# Effect of Clinical Learning Environment on Nursing Students at Tertiary Care Hospitals

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**Abstract**

Clinical Learning Environment (CLE) is a vital aspect of nursing education that offers students real-world exposure to interdisciplinary teamwork, patient care, and hospital protocols, preparing them for professional practice. This cross-sectional study is purely quantitative that evaluates the CLE among nursing students at tertiary care hospitals and examines the gender differences in perception. Through convenience sampling, a sample of 202 nursing students was selected for data collection. The study used CLES+T scale to evaluate nursing students' perception. The tool has 5 parameters and is based on 34 items (reliability 0.78 to 0.96). Findings from the Kolmogorov-Smirnov Test reveal that there is a significant impact of CLE on nursing students at tertiary care hospitals, asymptotic significance 0.013 ($p < .05$). Further Mann-Whitney U test reveals that distribution of CLES+T is consistent across genders, as both male and female nursing students perceived similar opinions, which reject the research hypothesis. This suggests that, in tertiary care hospitals, factors such as clinical mentorship, hospital policies, clinical supervision, and the general environment might play a more influential role than gender in shaping nursing students' perceptions toward CLE. Future research could further explore how various elements of the CLE, such as the availability of resources, training, leadership style of management, and support systems, contribute to the overall learning experience for nursing students. Furthermore, future studies can be conducted in public and private tertiary care hospitals to compare CLE for nursing students and how they contribute to creating an inclusive and supportive learning atmosphere for all students, irrespective of gender.

**Keywords**: Clinical Learning Environment, Nursing Students, Tertiary Care Hospitals, Gender

## INTRODUCTION

Clinical Learning Environment (CLE) is a vital aspect of nursing education that offers students real-world exposure to interdisciplinary teamwork, patient care, and hospital protocols, preparing them for professional practice. Students' satisfaction within the CLE is influenced by multiple factors that shape their overall learning experiences such as clear communication, learning opportunities, supportive supervision, and hospital's organizational culture. In this context, as advanced healthcare facilities, tertiary care hospitals serve as key clinical sites where nursing students encounter complex medical cases with advanced medical services, making satisfaction with the CLE particularly significant in these settings. Understanding how

CLE impacts nursing students' satisfaction with professional growth and development is important and can help higher education institutions enhance educational practices to improve the quality of patient care and student satisfaction.

**BACKGROUND**

The CLE refers to the real-world healthcare settings to gain practical experience in clinical skills under the supervision of healthcare professionals in hospitals (Fathi & Ibrahim, 2023). It encompasses physical settings (either hospitals or clinics), the culture of care, organizational structure, interactions and supervision of healthcare professionals, and the availability of educational resources (Karim et al., 2020). CLE is essential for nursing students' professional growth, as positive CLE allows them to apply classroom knowledge to real-world scenarios, collaborate with healthcare teams, interact with patients, and receive constructive feedback for improvement from supervisors or clinical instructors (Johannessen et al., 2021). According to Wong and Bressington (2021), it is influenced by pedagogical atmosphere, leadership style, nursing care, relationship with supervisor, and role of the supervisor or nurse teacher.

Pedagogical atmosphere describes how favourable the environment is conducive to nursing students' learning in tertiary care hospitals, includes clear expectations, structured experiences, and the integration of theoretical knowledge into practice (Wong & Bressington, 2021; Nyelisani, 2016). Studies have indicated that a positive pedagogical atmosphere is created when staff treat students as active participants, not merely observers (Jiang et al., 2024; Sabog et al., 2015) and clinical instructors provide detailed orientation and orient students to ward routines and procedures (Stengelhofen, 2013; Ramani & Leinster, 2008). Pedagogical atmosphere, as reflective practice, allows students to analyze their performance and identify weak areas for improvement (Chong et al., 2016). Researchers have highlighted that open communication between clinical staff and nursing students fosters a supportive environment that encourages them to actively participate in patient care (Fathi & Ibrahim, 2023; Johannessen et al., 2021; Umubyeyi et al., 2021; Papastavrou et al., 2016).

One of the critical determinants of the effective learning environment is the leadership style, which is characterized by collaboration, motivation, and mentoring (Tuomikoski et al., 2020). Collins et al. (2020) highlighted that transformational leadership is particularly valued in the context of clinical settings. Leaders, who adopt these transformational leading qualities, act as role models and inspire their students through clinical skills and expertise (Alatawi et al., 2020). Further, studies have shown that these types of leaders can create a non-threatening environment for their students through guidance and supervision, which encourages students for questions and exploration in the clinical settings (Collins et al., 2020; Tuomikoski et al., 2020). This leading style ensures that the students' responsibilities are aligned with their competence level. In contrast to transformational leadership, transactional leadership styles may hinder learning and students' development by focusing exclusively on task accomplishment (Giddens, 2018). Researchers Alatawi et al. (2020) have shown that when ward managers or supervisors are approachable and create opportunities for students' growth, students feel comfortable and satisfied with the work environment.

Similarly, on the ward, nursing care quality provides a critical backdrop for students' learning that provides exposure to best practices, communication with patients, allowing them to

learn technical expertise, and decision-making in real-world situations, as highlighted by Karim et al. (2020). Key factors highlighted by some scholars include: availability of diverse clinical cases that offer comprehensive exposure to various medical conditions and interventions, opportunities for students to work with inter-professional teams, gaining insights into collaborative care, and observing ethical, patient-centered care modeled by experienced nurses, which enhances students' understanding of professionalism and developing competencies (Benti Terefe & Gemeda Gudeta, 2022; Karim et al., 2019; Giddens, 2018). Additionally, barriers highlighted by scholars such as limiting the time for student interaction, a high patient-to-nurse ratio, and reduced hands-on learning opportunities (Nguyen et al., 2024; Wong & Bressington, 2021; Collins et al., 2020; Stacey et al., 2017). However, Ozga et al. (2020) highlighted that hospitals that have strong monitoring and mentoring structures and supportive cultures help develop a higher satisfaction rate for their students.

Moreover, Johannessen et al. (2021) highlighted that the relationship between clinical supervisors and their students is pivotal to the CLE, which is marked by regular interactions and detailed feedback tailored to individual student needs as balancing guidance with autonomy builds student confidence. Furthermore, it is crucial to establish clear learning objectives and periodic assessments to track students' progress in the field (Driscoll et al., 2019). Additionally, issues arise when the supervisor or ward manager is inconsistent or overly critical, leading to low mental health, stress, anxiety, and dissatisfaction among students, as highlighted by Stacey et al. (2017). However, the supervisors who encourage reflection and offer actionable advice and constructive feedback to their students help foster confidence and deeper learning in the field (Nguyen et al., 2024).

Stacey and his team (2019) mentioned that in the clinical environment, the involvement of nurse teachers or supervisors builds bridges between theoretical learning and real-world applications or exposures. They are accountable for conducting consistent ward visits to monitor and support students' learning practices, and providing individualized mentorship and encouraging reflective practice for students (Mbonambi, 2021; Wong & Bressington, 2021; Ekstedt et al., 2019; Papastavrou et al., 2016). Driscoll et al. (2019) found that frequent interaction of students with their supervisor or nurse teachers correlate with their confidence and satisfaction. However, any gap in between their relationship can negatively affect the learning experience.

**Statement of the Problem**

The multidimensional nature of CLE with its core pillars, including pedagogical atmosphere, leadership, quality of care, supervisory relationships, and role of nurse teacher forms a conducive learning environment for nursing students at tertiary care hospitals. Addressing weaknesses in these areas can significantly enhance nursing students' satisfaction, learning outcomes, and professional readiness in tertiary care hospitals. In contrast, this study aims to evaluate the impact of CLE at tertiary care hospitals on nursing students. Additionally, the study examines the impact of CLE on gender-based differences among nursing students. Thus, the problem statement is to identify the impact of CLE on nursing students at tertiary care hospitals.

**Research Objective**

1. To evaluate the effect of clinical learning environment on nursing students at tertiary care hospitals.
2. To evaluate the impact of clinical learning environment on gender-based differences among nursing students in tertiary care hospitals

**RESEARCH METHODOLOGY**

This cross-sectional study is purely quantitative in nature that evaluates the clinical learning environment among nursing students at tertiary care hospitals in Karachi, Pakistan. The study population was all students of 3rd and 4th year, and interns at tertiary care hospitals in Karachi. Through convenience sampling, a sample of 202 nursing students was selected for data collection. Inclusion criteria: students studying nursing who were enrolled in a recognized nursing program, including 3rd year, 4th year, and nursing interns who are actively engaged in clinical placements or experiences at the designated tertiary care hospital.

The study used clinical learning environment, supervision, and nurse teacher (CLES+T) scale to evaluate nursing students' perception of clinical learning environment. This 34-item tool includes 5 parameters, such as pedagogical atmosphere (9 items), leadership style of the ward manager (4 items), nursing core on the ward (4 items), supervisory relationship (8 items), and role of the nurse teacher (9 items). The reliability of the scale was very strong with Cronbach's alpha 0.78 to 0.96 (Saarikoski & Leino-Kilpi, 2008). It is an authenticated, freely available tool frequently used in nursing education research that gauge different facets of the CLE and instructor direction. After pilot testing with ten students, the tool was used as it was without changes.

The researcher strictly followed the ethical guidelines for data collection from students and gave them the right to withdraw from the study at any stage. Data was collected by the researcher on-site and participants' identities were kept confidential.

**FINDINGS**

**Research Question 1: What is the effect of clinical learning environment on nursing students at tertiary care hospitals?**

*Hypothesis 1: There is a significant impact of clinical learning environment on nursing students at tertiary care hospitals.*

Table 1 highlights the Kolmogorov-Smirnov Test for the CLES+T on nursing students at tertiary care hospitals. Results reveal that the test statistic is 0.072, which represents the largest absolute difference between the observed and expected cumulative distributions. However, the asymptotic significance 0.013 ($p < .05$) suggests that the null hypothesis is rejected and research hypothesis, which states that 'there is a significant impact of clinical learning environment on nursing students at tertiary care hospitals' is accepted.

**Table 1.**

*One-Sample Kolmogorov-Smirnov Test of CLES+T*

| | | |
|---|---|---|
| Most Extreme Differences | Absolute | .072 |
| | Positive | .045 |

| | | |
|---|---|---|
| | Negative | -.072 |
| Test Statistic | | .072 |
| Asymptotic Sig.(2-sided test) | | .013[a] |

a. Lilliefors Corrected

Figure 1 reports the distribution of CLES+T appears to be roughly symmetric, suggesting the data might be approximately normal with M = 119 and SD = 25.636, which is spread around the mean.

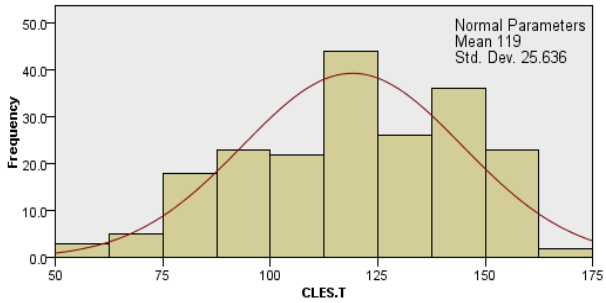


**Figure 1.** *Bar Graph of One Sample Kolmogorov-Smirnov Test of CLES+T*

**Research Question 2: How does clinical learning environment impact on gender-based differences among nursing students in tertiary care hospitals?**

*Research Hypothesis 2: There is a significant impact of clinical learning environment on gender-based differences among nursing students in tertiary care hospitals.*

Table 2 describes the independent sample Mann-Whitney U test for the impact of CLES+T on gender-based differences among nursing students in tertiary care hospitals. Results reveal that male and female students perceived similarly that CLES+T has a great impact on nursing students at tertiary care hospitals, as the distribution of CLES+T is consistent across genders, test statistic (U) was 5126.00, with a corresponding Wilcoxon W of 11012.00. The research hypothesis that there is a significant impact of clinical learning environment on gender-based differences among nursing students in tertiary care hospitals is rejected because the significance value is greater than the conventional threshold of .05 ($p$ = .904) with standardized test statistic 0.121.

**Table 2.**

*Independent-Samples Mann-Whitney U Test for Gender Differences*

| | |
|---|---|
| Mann-Whitney U | 5126.000 |
| Wilcoxon W | 11012.000 |
| Test Statistic | 5126.000 |
| Standard Error | 414.308 |
| Standardized Test Statistic (z) | .121 |
| Asymptotic Sig.(2-sided test) | .904 |

Figure 2 depicts a comparison of the CLES+T scores among male and female nursing students, where female group mean rank was observed 101.96 and male group mean rank was

observed 100.97. The bar graph shows that the distributions of scores are symmetric for both genders with a slight overlap between the two groups, these similar pattern of responses in both groups suggests that male and female nursing students perceive the CLES+T environment almost identically. However, there were no extreme outliers visible in the data.

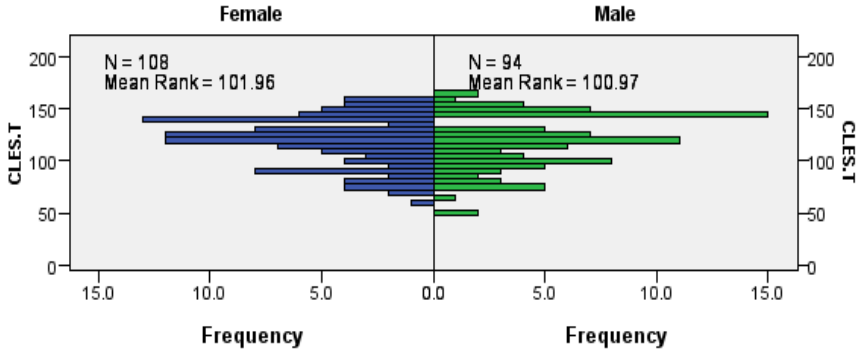


**Figure 2.** *Bar Graph of Gender Differences*

**DISCUSSION**

The CLE plays a crucial role in shaping the educational experience of nursing students at tertiary care hospitals. The study findings reveal that nursing students impacted by CLE and both male and female groups had similar experiences in CLE. Previous studies also support the current study's findings that the CLE has a significant impact on students' clinical skills, knowledge acquisition, confidence, and professional development (Hammad et al., 2024; Guanqun & Zainudin, 2024; Woods et al., 2023; Jessee, 2016). A well-structured and supportive CLE positively influences nursing students' skill and abilities to integrate theoretical knowledge with practical capabilities. The quality of the clinical environment is essential for the development of clinical competence, including factors like communication, mentorship, and access to clinical resources. Students who feel supported and valued in the clinical setting report higher levels of motivation and satisfaction toward their supervisor and hospital environment.

The current study's findings reveal that there is no gender-based difference in perceptions toward CLE, while some studies suggest that gender can influence students' experiences in clinical settings such as differences in the way male and female students interact and communicate with patients and healthcare teams (Masibo et al., 2024; Khan, 2023; Sedgwick et al., 2014). However, some studies indicate that gender is not a significant determinant in students' overall experiences or perceptions of the CLE (Reynolds, 2023; González-García et al., 2020). Both male and female nursing students had similar perceptions of clinical learning, with the primary influencing factors being the quality of clinical supervision and support, rather than gender. Additionally, some studies mentioned that female nursing students are more capable and ready to accept challenges in healthcare settings (Huang et al., 2020; Wilhelmsson et al., 2011).

Meanwhile, institutional culture, the level of educational preparation, and the clinical supervisor's leadership style are more significant factors that contribute to shaping the students' experiences in the CLE as students' satisfaction with their clinical experience is

more closely related to the emotional and educational support they received from their mentors. Students who perceive the CLE as supportive and conducive to learning and practices tend to perform better in clinical settings. This means that the learning environment directly correlates with the academic and clinical performance of students and there is no relationship between gender bias and the CLE in relation to nursing students' clinical performances.

## CONCLUSION

In conclusion, the findings from the current study reveal that CLE has a significant impact on nursing students at tertiary care hospitals but there is no gender-based difference in the perception of nursing students. This suggests that, in tertiary care hospitals, factors such as clinical mentorship, hospital policies, clinical supervision, and the general environment might play a more influential role than gender in shaping nursing students' perceptions toward CLE. Future research could further explore how various elements of the CLE, such as the availability of resources, training, leadership style of management, and support systems, contribute to the overall learning experience for nursing students. Furthermore, future studies can be conducted in public and private tertiary care hospitals to compare CLE for nursing students and how they contribute to creating an inclusive and supportive learning atmosphere for all students, irrespective of gender.

Moreover, for enhancing nursing students' learning experiences within tertiary care hospitals there is a need to investigate the role of clinical mentorship and supervision. Furthermore, the study recommends considering revising hospital policies, focusing on students' psychological needs in clinical settings. In addition to that, institutional culture, which influences nursing students' perceptions of the CLE, should be developed to provide better academic opportunities and clinical exposure.

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