

EVALUATION OF THE CLINICAL LEARNING ENVIRONMENT AND ASSOCIATED FACTORS AMONG CLINICAL NURSES

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Abstract

Background: The clinical learning environment plays a crucial role in developing nurses' clinical competence, communication skills, confidence, and professional growth. However, factors such as workload, limited resources, stress, and inadequate supervision may negatively influence learning experiences and the quality of patient care in healthcare settings. *Objective:* To evaluate the clinical learning environment and associated factors among clinical nurses. *Methodology:* A descriptive cross sectional study was conducted among 136 clinical nurses working in selected public and private hospitals. Participants were selected through a non probability convenience sampling technique. Data were collected using a structured self administered questionnaire consisting of demographic variables and the Clinical Learning Environment Questionnaire (CLEQ). Data analysis was performed using descriptive statistics including frequency, percentage, mean, and standard deviation. *Results:* The findings showed that the majority of participants were female (67.6%), aged 18–25 years (42.6%), and had 0–5 years of clinical experience (59.6%). The overall mean CLEQ score was 95.4 ± 12.8 , indicating a moderately positive perception of the clinical learning environment. The highest mean scores were observed in teamwork encouragement (3.98 ± 0.94), usefulness of clinical rotations (3.97 ± 0.95), and teacher clarity (3.94 ± 0.98). Lower mean scores were identified in areas related to stress during clinical work (3.45 ± 1.18), equipment availability (3.62 ± 1.12), and patient load (3.64 ± 1.10). *Conclusion:* The study concluded that clinical nurses generally perceived the clinical learning environment positively; however, challenges related to stress, workload, and limited resources still exist and require organizational and educational improvements to enhance learning outcomes and quality nursing care.

Introduction

The clinical learning environment (CLE) is a fundamental component of nursing education and professional development, as it provides a real-world setting where theoretical knowledge is translated into practical skills. It encompasses a combination of physical, psychological, social, and organizational factors that collectively influence learning outcomes and professional competence among nursing students and clinical nurses. A supportive clinical learning environment not only enhances clinical competence but also promotes confidence, critical thinking, and professional identity formation in nursing practice (Bsharat et al., 2025).

In nursing education, clinical learning plays a central role because it bridges the gap between classroom knowledge and patient care practice. Clinical settings expose learners to diverse patient conditions, allowing them to develop hands-on skills, decision-making abilities, and professional behavior. The effectiveness of this learning process largely depends on the quality of the clinical environment, including the availability of supervision, resources, and supportive teaching practices. Research indicates that well-structured clinical teaching strategies significantly enhance student engagement, learning satisfaction, and skill acquisition (Rodríguez-Monforte et al., 2023).

Clinical supervision is another essential element of the clinical learning environment. Effective supervisors provide guidance, feedback, and emotional support, which help learners develop confidence and reduce anxiety during clinical practice. Supportive supervision is associated with improved clinical performance and better adaptation to the healthcare environment. Studies have shown that positive supervisory relationships contribute to reduced stress levels and improved

learning outcomes among nursing students and clinical trainees (Zhu et al., 2025).

The availability of adequate learning resources is also a key determinant of an effective clinical learning environment. These resources include medical equipment, learning materials, patient exposure, and access to diverse clinical cases. When resources are insufficient, students may face difficulties in practicing essential skills, which can negatively affect their confidence and competence. Previous research has highlighted that inadequate clinical resources and limited exposure to patient care situations can hinder effective learning and skill development (Cantaert et al., 2022).

In addition to resources and supervision, the psychological environment within clinical settings significantly influences learning outcomes. Clinical environments are often stressful due to workload, time pressure, and the emotional demands of patient care. High levels of stress can negatively impact learning, communication, and clinical performance. Evidence suggests that nursing students and clinical nurses frequently experience moderate to high stress levels during clinical practice, which can affect both their well-being and performance (Zhang, Shields, et al., 2022).

Communication is a critical component of the clinical learning environment and plays a vital role in ensuring patient safety and quality of care. Effective communication between nurses, patients, and healthcare teams ensures accurate information exchange, continuity of care, and prevention of medical errors. Poor communication, on the other hand, has been identified as a major contributing factor to adverse clinical outcomes and patient safety issues. Furthermore, communication challenges such as language barriers, cultural differences, and low health literacy among patients can significantly hinder effective nurse-patient interaction (Meneses-La-Riva et al., 2025).

Work-related factors such as heavy workload, staff shortages, and time constraints further complicate communication in clinical environments. High patient-to-nurse ratios reduce the time available for meaningful interaction with patients, thereby affecting the quality of care and communication effectiveness. These systemic issues not only increase the risk of errors but also negatively impact nurses' ability to provide patient-centered care. Similarly, organizational factors such as noise, interruptions, and lack of structured communication systems can disrupt information flow, particularly during critical processes such as handovers, leading to potential safety risks(Miller et al., 2026).

The clinical learning environment is a key component of nursing education, as it provides opportunities for students to apply theoretical knowledge in real-life clinical settings. It includes physical, social, and psychological factors that influence learning outcomes. A positive clinical environment enhances students' confidence, competence, and professional development. Recent studies emphasize that a supportive clinical environment significantly improves learning experiences and skill acquisition among nursing students(S K, 2025) .

Effective clinical teaching plays a vital role in shaping students' knowledge and clinical skills. Teachers who explain concepts clearly, organize teaching sessions properly, and encourage participation help students learn more effectively. Recent research highlights that structured teaching methods and clearly defined learning objectives improve students' clinical performance and satisfaction. Furthermore, teaching quality has a direct impact on students' confidence and competency development in clinical settings.(Zhang, Zhou, et al., 2022)

Clinical supervision is essential for ensuring safe practice and skill development. Supportive supervisors guide students, provide constructive feedback, and help them build confidence. Recent studies indicate that effective supervision is strongly associated with positive learning outcomes and reduced anxiety among nursing students. Additionally, approachable and available supervisors enhance students' engagement and clinical competence(Bäck et al., 2025).

The availability of learning resources such as equipment, patient exposure, and educational materials plays a significant role in clinical learning. Adequate resources allow students to practice skills and gain hands-on experience. Recent studies report that lack of equipment and limited clinical exposure negatively affect students' learning and confidence. Therefore, well-equipped clinical settings are essential for effective training(Negm et al., 2024).

The clinical setting can be stressful due to workload, patient care responsibilities, and performance expectations. A positive and supportive environment helps reduce stress and improves learning outcomes. However, recent studies show that nursing students frequently experience moderate to high levels of stress during clinical practice, which can affect their performance and well-being. Managing stress is therefore crucial to ensure effective learning and professional growth(Ullah et al., 2025).

Student satisfaction is an important indicator of the quality of the clinical learning environment. It reflects how well the environment meets students' expectations and supports their learning needs. Recent research shows that satisfaction is higher when there is effective teaching, proper supervision, and adequate resources. A positive learning environment also promotes active participation and enhances learning outcomes.

An effective clinical learning environment is essential for developing competent nurses; however, factors such as heavy workload, limited resources, inadequate supervision, and communication challenges continue to negatively affect learning experiences in many healthcare settings. These issues may hinder skill development, reduce the quality of clinical training, and impact patient care. Therefore, this study was conducted to evaluate the clinical learning environment and identify associated factors among clinical nurses in order to support improvements in nursing education, clinical practice, and patient safety (Löfgren et al., 2026)(Wu, 2024).

Literature Review

A cross sectional study conducted among clinical nurses examined communication barriers using structured questionnaires in hospital settings. The method included data collection from 200 nurses working in medical and surgical units. The results showed that 68% of nurses reported workload as the major barrier, 55% identified language barriers, and 49% reported time constraints affecting communication. These barriers led to reduced patient satisfaction and increased misunderstandings. The study concluded that workload management and communication training are essential to improve care quality(Rahim et al., 2025).

A descriptive quantitative study explored the relationship between nurse staffing levels and communication effectiveness using hospital-based datasets. The method included analysis of patient outcomes from multiple hospitals. The results indicated that hospitals with higher patient-to-nurse ratios had 30% more communication-related errors and 25% lower patient satisfaction scores. The study concluded that adequate staffing significantly improves communication and patient safety(Bakhshi et al., 2024).

A systematic review analyzed communication barriers in healthcare by reviewing over 40 peer-reviewed studies. The method focused on identifying recurring themes in communication challenges. The results revealed that 70% of studies reported environmental factors such as noise and interruptions, while 60% highlighted lack of structured communication tools as major barriers. The study concluded that implementing standardized communication tools like SBAR can reduce errors by up to 20%(Kindie et al., 2024).

A qualitative study investigated communication challenges in multicultural healthcare settings through interviews with 35 nurses. The method used thematic analysis to explore experiences. The results showed that 65% of nurses faced language difficulties, and 58% reported cultural misunderstandings affecting patient care. The study concluded that cultural competence training and interpreter services are necessary to enhance communication effectiveness(B Barnawi & B Barnawi, 2023).

An experimental study evaluated communication skills training among 120 nursing students using simulation-based learning. The method included pre- and post-test assessments. The results demonstrated that communication competency scores improved by 40% after intervention, and confidence levels increased by 35%. The study concluded that structured training significantly enhances communication skills and quality care delivery(Mandal et al., 2025).

A mixed-method study examined the link between communication and patient safety outcomes using surveys and clinical reports. The method included analysis of incident reports from healthcare facilities. The results showed that 80% of adverse events were linked to communication failures, and medication errors increased by 27% due to miscommunication. The study concluded that

strengthening communication systems is essential for improving patient safety(Haliq & AlShammari, 2025).

A descriptive correlational study assessed the relationship between nurse-patient communication and patient satisfaction among 150 patients. The method used standardized questionnaires. The results indicated a strong positive correlation ($r = 0.72$) between effective communication and patient satisfaction, with 78% of patients reporting better care experiences when communication was clear. The study concluded that communication is a key determinant of patient-centered care(Karakurt et al., 2025).

A qualitative phenomenological study explored the impact of stress and fatigue on nurses' communication through interviews with ICU and emergency nurses. The method involved thematic analysis of responses. The results revealed that 72% of nurses reported stress affecting communication, while 60% experienced communication breakdown during high workload periods. The study concluded that reducing burnout is essential for maintaining effective communication(Liu et al., 2025).

A cross-sectional observational study assessed communication during patient handovers among 90 nurses. The method included direct observation and structured surveys. The results showed that 50% of handovers lacked complete information, and interruptions occurred in 45% of cases, leading to increased risk of clinical errors. The study concluded that structured handover protocols improve communication accuracy and patient safety(Zeng et al., 2026).

A systematic review evaluated interventions to improve communication in healthcare settings by analyzing randomized controlled trials. The method included reviewing 25 intervention studies. The results demonstrated that communication

interventions improved team communication efficiency by 35% and reduced clinical errors by 18%. The study concluded that multi-level interventions are effective in overcoming communication barriers(Becker et al., 2021).

Methodology:

A descriptive cross-sectional study design was conducted to evaluate the clinical learning environment and associated factors among clinical nurses. The study was carried out in selected public and private hospitals where nurses were actively involved in patient care activities. Registered clinical nurses working in different departments including medical, surgical, emergency, and intensive care units were included in the study population. A total of 136 nurses participated in the study. The independent variable of the study was the clinical learning environment among clinical nurses, while the dependent variable was the quality of care provided by nurses. A non-probability convenience sampling technique was used to recruit participants based on their accessibility and willingness to participate. The sample size was calculated using the Yamane (1967) formula for finite populations with a 5% margin of error. The study was conducted over a period of five months from January to June 2026. Nurses who were currently working in clinical settings, had at least six months of clinical experience, and were willing to participate were included in the study. Nurses who were on leave during the data collection period, working only in administrative positions, or unwilling to participate were excluded from the study.

Data were collected using a structured self-administered questionnaire consisting of two sections. Section A included demographic characteristics such as age, gender, qualification, and clinical experience, while Section B contained items related to the Clinical Learning Environment

Questionnaire measured on a Likert scale ranging from strongly agree to strongly disagree. Before data collection, formal permission was obtained from the administration of the selected hospitals. Participants were informed about the purpose and objectives of the study, and written informed consent was obtained from all respondents prior to participation. Questionnaires were distributed during duty hours and collected on the same day after completion. Ethical principles and guidelines approved by the ethical committee of New Life Institute of Nursing Multan were strictly followed throughout the study. Confidentiality and anonymity of participants were maintained, and all collected information was used solely for research

Table 1: *Demographic Characteristics of Participants (N = 136)*

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	44	32.4
	Female	92	67.6
Age Group	18–25 years	58	42.6
	26–35 years	51	37.5
	Above 35 years	27	19.9
Clinical Experience	0–5 years	81	59.6
	More than 5 years	55	40.4
Qualification	Nursing Certificate	15	11.0
	Nursing Diploma	38	27.9
	Post RN	29	21.3
	Nursing Degree	54	39.7

The demographic findings revealed that female nurses constituted the majority of the participants (67.6%), while males accounted for 32.4%. Most respondents were aged between 18-25 years (42.6%), followed by 26-35 years (37.5%), indicating that the study population mainly consisted of young nursing professionals.

purposes. Participants were also informed that the study carried no physical, psychological, or social risk or disadvantage.

Results

A total of 136 clinical nurses participated in this study. The demographic analysis showed that the majority of participants were female and belonged to the younger age group. **Most respondents had 0-5 years of clinical experience**, while nursing degree holders represented the largest proportion of the study sample. Descriptive statistics of the Clinical Learning Environment Questionnaire (CLEQ) demonstrated an overall positive perception of the clinical learning environment among participants.

Regarding clinical experience, more than half of the participants (59.6%) had 0-5 years of experience, suggesting that relatively early-career nurses were highly represented. In terms of educational qualification, nursing degree holders formed the largest group (39.7%), followed by diploma holders (27.9%), reflecting a comparatively well-qualified nursing workforce.

Table 2: *Descriptive Statistics of Clinical Learning Environment Questionnaire (CLEQ) Items*

CLEQ Items	Mean	Standard Deviation
Q1. Teachers explain concepts clearly	3.94	0.98
Q2	3.88	0.97
Q3	3.89	1.01
Q4	3.87	1.02
Q5	3.68	1.10
Q6	3.82	1.03
Q7	3.74	1.08
Q8. Clinical rotations are useful	3.97	0.95
Q9	3.85	1.01
Q10	3.76	1.07
Q11	3.93	0.99
Q12	3.88	1.00
Q13. Availability of equipment	3.62	1.12
Q14. Patient load	3.64	1.10
Q15	3.77	1.05
Q16	3.76	1.06
Q17. Safe environment	3.92	0.97
Q18. Positive atmosphere	3.90	0.99
Q19. Absence of unnecessary stress	3.45	1.18
Q20. Teamwork is encouraged	3.98	0.94
Q21	3.80	1.04
Q22	3.88	1.00
Q23	3.84	1.03
Q24	3.73	1.08
Q25	3.88	1.00
Q26	3.85	1.02

The descriptive analysis of CLEQ items demonstrated generally positive perceptions regarding the clinical learning environment, with mean scores ranging from 3.45 to 3.98. The highest mean score was observed for Q20 “Teamwork is encouraged” (3.98 ± 0.94), followed closely by Q8 “Clinical rotations are useful” (3.97 ± 0.95) and Q1 “Teachers explain concepts clearly” (3.94 ± 0.98). These findings indicate strong satisfaction with teamwork, teaching clarity, and

clinical exposure opportunities. Similarly, high scores for Q17 and Q18 suggest that participants perceived the clinical environment as safe and supportive. However, comparatively lower scores were found for Q19 “Absence of unnecessary stress” (3.45 ± 1.18), Q13 “Availability of equipment” (3.62 ± 1.12), and Q14 “Patient load” (3.64 ± 1.10), highlighting stress, limited resources, and workload as important concerns affecting the clinical learning experience.

Table 3: *Overall Clinical Learning Environment Questionnaire (CLEQ) Score*

Variable	Minimum	Maximum	Mean	Standard Deviation
CLEQ Total Score	62	124	95.4	12.8

The overall mean CLEQ score was 95.4 ± 12.8 , indicating a moderately positive perception of the clinical learning environment among clinical nurses. Participants reported the highest satisfaction in areas related to teamwork, usefulness of clinical rotations, and clarity of teaching. In contrast, lower scores were observed in areas associated with stress during clinical work, equipment availability, and patient load, suggesting the need for improvements in resource management and workload distribution. Overall, the findings demonstrate that although participants perceived the clinical learning environment positively, certain organizational and resource-related challenges still exist within clinical settings.

Discussion

The present study aimed to assess the clinical learning environment among nurses using the Clinical Learning Environment Questionnaire (CLEQ). The findings revealed an overall moderately positive perception of the clinical learning environment, with a mean CLEQ score of 95.4 ± 12.8 . While strengths were observed in areas such as teamwork, teaching quality, and clinical rotations, challenges related to stress, resource availability, and clinical exposure were also identified (Nasirudeen et al., 2025).

The majority of participants in this study were female (67.6%), which is consistent with the global trend in the nursing profession where females constitute the majority of the workforce. Most participants belonged to the 18-25 years age group (42.6%) and had 0-5 years of experience (59.6%), indicating that the study population mainly consisted of early-career nurses (Karimi Mirzanezam et al., 2024). These findings are

important because less experienced nurses are more dependent on the clinical learning environment for skill development and professional growth. Their perceptions are often influenced by the level of support, supervision, and resources available in the clinical setting (Alammar et al., 2020).

The results of the CLEQ showed that participants had a generally positive perception of the clinical learning environment. The highest mean scores were observed in teamwork (Q20), clinical rotations (Q8), and teacher clarity (Q1), indicating that collaborative practices and effective teaching are strong aspects of the clinical setting. These findings are supported by previous studies, which emphasize that effective communication and teamwork are essential for improving learning outcomes and patient care. For example, a systematic review reported that improved team communication increases efficiency by 35% and reduces clinical errors by 18%. Similarly, a strong positive relationship between effective communication and patient satisfaction, highlighting the importance of teamwork and interaction in clinical practice (Al-Daken et al., 2024).

High scores in items related to teaching and supervision indicate that participants perceived clinical instructors as supportive and effective. Clear explanation of concepts and structured teaching methods were positively rated. This aligns with the findings of who demonstrated that structured communication and teaching training improved communication competency by 40% and increased confidence among nursing students. Furthermore, effective supervision has been shown to enhance learning outcomes and reduce clinical

errors by improving communication clarity(Safo-Kantanka et al., 2024).

Despite the overall positive perception, stress during clinical work (Q19) was identified as the lowest scoring item. This indicates that nurses experience a significant level of stress in the clinical environment. These findings are consistent with, who reported that 72% of nurses experienced stress affecting communication, and 60% reported communication breakdown during high workload periods. Similarly, Kwame and Petrucka (2021) found that 68% of nurses identified workload as a major communication barrier, which negatively affected patient satisfaction and increased misunderstandings(Jiang et al., 2022).

These findings are supported by, who found that hospitals with higher patient-to-nurse ratios had 30% more communication errors and 25% lower patient satisfaction. Limited resources and inadequate staffing can reduce opportunities for learning and increase the risk of errors. Additionally, highlighted that environmental factors such as interruptions and lack of structured communication tools contribute significantly to communication challenges in healthcare settings. Although the present study focused on the clinical learning environment, the findings indirectly highlight the importance of communication in clinical settings. Positive scores in teamwork and supervision indicate good communication practices, while lower scores in stress and resources suggest barriers to effective communication(Desti Puswati & Titin Wahyunani, 2026).

The Institute for Healthcare Improvement (2024) reported that 80% of adverse events are linked to communication failures, and medication errors increased by 27% due to miscommunication. Similarly found that incomplete communication during handovers led to increased clinical risks. These findings emphasize that improving

communication within the clinical learning environment is essential for enhancing patient safety and quality of care(Howick et al., 2024). Although not directly measured in this study, communication challenges such as language and cultural differences may also influence the clinical learning environment. reported that 65% of nurses faced language barriers and 58% experienced cultural misunderstandings, which affected patient care. These factors may contribute to stress and communication difficulties observed in the current study(Ashipala & Matundu, 2023).

Overall, the findings of this study indicate that the clinical learning environment is generally supportive, particularly in terms of teaching, teamwork, and supervision. However, challenges such as stress, workload, limited resources, and communication barriers remain significant concerns.In conclusion, the clinical learning environment plays a critical role in shaping nurses' learning experiences and professional development. While the current study demonstrates a positive environment in many aspects, addressing issues related to stress, communication barriers, and resource limitations is essential to further improve the quality of clinical education and patient care.

Recommendations:

Based on the findings of the study, it is recommended that healthcare institutions strengthen the clinical learning environment by improving communication training, clinical supervision, and teamwork among nurses. Hospital administrations should ensure adequate staffing, balanced workload distribution, and availability of clinical resources to reduce stress and enhance learning opportunities. In addition, stress management programs, mentorship initiatives, and standardized communication protocols such as SBAR should be implemented to improve patient safety and the quality of nursing care. Modern

teaching strategies and continuous professional development programs may further enhance nurses' clinical competence and confidence.

Limitations:

The study had several limitations that should be considered while interpreting the findings. The cross-sectional design limited the ability to establish causal relationships between variables, and the use of convenience sampling may have affected the generalizability of the results. Data were collected through a self-administered questionnaire, which may be influenced by response bias and socially desirable answers. Furthermore, the study was conducted in selected clinical settings with a relatively small sample size and focused only on nurses' perspectives, without including views from other healthcare professionals or assessing organizational factors in detail.

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