of nursing students with student satisfaction and future intention to work in clinical placement hospitals. J Clin Nurs. 2021;30(7–8):986–94.
6. d'Souza MS, Karkada SN, Parahoo K, Venkatesaperumal R. Perception of and satisfaction with the clinical learning environment among nursing students. Nurse Educ Today. 2015;35(6):833–40.
7. Bisholt B, Ohlsson U, Engström AK, Johansson AS, Gustafsson M. Nursing students' assessment of the learning environment in different clinical settings. Nurse Educ Pract. 2014;14(3):304–10.
8. Alammar K, Ahmad M, Almutairi S, Salem O. Nursing students' perception of the clinical learning environment. Open Nurs J. 2020;14(1).
9. Papastavrou E, Lambrinou E, Tsangari H, Saarikoski M, Leino-Kilpi H. Student nurses experience of learning in the clinical environment. Nurse Educ Pract. 2010;10(3):176–82.
10. Aktaş YY, Karabulut N. A Survey on Turkish nursing students' perception of clinical learning environment and its association with academic motivation and clinical decision making. Nurse Educ Today. 2016;36:124–8.
11. Yao X, Yu L, Shen Y, Kang Z, Wang X. The role of self-efficacy in mediating between professional identity and self-reported competence among nursing students in the internship period: A quantitative study. Nurse Educ Pract. 2021;57:103252.
12. Pueyo-Garrigues M, Pardavila-Belio MI, Whitehead D, Esandi N, Canga-Armayor A, Elosua P, et al. Nurses' knowledge, skills and personal attributes for competent health education practice: An instrument development and psychometric validation study. J Adv Nurs. 2021;77(2):715–28.
13. Hughes M, Kenmir A, Innis J, O'Connell J, Henry K. Exploring the transitional experience of first-year undergraduate nursing students. Journal of Nursing Education. 2020;59(5):263–8.
14. Caboral-Stevens M, Ignacio R V, Newberry G. Undergraduate nursing students' pharmacology knowledge and risk of error estimate. Nurse Educ Today. 2020;93:104540.
15. Mbabazi B, Muwanguzi P, Olwit C, Mwesigwa CL, Nankumbi J. Nursing and midwifery students' experiences of preceptorship in clinical education in Uganda: A preceptorship framework-informed qualitative study. Int J Afr Nurs Sci. 2025;100951.
16. Toreh PM, Ria MN. The Role of Clinical Instructors in Guiding Nursing Students during Clinical Practice at Gunung Maria Hospital. Karya Kesehatan Siwalima. 2025;4(2):208–17.
17. Kumah A. Poor quality care in healthcare settings: an overlooked epidemic. Front Public Health. 2025;13:1504172.
18. Sugiantari A, Sari KAK, Januraga PP. Achieving ideal mentoring: Working patterns among clinical instructors, nurses, and nursing students. Public Health and Preventive Medicine Archive. 2018;6(1):48–54.
19. Khatun MR, Khatun MM, Islam T. Role of Mentorship Programs in Improving Clinical Competency in Nursing Students. Asia Pacific Journal of Nursing Research. 2025;6(3):69–74.
20. Mahmoudi Z, Motamed H, Mashayek P. Designing a Clinical Mentoring Model for Nursing Students: A Grounded Theory Study. Armaghane Danesh. 2025;30(5):740–56.