

ASSOCIATION BETWEEN THE QUALITY OF THE CLINICAL LEARNING ENVIRONMENT AND CLINICAL LEARNING SATISFACTION AMONG UNDERGRADUATE NURSING STUDENTS IN MARDAN, KHYBER PAKHTUNKHWA, PAKISTAN

Rasool Maula^{*1}, Ziaullah², Aamir Iqbal³, Abdur Rahman⁴, Zeeshan Haleem⁵, Kamil Khan⁶, Nouman Younas⁷, Justin Mehboob⁸, Roshan Imtiaz⁹, Siryad Khan¹⁰, Shamsher Ali¹¹, Tawab Ullah¹², Affan Iftihar¹³

^{*1}Registered nurse, Peshawar Institute of Cardiology (PIC), Peshawar, Pakistan

²Registered nurse, Institute of Kidney Diseases (IKD), Peshawar, Pakistan

³Registered Nurse, Rehman Medical Institute (RMI), Peshawar, Pakistan; Lecturer, Ghazali Institute of Medical Sciences, Hayatabad, Peshawar, Pakistan

⁴Lecturer and Coordinator, ICMS Health Sciences, Peshawar, Pakistan

⁵Registered Nurse, Pakistan Kidney and Liver Institute and Research Center (PKLI), Lahore, Pakistan

⁶Registered Nurse, Rehman Medical Institute (RMI), Peshawar, Pakistan

⁷Registered Nurse, Rehman medical Institute (RMI) Peshawar, Pakistan

⁸Registered Nurse, Northwest general Hospital and research centre Peshawar

⁹Registered Nurse, Hayatabad medical complex (HMC)

¹⁰Registered Nurse Rehman Medical Institute, Peshawar

^{11,12,13}Medix college of Health management science and institute of nursing chakdara

^{*1}rasoolmaula22@gmail.com, ²dr.ziaullah95@gmail.com, ³aamiriqbal03495@gmail.com,

⁴rehman.ahealer@gmail.com, ⁵zeeshanrmi12@gmail.com, ⁶kamilkhan009900@gmail.com,

⁷younas250@gmail.com, ⁸ahsankalyani872@gmail.com, ⁹roshaanshealthhub5@gmail.com,

¹⁰siryad.khan@gmail.com

Corresponding Author: *

Rasool Maula

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ABSTRACT

Background

Satisfaction with clinical learning refers to the students' perception of whether their clinical experiences met their educational needs and expectations. Although previous studies have established a link between the quality of the clinical learning environment and student satisfaction with clinical training, evidence regarding this relationship in Pakistan—specifically in Khyber Pakhtunkhwa and Mardan—remains limited. Understanding the relationship between the CLE and satisfaction is crucial for nursing educators and administrators to identify areas where clinical training requires improvement.

Objective

The objective of this study was to examine the relationship between the quality of the clinical learning environment and the level of satisfaction with clinical learning among undergraduate nursing students in Mardan, Khyber Pakhtunkhwa (Pakistan).

Methodology

This study employed a quantitative, analytical, and cross-sectional research design. This study included undergraduate nursing students and their respective clinical learning environments across

four selected nursing schools in Mardan. A sample of 260 students was selected using proportional stratified random sampling. A structured questionnaire was employed, comprising 10 items to measure the quality of the clinical learning environment and 5 items to assess the level of satisfaction with clinical learning; a five-point Likert scale was used for both sections. Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) software, version 26. Descriptive statistical analyses were conducted to characterize the study variables. Furthermore, Pearson's correlation test was performed to examine the relationship between the quality of the clinical learning environment and student satisfaction. A p -value of < 0.05 was set to determine statistical significance.

Results

Overall, the mean score for the quality of the clinical learning environment among the 260 participants was approximately 3.78, while the mean score for satisfaction with clinical learning was approximately 3.87. The analysis revealed a positive correlation between the quality of the clinical learning environment and the level of satisfaction derived from it ($r = 0.742$; $p < 0.001$). In other words, students who perceive their clinical learning environment more positively are generally more satisfied with their overall clinical learning experience.

Conclusion

The clinical learning environment significantly influences students' satisfaction with their clinical learning experiences. A comprehensive and supportive clinical learning environment—characterized by effective supervision and guidance, constructive and timely feedback, respectful and empathetic communication, access to educational resources, and opportunities to develop and acquire competence and skills—contributes to increased satisfaction among undergraduate nursing students regarding their clinical learning experiences.

Keywords:

Clinical Learning Environment; Clinical Learning Satisfaction; Undergraduate Nursing Students; Nursing Education; Clinical Education; Clinical Practicum; Khyber Pakhtunkhwa; Pakistan; Mardan.

INTRODUCTION

Clinical training is a fundamental component of undergraduate nursing education, as it provides students with the opportunity to apply theoretical knowledge to real-world nursing practice settings.

Unlike classroom-based instruction, clinical training enables students to interact with actual patients and healthcare professionals, make clinical decisions, communicate effectively, work in teams, and understand their professional responsibilities. Consequently, the quality of the clinical learning environment can significantly impact students' overall learning experience and the development of their professional competencies (Flott and Linden, 2016; Amin et al., 2026; Wang et al., 2025).

The clinical learning environment encompasses the physical, social, educational, and organizational conditions in which nursing students complete their clinical placements.

It includes aspects such as relationships with nursing staff and clinical supervisors,

opportunities to participate in patient care, the learning atmosphere, clinical unit leadership, and the support provided by clinical educators. A supportive environment can help students become more active, reflective, and confident, while also enhancing their clinical practice skills; conversely, a less supportive environment can limit learning opportunities and lead to dissatisfaction (Mansutti et al., 2017).

Satisfaction with the clinical learning process is a key indicator of the quality of a student's clinical experience. This satisfaction reflects students' perceptions regarding whether their clinical placements offer valuable learning opportunities, adequate supervision, constructive feedback, supportive relationships, and chances to participate in patient care. Various studies have demonstrated that nursing students' satisfaction is closely linked to their perceptions of the clinical learning environment (Papastavrou et al., 2016). The CLES+T scale (*Clinical Learning

Environment, Supervision and Nurse Teacher*) is one of the most widely used tools for assessing nursing students' perceptions of the clinical learning environment.

This scale covers key aspects such as the pedagogical atmosphere, relationships with supervisors, the leadership of unit managers, the context of nursing care, and the role of nurse teachers. A review of scientific literature confirms that CLES+T is among the most frequently translated and validated tools for evaluating the clinical learning environment for nursing students (Weerasekara et al., 2023).

Furthermore, evidence highlights the significant importance of the relationship between students and their clinical supervisors. Reviews of studies utilizing the CLES+T instrument indicate that nursing students generally have positive experiences and feel satisfied during their clinical placements; however, there is room for improvement, particularly regarding the preparation and role of clinical educators (Cant et al., 2021). Significant progress has been made in nursing education in Pakistan, making it increasingly important to evaluate the quality of clinical training.

Recent research in the country has focused on adapting and validating tools to assess the clinical learning environment in accordance with the local culture and educational system. However, there remains a need for specific information regarding the relationship between the quality of these environments and student satisfaction, particularly concerning Bachelor of Science in Nursing (BSN) students in Mardan, Khyber Pakhtunkhwa.

Therefore, this study will analyze the relationship between the quality of the clinical learning environment and satisfaction with clinical learning among BSN students in Mardan, Khyber Pakhtunkhwa (Pakistan).

Problem Statement:

Clinical practice is an essential component of undergraduate nursing education, as it enables students to translate theoretical knowledge into practical skills and fosters the development of their professional competencies.

However, the quality of clinical learning can vary based on factors such as the availability of learning opportunities, the level of clinical

supervision, student interaction with nursing staff, leadership within the clinical unit, and the overall learning environment.

A clinical environment that fails to provide adequate support can limit students' learning opportunities, undermine their confidence, and reduce their satisfaction with clinical training.

Conversely, a well-organized and supportive clinical environment—offering effective supervision and meaningful learning experiences—can lead to greater satisfaction and enhanced professional development.

Although international research has identified links between the characteristics of the clinical learning environment and nursing student satisfaction, there is limited local evidence regarding this relationship among undergraduate nursing students in Mardan, Khyber Pakhtunkhwa.

The absence of such information makes it difficult for nursing educators and clinical leaders to identify specific areas for improving clinical training.

Therefore, this study will examine students' perceptions regarding the quality of the clinical learning environment and determine whether a significant relationship exists between these perceptions and the satisfaction of undergraduate nursing students in Mardan, Khyber Pakhtunkhwa, with their clinical learning experience.

Research Objective

To determine the association between the quality of the clinical learning environment and clinical learning satisfaction among undergraduate Bachelor of Science in Nursing students in Mardan, Khyber Pakhtunkhwa, Pakistan.

Research Questions

What is the perceived quality of the clinical learning environment among undergraduate BS Nursing students in Mardan, Khyber Pakhtunkhwa?

Is there a significant association between the quality of the clinical learning environment and clinical learning satisfaction among undergraduate BS Nursing students in Mardan, Khyber Pakhtunkhwa?

Literature Review

Clinical Learning Environments:

Clinical training is a vital component of nursing programs, as it allows students to apply what they have learned at university to real-life healthcare situations.

During their clinical placements, students gain practical experience, make decisions regarding patient care, improve their communication skills, and strengthen their professional confidence. The clinical learning environment (CLE) encompasses all conditions that foster student learning, including the physical setting, teaching approaches, unit organization, and interpersonal interactions.

The quality of the CLE depends on numerous factors, such as available learning opportunities, student supervision, relationships with healthcare staff, communication, leadership styles, feedback received, and the general atmosphere of the clinical unit.

Mansutti et al. (2017) noted that clinical learning is a complex process and highlighted the need for reliable tools to assess clinical environments. Similarly, Weerasekara and colleagues (2023) identified the Clinical Learning Environment, Supervision and Nurse Teacher (CLES+T) scale as a widely used and reliable tool for evaluating nursing students' clinical learning experiences.

A supportive clinical environment can offer enhanced learning opportunities and assist students in their professional development.

Therefore, when evaluating the quality of clinical learning, both educational and interpersonal elements must be considered.

Clinical Learning Environments and Supervision:

Supervision plays a crucial role in clinical nursing training. Students require appropriate guidance and support as they acquire new skills. Effective supervision provides them with opportunities to learn from feedback, gain motivation, and understand how to provide patient care.

When students have a positive relationship with their supervisors, they are more likely to ask questions, engage in clinical tasks, and connect classroom learning with real-world practice. Conversely, poor supervision and communication can limit learning

opportunities and reduce student satisfaction. Supervision is a key component of the CLES+T framework.

Wong and Bressington (2021) found CLES+T to be a reliable tool for assessing nursing students, demonstrating a high level of consistency (Cronbach's alpha of 0.94). Cant et al. (2021) also found that the quality of supervisory relationships significantly influences students' clinical learning experiences.

Therefore, supervision extends beyond merely observing students.

It is a vital process that helps enhance their clinical skills and confidence.

Satisfaction with Clinical Learning

Satisfaction with clinical learning refers to the degree to which students are content with their clinical experiences.

It indicates the extent to which a clinical placement meets their learning needs and expectations. Satisfaction can be influenced by factors such as supervision, learning opportunities, relationships with staff, instructor support, feedback, and the organization of clinical activities.

Papastavrou et al. (2016) found that student satisfaction is linked to the characteristics of the clinical environment. The Clinical Learning Environment Inventory (CLEI) also identifies satisfaction as a key component of students' clinical experiences.

Thus, satisfaction with clinical learning is a significant measure of the effectiveness of clinical training.

High levels of satisfaction can indicate that students are receiving adequate support, meaningful learning opportunities, and positive interactions within the clinical environment.

The relationship between the clinical learning environment and satisfaction with clinical learning

There is a strong link between the clinical learning environment and student satisfaction.

A supportive environment provides students with better supervision, increased learning opportunities, improved communication, and appropriate professional support—all of which can enhance their satisfaction with clinical training. Supervision is particularly important, as continuous guidance and valuable feedback

can help students feel more confident and achieve better learning outcomes.

Positive relationships with nurses, instructors, and other healthcare professionals can make students feel like part of the team and more supported.

Research Gap

Although there is considerable international research regarding clinical learning environments and nursing students' satisfaction with them, several aspects still require further attention.

First, most past research has primarily focused on students' opinions or sentiments regarding clinical placements, rather than examining the actual relationship between the quality of the clinical learning environment and their level of satisfaction. While describing student perceptions helps in understanding their viewpoints, it does not prove that a high-quality clinical environment necessarily leads to greater satisfaction.

Second, a significant portion of existing research originates from countries other than Pakistan. Since factors such as healthcare systems, nursing education structures, staffing levels, clinical supervision, available resources, and cultural expectations can influence students' clinical experiences, research findings from other countries cannot be directly applied to Pakistani nursing students.

Third, although research has been conducted in various parts of Pakistan, very few studies have specifically focused on 'Bachelor of Science in Nursing' (BSN) students in Mardan, Khyber Pakhtunkhwa. Due to differences in the management of clinical placements, institutional procedures, patient demographics, and the availability of educational resources, the clinical learning experiences of students in Mardan may differ from those of their peers in locations such as Peshawar, Multan, or Swat.

Fourth, there is limited evidence linking the assessment of clinical learning environment quality with the assessment of satisfaction derived from that learning process. Using distinct and separate measures for the aspects under study—such as environmental quality and satisfaction levels—can help clearly illustrate the relationship between them and prevent confusion between the two concepts.

Finally, given the increasing emphasis on evidence-based practice to enhance the quality of nursing education, there is a need for concrete data to guide teaching methods. Without understanding whether the quality of the clinical learning environment is truly linked to student satisfaction, nursing schools may lack the necessary information to make improvements in areas such as supervision, instructional approaches, clinical unit conditions, leadership, and learning opportunities.

Against this backdrop, this study analyzes the relationship between student satisfaction and the quality of the clinical learning environment among undergraduate nursing (BSN) students in Mardan, Khyber Pakhtunkhwa (Pakistan). It aims to provide specific evidence in this field that can assist educators, clinical instructors, nursing managers, and institutions in enhancing the quality of clinical training.

Methodology:

Introduction

This chapter describes the methodology used to investigate the association between the quality of the clinical learning environment and clinical learning satisfaction among undergraduate Bachelor of Science in Nursing (BSN) students in Mardan, Khyber Pakhtunkhwa, Pakistan. It presents the research design, study setting, study population, sample size, sampling technique, inclusion and exclusion criteria, study variables, research instrument, data collection procedure, validity and reliability, data analysis, and ethical considerations.

Research Design

A quantitative, analytical cross-sectional research design was used in this study.

The quantitative approach was appropriate because the study measured students' perceptions of the clinical learning environment and their clinical learning satisfaction using structured questionnaire items that generated numerical data. The analytical cross-sectional design allowed the researcher to collect data at a single point in time and statistically examine the association between the quality of the clinical learning environment and clinical learning satisfaction.

The study examined the relationship between two principal variables: the quality of the clinical learning environment as the independent variable and clinical learning satisfaction as the dependent variable.

Because the study used a cross-sectional design, the identified relationship was interpreted as an association rather than a causal relationship.

Research Setting

The study was conducted in selected nursing institutions and affiliated clinical teaching hospitals in Mardan, Khyber Pakhtunkhwa, Pakistan.

The selected institutions provided undergraduate BSN education, while affiliated clinical teaching hospitals provided students with opportunities to participate in clinical learning and apply theoretical knowledge in practical patient-care settings.

The setting was appropriate for the study because undergraduate nursing students received clinical education through supervised exposure to patients, nursing staff, clinical instructors, and other healthcare professionals. These experiences provided the basis for assessing students' perceptions of their clinical learning environment and their satisfaction with clinical education.

The study included four selected nursing colleges in Mardan and their relevant affiliated clinical learning settings.

Study Population

The study population consisted of undergraduate BSN students enrolled in four selected nursing colleges in Mardan, Khyber Pakhtunkhwa, Pakistan, who had completed at least one clinical placement.

The accessible population comprised approximately 800 undergraduate BSN students across the four selected colleges.

Students from different academic years and semesters were included in the sampling frame to ensure representation of students with varying levels of clinical experience.

Sample Size

The sample size was calculated using the Raosoft Sample Size Calculator based on an accessible population of 800 undergraduate BSN students.

The calculation was performed using a 95% confidence level, 5% margin of error, and 50% response distribution. Based on these parameters, the required sample size was 260 participants.

Therefore, a total of 260 undergraduate BSN students were included in the study.

The sample was proportionately distributed among the four selected nursing colleges according to the number of eligible students enrolled in each college. This proportional allocation ensured appropriate representation of students from each participating institution. The proportional allocation was calculated using the following formula:

$$n_i = (N_i / N) \times n$$

Where:

- n_i = sample allocated to each college
- N_i = population of eligible students in each college
- N = total accessible population (800)
- n = total sample size (260)

The final number of participants selected from each college was therefore based on its proportion of the total student population.

Sampling Technique

A proportionate stratified random sampling technique was used to select participants.

Initially, the eligible undergraduate BSN students were divided into relevant strata according to their academic year and/or semester. The number of participants selected from each stratum was determined proportionately according to the size of that stratum.

Following proportional allocation, eligible participants were selected randomly from the respective student lists. This procedure ensured that students from different academic levels and participating colleges had an appropriate opportunity to be included in the study.

The use of proportionate stratified random sampling helped improve the representativeness of the sample and reduced the possibility of overrepresenting students from a particular academic level or institution.

Inclusion Criteria

Participants were included in the study if they:

1. were enrolled in an undergraduate BSN program;

2. were studying in one of the selected nursing institutions in Mardan;
3. had completed at least one clinical placement;
4. were willing to participate in the study; and
5. provided informed consent.

Exclusion Criteria

Students were excluded from the study if they:

1. had not yet participated in clinical education;
2. were on extended academic or clinical leave during the data collection period;
3. declined participation in the study; or
4. submitted substantially incomplete questionnaires.

Study Variables

The study consisted of two principal variables.

Independent Variable

The independent variable was the quality of the clinical learning environment.

It represented students' perceptions regarding the educational, interpersonal, supervisory, and organizational conditions in which clinical learning occurred.

The variable included aspects such as:

- supportive clinical atmosphere;
- opportunities for clinical skill development;
- supervision and guidance;
- constructive feedback;
- respectful treatment by clinical staff;
- communication;
- active participation in patient care;
- integration of theory and clinical practice; and
- availability of learning resources and facilities.

Dependent Variable

The dependent variable was clinical learning satisfaction.

It represented the extent to which students perceived their clinical learning experiences as satisfactory, supportive, useful, and consistent with their educational expectations.

It included satisfaction with:

- the overall clinical learning experience;
- supervision and support;
- opportunities for clinical skill development;
- feedback and guidance; and
- fulfillment of clinical learning expectations.

Research Instrument

Data were collected using a structured, self-administered questionnaire developed according to the objectives of the study and relevant literature concerning clinical learning environments and clinical learning satisfaction. The questionnaire consisted of three sections.

Section A: Demographic and Academic Information

Section A collected demographic and academic information from the participants. The information included:

1. Age
2. Gender
3. Academic year
4. Current semester
5. Previous clinical experience
6. Current or most recent clinical placement

Section B: Quality of Clinical Learning Environment

Section B consisted of 10 items assessing students' perceptions of the quality of their clinical learning environment.

The items addressed:

1. supportiveness of the clinical environment;
2. opportunities to practice nursing skills;
3. clarity of clinical instructor guidance;
4. constructive feedback;
5. respectful treatment by clinical staff;
6. students' comfort in asking questions;
7. active participation in patient care;
8. communication among students, instructors, and clinical staff;
9. integration of theoretical knowledge with clinical practice; and
10. adequacy of clinical learning resources and facilities.

Section C: Clinical Learning Satisfaction

Section C consisted of 5 items assessing students' satisfaction with their clinical learning experiences.

The items addressed:

1. overall satisfaction with clinical learning;
2. satisfaction with supervision and support;
3. satisfaction with opportunities to develop clinical skills;
4. satisfaction with feedback and guidance; and
5. whether the clinical learning experience met students' expectations.

Response Scale

Sections B and C were measured using a five-point Likert scale.

Response | Score

Strongly Disagree | 1

Disagree | 2

Neutral | 3

Agree | 4

Strongly Agree | 5

A higher score indicated a more positive perception of the clinical learning environment and a higher level of clinical learning satisfaction.

No reverse-scored items were included in the questionnaire.

Scoring Procedure

Clinical Learning Environment Score

The 10 items measuring the clinical learning environment were scored from 1 to 5.

The possible total score ranged from:

- Minimum score = 10

- Maximum score = 50

A mean score was also calculated for the clinical learning environment items, ranging from 1 to 5.

Clinical Learning Satisfaction Score

The five clinical learning satisfaction items were also scored from 1 to 5.

The possible total score ranged from:

- Minimum score = 5

- Maximum score = 25

A mean satisfaction score was calculated, ranging from 1 to 5.

Interpretation of Mean Scores

For descriptive purposes, the mean scores were interpreted as follows:

Mean Score | Interpretation

1.00–1.80 | Very Low

1.81–2.60 | Low

2.61–3.40 | Moderate

3.41–4.20 | High

4.21–5.00 | Very High

These categories were used only for descriptive interpretation and did not represent validated clinical or educational cut-off values.

Result:

1. SECTION A: DEMOGRAPHIC ANALYSIS (N = 260)

A total of 260 undergraduate Bachelor of Science in Nursing (BSN) students completed

the questionnaire. Below is the comprehensive descriptive frequency distribution of demographic variables along with visual pie chart representations.

Variable	Category	Frequency (n)	Percentage (%)
A1. Age	18–20 years	52	20.0%
	21–23 years	161	61.9%
	24–26 years	39	15.0%
	27 years or above	8	3.1%
A2. Gender	Male	114	43.8%
	Female	146	56.2%
A3. Academic Year	1st Year	52	20.0%
	2nd Year	65	25.0%
	3rd Year	78	30.0%
	4th Year	65	25.0%
A4. Current Semester	1st / 2nd Semester	52	20.0%
	3rd / 4th Semester	65	25.0%
	5th / 6th Semester	78	30.0%
	7th / 8th Semester	65	25.0%
A5. Previous Experience	Less than 6 months	73	28.1%
	6–12 months	109	41.9%
	More than 1 year	78	30.0%
A6. Clinical Placement	Medical Ward	62	23.8%
	Surgical Ward	57	21.9%

Variable	Category	Frequency (n)	Percentage (%)
	Emergency Department	44	16.9%
	Critical Care / ICU	36	13.8%
	Pediatric Ward	34	13.1%
	Obstetric/Gynecology Ward	27	10.4%

Figure 1: Gender Distribution of Respondents (N = 260)

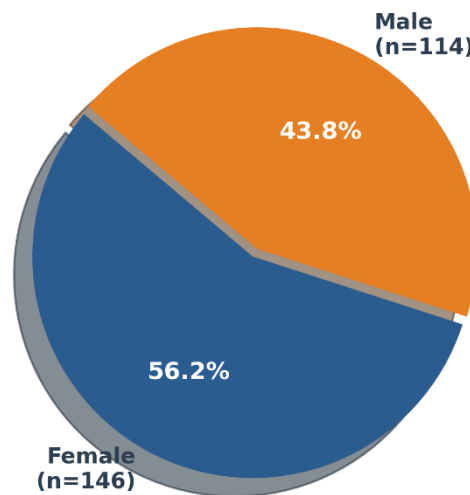


Figure 2: Academic Year Distribution (N = 260)

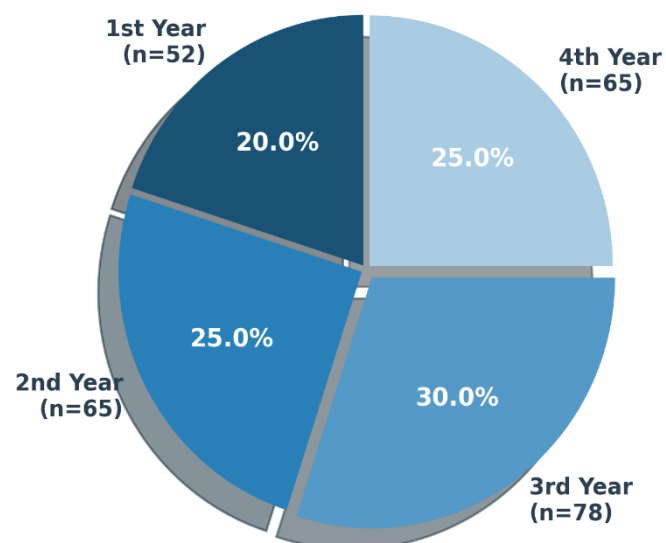
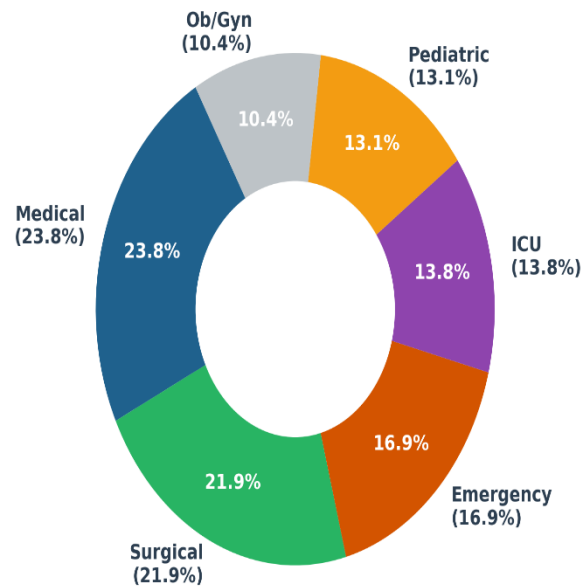


Figure 3: Clinical Placement Specialty Breakdown (N = 260)



2. SECTION B: QUALITY OF CLINICAL LEARNING ENVIRONMENT

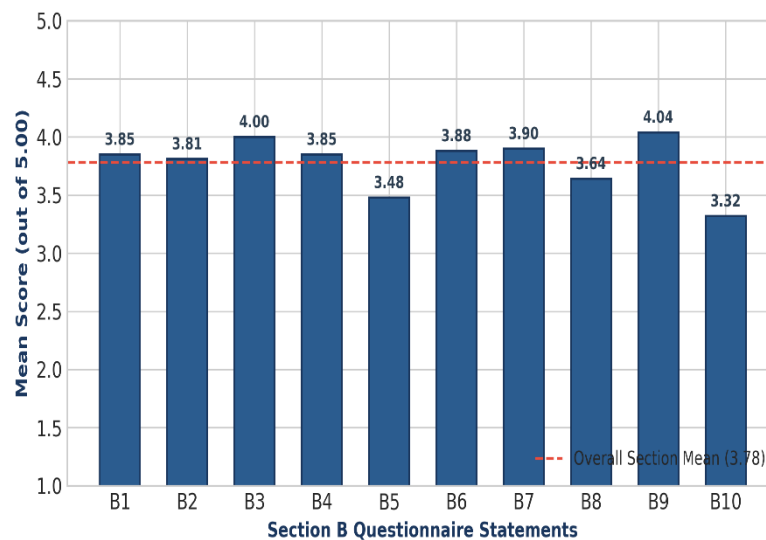
Analysis of 10 items evaluating the clinical learning environment on a 5-point Likert scale

(1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree).

No.	Statement	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Mean SD	±
B1	Supportive environment for learning	10	21	36	125	68	3.85 1.01	±
B2	Sufficient skill practice opportunities	13	26	31	117	73	3.81 1.09	±
B3	Clear guidance from instructors	8	16	29	122	85	4.00 0.96	±
B4	Constructive feedback provided	11	23	34	119	73	3.85 1.04	±
B5	Respectful treatment by staff	21	39	47	101	52	3.48 1.17	±
B6	Comfortable asking questions	10	23	31	120	76	3.88 1.04	±
B7	Encouragement for active patient care	9	18	34	127	72	3.90 0.98	±
B8	Good overall communication	16	31	42	112	59	3.64 1.11	±

No.	Statement	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Mean SD	±
B9	Relates theory to actual practice	7	14	26	128	85	4.04 0.91	±
B10	Adequate resources and facilities	26	47	52	88	47	3.32 1.23	±

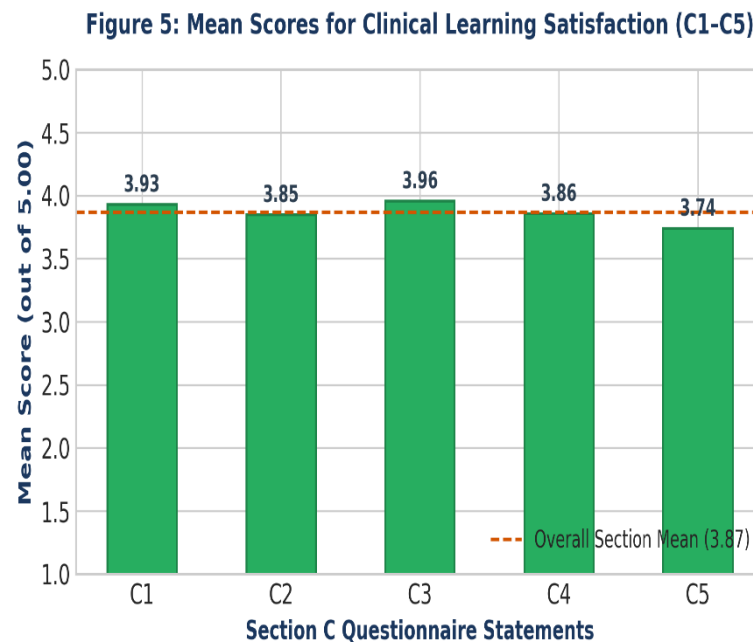
Figure 4: Mean Scores for Quality of Clinical Learning Environment (B1-B10)



3. SECTION C: CLINICAL LEARNING SATISFACTION

Analysis of 5 statements assessing student clinical satisfaction scores across key educational dimensions.

No.	Statement	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Mean SD	±
C1	Overall satisfaction with clinical experience	9	18	31	126	76	3.93 0.98	±
C2	Satisfied with support & supervision	11	21	36	120	72	3.85 1.03	±
C3	Satisfied with skill development opportunities	8	19	29	124	80	3.96 0.96	±
C4	Satisfied with feedback & guidance	10	22	34	121	73	3.86 1.02	±
C5	Met expectations as a nursing student	14	26	39	115	66	3.74 1.08	±



Demographic Characteristics of Participants

A total of 260 undergraduate nursing students participated in this study. The students belonged to all four years of the academic program. Third-year students had the highest representation, constituting 30% (78 students) of the total. Second- and fourth-year students each accounted for 25% (65 students), while first-year students made up 20% (52 students). Regarding age, the majority (61.9% or 161 students) were between 21 and 23 years old. Approximately 20% (52 students) were aged 18 to 20 years. Students aged 24 to 26 years constituted 15% (39 students), and only 3.1% (8 students) were 27 years of age or older. Females accounted for 56.2% (146 students), while males made up 43.8% (114 students).

In terms of clinical experience, 41.9% (109 students) had 6 to 12 months of experience, 30% (78 students) had more than one year of experience, and 28.1% (73 students) had less than six months of experience. The most common department for clinical placement was the 'Medical Unit' (23.8%; 62 students), followed by Surgery (21.9%; 57 students), Emergency Care (16.9%; 44 students), Critical Care/ICU (13.8%; 36 students), Pediatrics (13.1%; 34 students), and Obstetrics/Gynecology (10.4%; 27 students).

Quality of the Clinical Learning Environment

The results revealed an overall positive impression of the clinical learning environment. Across the ten areas assessed, the average score on a five-point scale was approximately 3.78, indicating that students generally agreed their clinical placements were beneficial to their learning process.

The highest-rated aspect was the link between theory and practical application during clinical placements, with an average score of 4.04. This was followed by clear guidance from instructors (4.00), encouragement of active participation in patient care (3.90), and student confidence in asking questions (3.88). Both a supportive learning environment and constructive feedback received an average score of 3.85.

Although most aspects were rated positively, some received lower scores.

The lowest score was for the adequacy of resources and facilities (3.32), followed by respectful staff behavior (3.48) and general communication (3.64). These results indicate that while the majority of students viewed the clinical learning environment positively, there are areas for improvement, such as resource availability and communication.

Satisfaction with Clinical Education

Overall, students expressed satisfaction with their clinical learning experience.

The average score across five satisfaction-related items was approximately 3.87 on a five-point scale. The highest level of satisfaction was observed regarding opportunities for skill development, with an average of 3.96. This was followed by general satisfaction with the clinical experience (3.93), satisfaction with feedback and guidance (3.86), and satisfaction with support and supervision (3.85). The lowest score was recorded for the statement regarding whether the clinical experience met expectations as a nursing student (3.74); nevertheless, this still reflects an overall positive response. Relationship between the Clinical Learning Environment and Satisfaction with Clinical Education

Pearson correlation analysis revealed a strong, positive, and statistically significant relationship between the quality of the clinical learning environment and satisfaction with the clinical education received.

The correlation coefficient value was $r = 0.742$ ($p < 0.001$). This indicates that students who held a more positive perception of their clinical learning environment expressed greater satisfaction with their clinical experiences.

The strength of this correlation indicates a significant relationship rather than a trivial one. The coefficient of determination ($r^2 \approx 0.551$) indicates that approximately 55 percent of the shared variance between the two factors is explained by their linear relationship. However, this should by no means be interpreted to imply that the clinical environment is the sole cause of satisfaction, particularly given the correlational nature of this study.

Discussion

This study examined the relationship between the quality of the clinical learning environment and the satisfaction derived from it among a sample of 'Bachelor of Science in Nursing' (BSN) students in Mardan, Khyber Pakhtunkhwa. Overall, students expressed positive perceptions regarding the clinical learning environment and their satisfaction with it. Notably, a strong positive correlation was evident between these two variables ($r = 0.742$; $p < 0.001$). This finding aligns with the broader body of literature on nursing education, which consistently emphasizes that the clinical environment is a key aspect of

students' educational experiences and satisfaction.

The relatively positive assessment of the clinical learning environment in this study is consistent with the findings of a systematic review of 21 studies; that review revealed that nursing students generally experienced positive conditions and relatively high levels of satisfaction regarding their clinical placements. A particularly significant aspect highlighted in that review was the 'supervisory relationship,' which was found to be an influential component of students' experiences (Cant et al., 2021). Similarly, a study conducted on nursing students in Cyprus found a positive correlation between satisfaction and various components of the clinical learning environment, such as the teaching environment, unit leadership, supervision, and the role of nursing educators (Papastavrou et al., 2016). The Relationship Between Theory and Practice

In this study, the most highly rated aspect of the clinical learning environment was the extent to which clinical placements bridged the gap between theory and practice ($M = 4.04 \pm 0.91$). This finding is educationally significant, as clinical training offers nursing students the opportunity to translate classroom-acquired knowledge into practical skills. The clinical environment enables students to observe real-life patient scenarios, participate in nursing activities, and understand how theoretical principles are applied during patient care. This result is supported by previous research highlighting the importance of the clinical environment for nursing students, as it provides opportunities to apply theoretical knowledge to real or simulated patients. A multi-country study involving nursing students nearing graduation also found positive correlations between perceptions of the clinical learning environment, self-assessed competence, and satisfaction with nursing education (Warne et al., 2021). Consequently, the high rating regarding theory-practice integration in this study underscores the importance of clinical experiences that allow students to link classroom learning with authentic patient care. The Importance of Orientation, Supervision, and Feedback

Instructions involving clear orientation received the highest mean scores in this study ($M = 4.00 \pm 0.96$), while constructive feedback also garnered a favorable score ($M = 3.85 \pm 1.04$). These results indicate that students generally perceive instructors and medical staff as sources of educational support during their medical training. Such support is particularly crucial, as students entering the clinical environment must progressively develop confidence, decision-making abilities, communication skills, and technical competence.

Existing literature highlights the importance of supervision in determining student satisfaction. Papastavrou et al. (2016) noted that supervision was one of the most influential factors associated with satisfaction regarding the clinical learning environment. More recently, evidence from Pakistan has also underscored the significance of preceptor behaviors—including teaching, communication, feedback, professional role modeling, and supportive attitudes—in undergraduate clinical training. These findings align with the relatively high scores obtained in the current study regarding orientation, feedback, and opportunities for active participation. Communication and Respectful Treatment

Although communication and respectful treatment were generally rated positively, their average scores were lower than those for other aspects of the clinical environment. General communication received a mean score of 3.64 ± 1.11 , while respectful treatment by staff recorded an average of 3.48 ± 1.17 . These results suggest that the interpersonal aspects of the clinical environment may not be uniform.

Discussion and Conclusion

To analyze the collected data, I utilized descriptive statistics regarding the perceptions of Bachelor of Science in Nursing (BSN) students concerning their clinical learning environment and their satisfaction with it. The most notable observation is that students view their clinical learning environment positively; furthermore, the majority express a high level of satisfaction with this educational experience. The most valued aspect of this environment is the opportunity to apply theoretical knowledge in a real-world practical setting, while the least

favorable aspect is the perception that available resources and facilities are inadequate. However, the most significant finding of our analysis is that the quality of the clinical learning environment has a positive and significant relationship with student satisfaction. This implies that the quality of the clinical learning environment explained a substantial portion of the variance observed in the dependent variables.

Our findings align with international research conducted on nursing students (Cant et al., 2021; Papastavrou et al., 2016). Supervision and communication emerge as the most favorable aspects of the clinical learning environment, whereas resources and facilities are the least favorable. Consequently, to enhance undergraduate student satisfaction with the clinical learning experience, greater attention must be paid to key components of clinical training—such as supervision, communication during the learning process, and the provision of resources and facilities.

Study Limitations

1. The study employs a cross-sectional design, which allows for determining associations between variables but not causal relationships.
2. The research was conducted using self-administered questionnaires; therefore, it is possible that some participants responded individually rather than as a group.
3. This study was conducted only in selected nursing schools in Mardan. Consequently, the findings may not be representative of the entire region of Pakistan.
4. Participants had diverse experiences across clinical units and worked with different instructors, resulting in varied responses.
5. The study focused on the students' clinical environment; thus, there are various factors related to student satisfaction that were not linked to this specific setting.

Recommendations

1. Nursing schools should ensure proper orientation and supervision of students during clinical instruction and feedback sessions.
2. Clinical instructors and nursing staff should foster good relationships with students through respectful communication.

3. Instructors and nursing staff should provide students with appropriate experience within the professional environment.
4. Nursing institutions and hospitals should collaborate more closely to ensure quality clinical experiences for students.
5. Future researchers are encouraged to conduct similar studies involving a larger number of institutions and larger sample sizes to obtain more accurate results.
6. Future researchers should consider alternative study designs to achieve better results when analyzing students' clinical learning experiences.

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