

PERCEPTION REGARDING CLINICAL LEARNING ENVIRONMENT
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Abstract

Background: Students' experiences in the clinical learning environment have an impact on their confidence, competence, academic adjustment and professional development.**Objective:** To find the perception of undergraduate nursing students towards clinical learning environment in tertiary care hospitals.**Materials and Methods:** A descriptive cross sectional Study was conducted among 237 Students of BSN & Post RN program in Saida Waheed FMH and New Advance College of Nursing Lahore. The sampling technique used was non-probability sampling – convenience sampling. Undergraduate Clinical Education Environment Measure (UCEEM) was used to collect data. SPSS version 26 was used for the data analysis. The descriptive statistics, Mann–Whitney U test and Spearman's rho correlation were used. The p value of < 0.05 was considered as the level of significance.**Results:** A total of 87.3% of participants were female and 65.4% of the participants were BSN students. The participants' mean age was 25.73 ± 5.64 years. The high mean scores were in 'Opportunities to Learn in and Through Work and Quality of Supervision' and the low mean scores were in 'Equal Treatment'. No statistically significant difference was found between male and female, education and marital status or age in Total UCEEM scores ($p > 0.05$). Statistically significant positive correlations were seen between Total UCEEM and all subscales ($p < 0.001$).**Conclusion:** It was concluded that the supportive supervision training and appropriate learning opportunities positively affect nursing students' clinical learning processes. Recommendations for improvements in equality, inclusion and interaction in the workplace are made to improve the clinical learning environment.

INTRODUCTION

The Clinical Learning Environment (CLE) refers to the “interactive network of forces within the clinical setting, which affects students' learning outcomes and professional development” (Sellberg et al., 2021).

Background

It includes the physical, psychological and social

environment in which students are involved in direct patient care and in other professional nursing activities. To sum up, the CLE is composed of clinics or health centres in the community, outpatient clinics and hospitals in which nursing students serve as a bridge between theory and practice (Abuadas, 2022).

In this complex environment, students are presented with complex situations in which they

must use evidence-based practices, think critically and communicate effectively. These experiences enable them to gain their clinical skills, build their professional identity and self-confidence to work independently. The CLE in this way contributes greatly to developing professional skills, but also to shaping attitudes like empathy, ethical sensitivity, teamwork and accountability, which are essential for providing comprehensive patient-centred care (González-García et al., 2021).

Motivation, performance and satisfaction of the student are greatly influenced by the quality of the clinical learning environment. A positive, inclusive and supportive learning climate fosters learners' active participation in learning, their readiness to receive mentoring, and a more critical approach to their own learning. However, negative experiences can cause anxiety, low self-esteem and lack of engagement with learning opportunities, for example when supervision is inadequate, there are communication issues or the lack of constructive feedback. Thus, the quality of the CLE is not solely a prerequisite that cannot be compromised but, also one that can be a key element in the success of the nursing education program (Rodríguez-García et al., 2021).

1.2 Importance of the Clinical Learning Environment in Nursing Education

The clinical learning setting is vital to the education of nurses. The clinical learning environment is deemed as one of the most vital places to bridge the gap between theory and practice, thus creating a link between theory and practice in nursing education. The context within which students learn to internalize professional behaviors, values and decision making skills that underlie safe and competent nursing practice. The nature and quality of the CLE has been found consistently to affect the learning outcomes, satisfaction and career planning of students (Adam et al., 2021).

The quality of supervision, attitudes of staff, workload distribution, teamwork, communication and feedback mechanisms are all important factors which contribute to the effectiveness of the CLE. Supportive preceptors or clinical instructors are essential to the program, and they provide guidance to

students, define expectations and offer opportunities to actively engage in patient care. A good working relationship between supervisors and subordinates increases confidence and belonging of a health-care team. On the other hand, if students are met with non-supportive staff and lack organizational support, they can feel overwhelmed, stressed, and feel like they are not progressing with their learning in clinical settings (Putra et al., 2021).

Research has shown that students' perceptions of their clinical learning environments and their academic satisfaction and clinical performance are well correlated (Woo & Li, 2020). These perceptions impact education outcomes in the short-term, and also in the long-term in work and career. For example, in a positive clinical setting, with positive interpersonal relationships and effective communication, students are more likely to exhibit critical thinking and patient centered care practices (Visiers-Jiménez et al., 2021).

Moreover, research evidence shows that there is a correlation between a highly structured environment and more preparedness to manage clinical activities, more decision making and more commitment in clinical environments between professionals. Therefore, comprehending and enhancing the CLE is crucial for fostering educational achievements and equipping nursing graduates with the flexibility to meet the changing needs of healthcare systems (Zeng et al., 2022).

1.3 Students' Perception of the Clinical Learning Environment

In the context of education, perception is an individual's understanding of the learning environment and how he or she makes sense of what is happening. Knowing your nursing students' perception of their CLE is important because it will give you insight into how well clinical placement will help them learn and develop skills. Students' perceptions are a key measure of the overall quality of clinical education, and show how the clinical education environment supports or hinders student professional development (Mbakaya et al., 2020).

As recent research has demonstrated these

perceptions are dual, that is, they are composed of two elements. A large number of nursing students say they have positive experiences, with a high level of mentorship, feedback and team working. Other respondents mention difficulties in supervision and unclear learning goals, work environments that are difficult, affecting their self-confidence and satisfaction. The results emphasize the need to continuously evaluate and evolve the CLE to ensure equitable learning opportunities and professional learning (Salakpi et al., 2022).

This is evident across a variety of studies that have found positive perceptions are correlated with good quality mentoring relationships, staff attitudes that are respectful, and effective communication, while negative perceptions have been found to be correlated with feelings of isolation, a heavy workload and lack of direction (Benike et al., 2024). It is known that the feeling of being valued, included and respected with the clinical teams has a positive effect on the professional identity of nursing students and their capacity to withstand the emotional and technical demands of providing nursing care to patients (Saukkoriipi et al., 2020).

The results of these findings can be used to further improve the methods of clinical teaching, set up structured orientation programs and facilitate the connection between academic faculties and clinical supervisors in educational institutions. Understanding student perspectives of the learning climate helps nurse educators plan interventions to promote motivation and competence and self-efficacy. The CLE is an important pillar in nursing education and is crucial in the transition to professional competency. To learn about nursing students' perceptions of their CLE will enable educators to zero in on gaps, create a supportive clinical supervision and develop inclusive cultures. Finally, optimised CLE will lead to better learning outcomes, student satisfaction and will help to develop the confidence, compassion and skills of tomorrow's nurses in delivering high quality healthcare.

Problem Statement:

The clinical learning environment in

developing the professional skills, attitudes and confidence of nursing students is important. But many students have difficulties, including insufficient supervision, support from clinical teaching staff, lack of learning opportunities and unequal treatment, among others, that harm their clinical abilities and learning experience. There is little local evidence available to assess the clinical learning space of nursing students as per students' perspectives in tertiary care hospitals. It is important to be aware of these perceptions to improve clinical education and clinical learning outcomes.

Significance:

The results of this study will help to understand the perception of nursing students about their learning environment in a clinical setting. Both strengths and weaknesses present in the current clinical environments help identify strategies for enhancing clinical teaching, nursing student supervision and support, administrators and policy makers. Better learning environments lead to higher levels of satisfaction amongst students, a greater level of competence in clinical practice and improved quality of patient care. The findings may also help the curriculum planners to bridge the gap between theory and practice in nursing curricula

Objective:

To evaluate the clinical learning environment among undergraduate nursing students in tertiary care hospitals in terms of their perception.

Research Question:

What is the perception of undergraduate nursing students to the clinical learning environment in tertiary care hospitals.

Hypothesis:

Null Hypothesis (H_0):

There is no significant difference in the perception of the clinical learning environment between nursing students with respect to demographic and institutional factors.

Alternative Hypothesis (H₁):

There is a significant difference in the perception of the clinical learning environment between nursing students with respect to demographic and institutional factors.

KEY TERMS DEFINITIONS:**Clinical Learning Environment (CLE)**

The place where the nursing students learn the skills, apply the knowledge and develop professional attitudes under supervision during clinical placements is called CLE. Physical, psychological, and social related to the clinical setting (clinical relationship with patient, instructors and other members of the health care team). It has an impact on students' learning outcomes, motivation, confidence and satisfaction with their training experience (Chan, 2002).

Operational Definitions**Perception:**

Perception is the nursing students' understanding and personal evaluation of their clinical learning experiences in hospital settings. It will be assessed using the Undergraduate Clinical Education Environment Measure (UCEEM) questionnaire (Karimi Mirzanezam et al., 2024). This instrument comprises 25 statements that are answered on a Likert-Type scale from 1 (Strongly Agree) to 5 (Strongly Disagree). The overall perception score will be totalled (100%). It will be categorized as:

Poor perception: <50%

Moderate perception: 50–75%

Good perception: >75%

Clinical Learning Environment (CLE):

CLE is the place in a hospital or clinical placement where nursing students put their theory into practice and learn from actual patients under supervision. It covers aspects like the quality of teaching, support from staff, equal treatment and learning opportunities. The UCEEM scale will be used to assess the students' responses.

Nursing Students:

Nursing students are those who are currently in under-graduate nursing program (BSc

Nursing or Post RN BSc Nursing) who have undertaken or completed clinical rotation in tertiary care hospitals.

Tertiary Care Hospital:

A tertiary care hospital is a specialized hospital that offers advanced medical, surgical and intensive care services. These hospitals are the clinical placement facilities for nursing students to further improve their skills and competence.

2.LITERATURE REVIEW

Ali Karimi Mirzanezam et al conducted a cross-sectional descriptive study to examine the correlation between clinical learning environment perception and academic adaptation of nursing students in Tabriz School of Nursing and Midwifery (S.N.M.), Tabriz, Iran in 2023. A total of 230 students (under-graduates and post-graduates) were involved and the tools used in collecting the data were the demographic questionnaires, the Baker and the Siryk Academic Adjustment questionnaires, and the UCEEM scale. Academic adjustment score was 99.19 ± 10.66 (moderate) and the perception of the clinical environment was a positive score 81.73 ± 14.24 . The regression analysis showed that perception of the clinical environment and educational level were significant predictors of academic adjustment accounting for 14% of the variance ($p < 0.001$). The study revealed that having a supportive clinical learning environment has positive effects on students' academic adjustment particularly for postgraduate students (Karimi Mirzanezam et al., 2024).

In an effort to assess the perceptions that medical students hold of their clinical learning environments (CLE), Hani T.S. Benamer et al. (2023) administered a survey to students at both public and private medical schools in the country, employing the Undergraduate Clinical Education Environment Measure (UCEEM). There were 76 undergraduate medical students in Year 5 and 6 who were asked to fill in the questionnaire, and 38 completed it. The UCEEM evaluated two key areas of learning, experiential learning and social participation, in four sub-domains: learning opportunities, preparedness,

workplace interaction and inclusion. Of the 225 UCEEM responses, 22.6% scored highly (≥ 4), 13.7% required attention (≤ 3), and 63.6% indicated areas for improvement (3.1–3.9). Sixty-three percent had a strong score (mean ≥ 4) for case load exposure. The public sector placements obtained significantly lower scores for total UCEEM ($p=0.008$), preparedness ($p=0.003$) and social participation ($p=0.000$) including workplace interaction ($p=0.000$) and inclusion ($p=0.011$), compared to the private sector. PSE students, however, mentioned more patient variety, and exposure ($p=0.000$). The general attitude of students was good but there were differences in their preparedness, inclusiveness and interaction, which reflected the unequal learning experience in the two sectors of healthcare (Benamer et al., 2023). Monica Salakpi et al. (2023) conducted a cross sectional survey to assess the perception of the nursing and midwifery trainees on the clinical learning environment for Cape Coast in the Central region of Ghana. The students were selected by using simple random sampling and 605 students were selected. Descriptive and inferential statistics were used in analyzing the data. The majority of the people responding were females, Christians, single and attending the Cape Coast Nursing and Midwifery Training College (CCNMTC). Staff were found to be helpful, friendly and considerate. The students stated that some tasks were repeated but they also mentioned that a variety of teaching strategies were used. Overall, trainees' perception of the clinical learning environment was positive. However, there is a significant difference at the academic level as revealed, students' perception differs depending on their academic training. The study suggested that there is a need for students to be given different tasks to carry out based on their academic level to improve learning outcome in the study of staff nurses (Salakpi et al., 2022).

Mohammed Ghazi Sghaireen et al. (2023) evaluated and compared dental students' perception of the clinical learning environment using a modified 38-item Undergraduate Clinical Education Environment Measure (UCEEM) in a bi-institutional cross-sectional study at Jouf

University and Qassim University. The study was carried out during October to December 2023 and third, fourth and fifth year undergraduates and interns from both institutions were selected by convenience sampling. A total of 147 students participated and 85(57.8%) were males and 62 (42.2%) were females aged between 23-32 years, with a 69% participation rate. The overall mean UCEEM score was 138.45, which means that the perception was generally positive. Students at Qassim University, however, indicated a significantly better clinical learning environment than students at Jouf University in all domains ($p = 0.01$) except that related to experiential learning. The results highlighted the differences in the quality of clinical education among the various institutions, highlighting the need to improve the supervision and experience learning opportunities. The authors suggested that CPD programs for clinical supervisors be implemented to boost their pedagogical abilities and to enhance students' learning experiences (Sghaireen et al., 2025).

In 2021, Laura Visiers-Jiménez and her colleagues carried out a multi-country cross-sectional study to explore the attitudes of nursing students toward their last clinical placement and how this is related to their competence and satisfaction with nursing education and turnover intention at graduation. A total of 1,746 nursing students from six countries in Europe (Czech Republic, Finland, Italy, Portugal, Slovakia and Spain) participated in the study. The data was collected by the use of the Nurse Competence Scale and the Clinical Learning Environment and Supervision Scale. The results revealed that in all countries, students' overall rating of their clinical learning environment and their level of supervision was positive. The self-assessed competence was statistically significantly positively correlated with students' perceptions of the clinical learning environment. In addition, increased satisfaction with the nursing program and the practicum, and reduced plans to make a career change were associated with more positive clinical environment perceptions. The results of the study revealed that the positive relationship between the supervisor and the

nursing student, as well as the positive pedagogical environment had a positive impact on the competence, satisfaction and retention of the nursing students (Visiers-Jiménez et al., 2021).

3.MATERIAL AND METHODS

Study Design:

It was Descriptive Cross Sectional study design. A descriptive cross-sectional study design is a type of observational study to describe the prevalence, characteristics or relationships of specific variables without intervening or manipulating any factors at one point in time.

Study Population:

The study population was BSN Nursing & Post RN Nursing students enrolled at Saida Waheed FMH College of Nursing, Lahore, and New Advance College of Nursing, Lahore, comprising a total of 583 students at the time of research.

Study Setting:

The study was conducted at Saida Waheed FMH College of Nursing affiliated with Fatima Memorial Hospital and New Advance College of Nursing, Lahore, Pakistan.

Duration:

This study was carried out during 6 months from the time of approval of synopsis.

Sample Size:

To determine the sample size for study, the following parameters were used:

- N = Population size (583)
- e = Margin of error (e) = 5% = 0.05

Solvin's Formula

$$n = N / 1 + N(e)^2$$

$$n = 583 / 1 + 583(0.0025)$$

$$n = 583 / 1 + 1.4575$$

$$n = 583 / 2.4575$$

$$n = 237.2$$

Rounding the nearest whole number, the required sample size is estimated to be 237.

Sampling Technique:

A non-probability convenience sampling technique is used to select participants who are readily available.

Sample Selection Criteria:

Inclusion Criteria:

- Nursing students of the BSc Nursing and Post RN program at Saida Waheed FMH and New Advance College of Nursing.
- Students with at least one placement completed in the clinical setting.
- Student volunteers who provide written informed consent.

Exclusion criteria:

- Students who will be on leave or not attending clinical practice during data collection.
- Students who will fail to complete the questionnaire or withdraw before completion.

Data Collection Procedure:

Eligible respondents were approached with an on-site structured questionnaire which was administered by the researcher himself. The principal investigator conducted data collection process to ensure uniformity and completeness. The participants were explained about the aim of the study, confidentiality and anonymity will be observed before giving questionnaire. There was no compulsion of students to participate and they were made aware that they have the right to withdraw from the programme at any time without any consequences to their academic work.

Data Collection Tool:

The data was obtained from the Undergraduate Clinical Education Environment Measure (UCEEM) developed by Strand et al. that measures nursing students' perception of the clinical learning environment (Karimi Mirzanezam et al., 2024).

The questionnaire has 25 items, each rated on a 5 point Likert Scale from 1 (strongly disagree) to 5 (strongly agree). It measures the following dimensions:

1. Opportunities to learn in and through work & Quality of supervision
2. Preparedness for student entry
3. Workplace interaction patterns & student inclusion
4. Equal treatment

The total score will range from 25 to 125, with higher scores indicating a more positive perception of the clinical learning environment.

The Persian version of the UCEEM has been previously validated and will be used with appropriate permissions. In a pilot study, the tool demonstrated strong internal consistency with a Cronbach's alpha of 0.872, and subscale reliabilities ranging from 0.83 to 0.88 (Abasi et al., 2016).

Ethical Considerations

- The study was guided by the ethical principles of World Medical Association (WMA) declaration of Helsinki.
- Privacy and confidentiality of participants was ensured.
- Voluntary written informed consent for induction was taken prior to data collection.
- The study was approved by the Institutional Ethical Review Committee of FMH system
- Any harm to the participants was avoided.

Data Analysis:

Data were coded and analyzed with the aid of Statistical Package for Social Sciences (SPSS) version 26.0. The descriptive statistics of the characteristics of the individuals were summarized using frequencies, percentages,

mean, and standard deviation (SD), median and interquartile range (IQR), as well as the socio-demographic characteristics and UCEEM scores. The Kolmogorov-Smirnov and Shapiro-Wilk tests were used to test the normality of the data; the data were not normally distributed. Thus, non-parametric statistical tests were used. Total UCEEM and subscale scores were compared with each other according to the demographic variables (gender, education, marital status) in Mann-Whitney U test. Spearman correlation coefficient was employed to check the association between age, Total UCEEM and sub scales of UCEEM. A p-value of < 0.05 was deemed to be statistically significant.

4.RESULTS

The results of the present study are presented in this section through descriptive and inferential statistical analyses. The socio-demographic data of the respondents was presented in terms of frequency, percentage, mean and standard deviation. The normality of the data was tested using Kolmogorov-Smirnov test and Shapiro-Wilk test. Since the data were determined to not be normally distributed, non-parametric statistical tests were used. The Mann-Whitney U test was used for comparing the UCEEM scores across various demographic variables and Spearman's rho correlation was used to determine correlations between age and Total UCEEM and subscales scores.

Table 4.1. Socio-Demographic Characteristics of Participants (N = 237)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	30	12.7%
	Female	207	87.3%
Educational level	BSN	155	65.4%
	Post RN	82	34.6%
Marital Status	Single	177	74.7%
	Married	60	25.3%
Age (Years)	Range 18-44yrs Mean $\pm$ SD 25.73 $\pm$ 5.64		

The socio-demographic data of the study participants is shown in Table 4.1. A total of 12.7% of the respondents were males and 87.3% were females. With regard to educational attainment, 65.4% of respondents were

attending BSN programs and 34.6% were Post-RN students. Most of the respondents were single (74.7%) and 25.3% were married. The age of the participants ranged between 18 and 44 years with a mean of 25.73 $\pm$ 5.64 years.

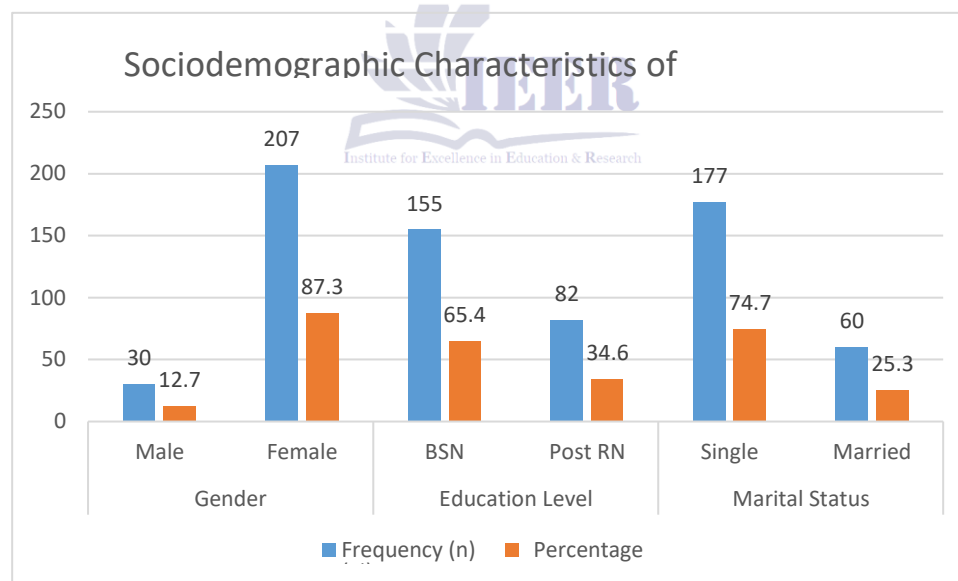


Figure 4.1: Sociodemographics Characteristics of Participants

Table 4.2. Descriptive Statistics of UCEEM and Its Subscales (N = 237)

Variable	Minimum	Maximum	Mean $\pm$ SD
Subscale 1: Opportunities to Learn in and Through Work & Quality of Supervision	19	47	28.10 $\pm$ 4.56
Subscale 2: Preparedness for Student Entry	9	26	15.57 $\pm$

			3.03
Subscale 3: Workplace Interaction Patterns	7	26	15.55 ±
& Student Inclusion			3.27
Subscale 4: Equal Treatment	2	10	4.66 ± 1.64
Total UCEEM	41	107	63.90 ±
			8.88

Table 4.2 shows the descriptive statistics for the Undergraduate Clinical Education Environment Measure (UCEEM) and subscales. The mean total score for UCEEM was 63.90 ± 8.88 , ranging from 41 to 107.

“Opportunities to Learn in and Through Work & Quality of Supervision” had the highest mean score (28.10 ± 4.56) while “Equal Treatment” had the lowest mean score (4.66 ± 1.64).

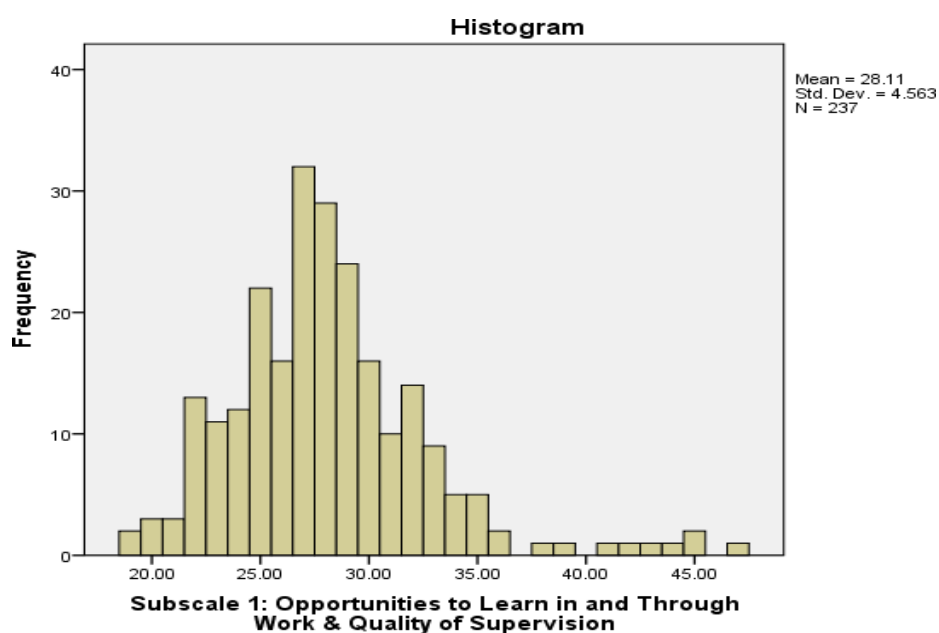


Figure 4.2: Opportunities to Learn in and Through Work & Quality of Supervision

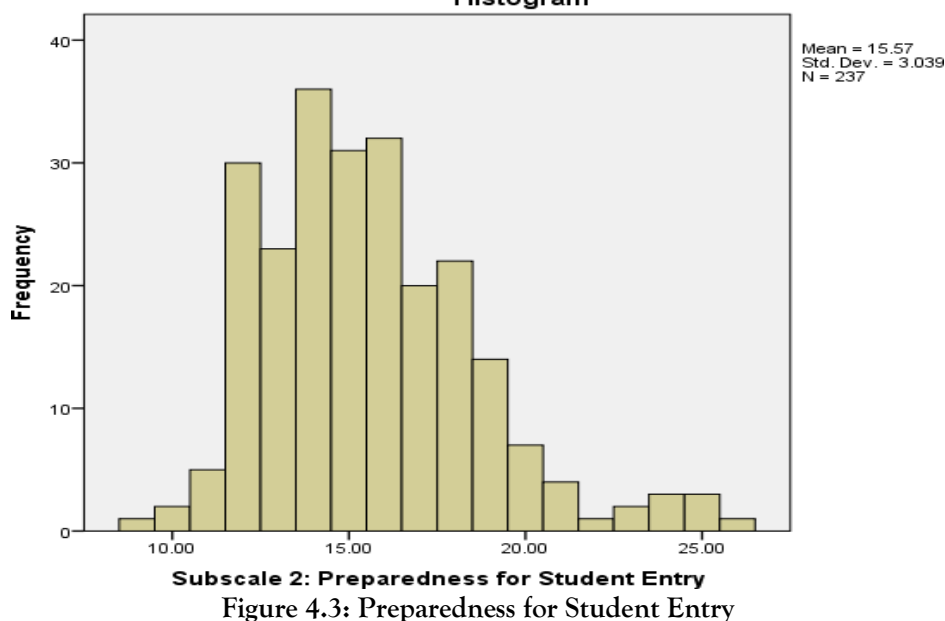
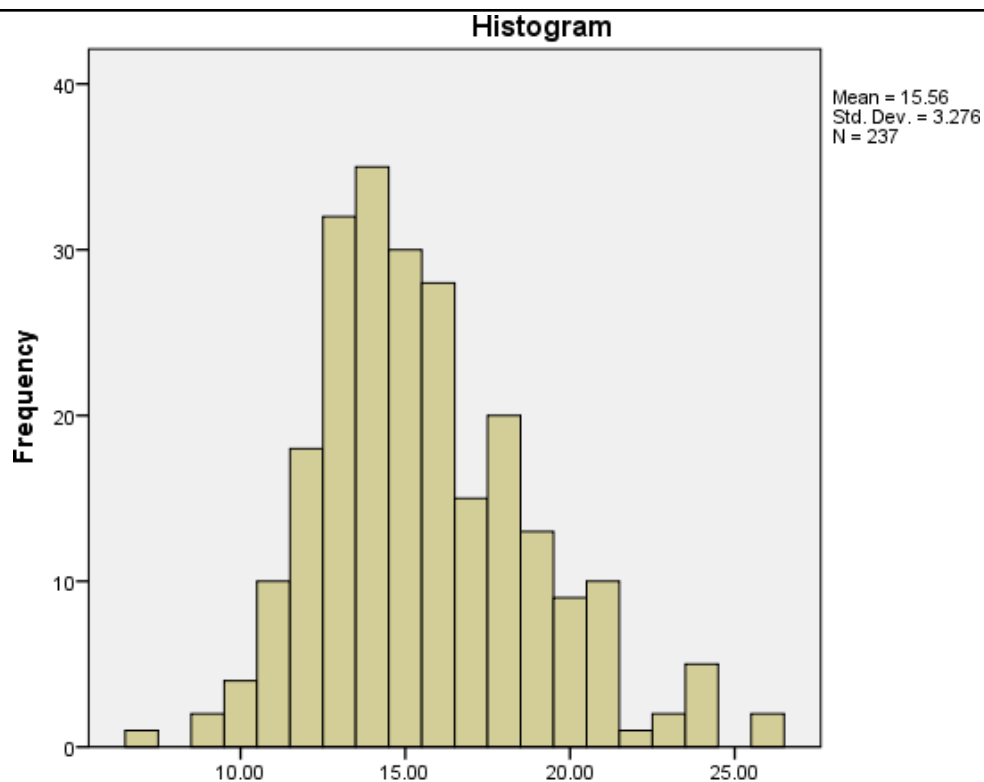
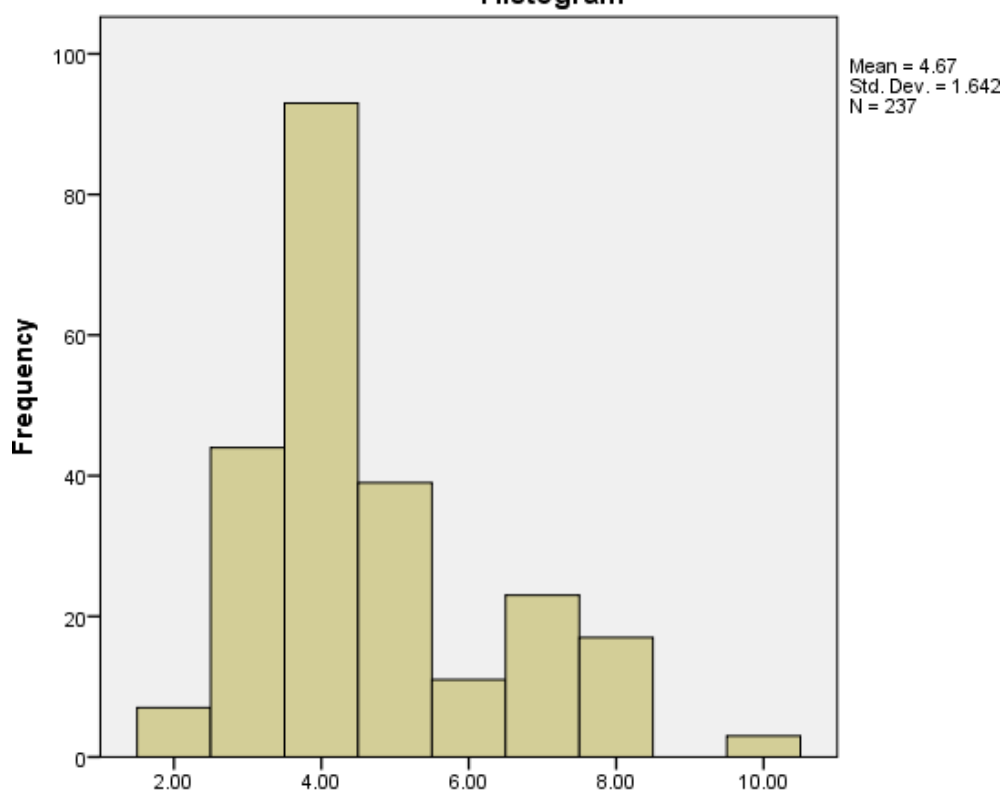


Figure 4.3: Preparedness for Student Entry



Subscale 3: Workplace Interaction Patterns & Student Inclusion

Figure 4.4: Workplace Interaction Patterns & Student Inclusion Histogram



Subscale 4: Equal Treatment

Figure 4.5: Equal Treatment

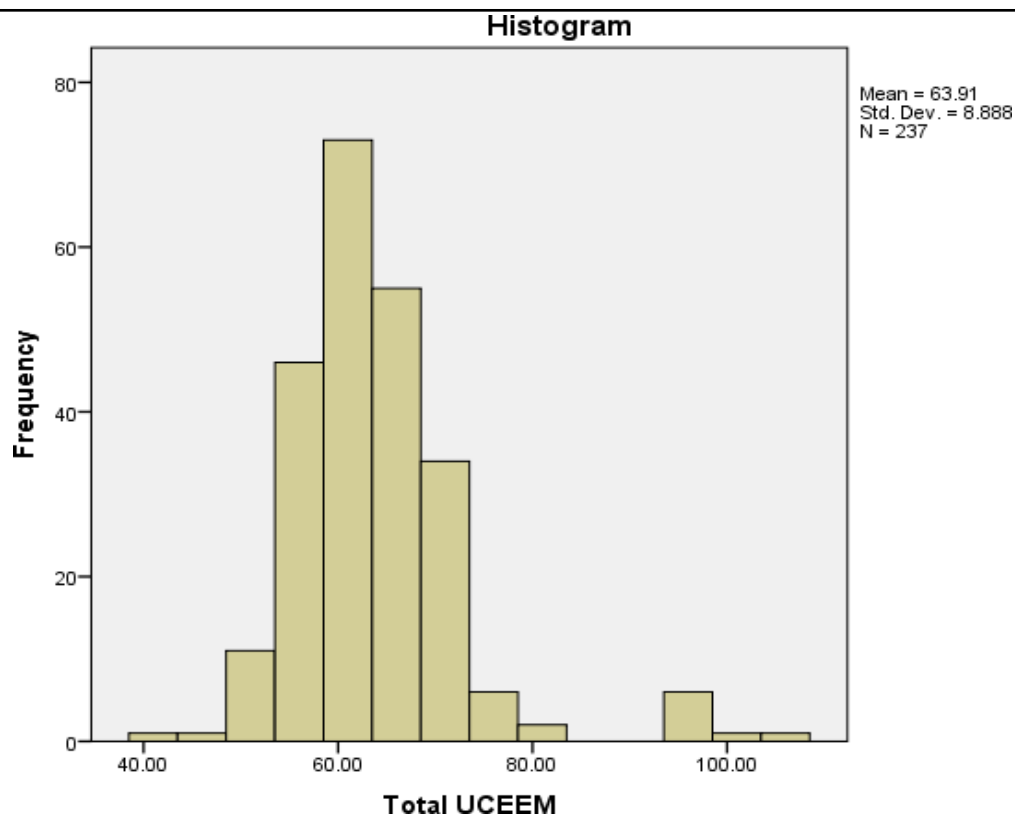


Figure 4.6: Total UCEEM Score

Table 4.3. Perception Regarding Clinical Learning Environment Among Undergraduate Nursing Students (N = 237)

Perception Category	Frequency (n)	Percentage (%)
Poor Perception	117	49.4
Moderate Perception	112	47.3
Good Perception	8	3.4

Table 4.3 presents the perception levels of undergraduate nursing students regarding the clinical learning environment. Nearly half of the participants (49.4%) demonstrated poor perception, while 47.3% had a moderate perception. Only 3.4% of the respondents

reported a good perception of the clinical learning environment. These findings suggest that the majority of nursing students perceived their clinical learning environment as poor to moderate.

Table 4.4. Normality Assessment of UCEEM and Its Subscales (N = 237)

Variables	Kolmogorov-Smirnov Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
Total UCEEM	.120	237	.000	.842	237	.000
Subscale 1: Opportunities to Learn in and Through Work & Quality of Supervision	.127	237	.000	.925	237	.000
Subscale 2: Preparedness for Student Entry	.119	237	.000	.944	237	.000
Subscale 3: Workplace						

Interaction Patterns & Student Inclusion	124	237	.000	.963	237	.000
Subscale 4: Equal Treatment	.265	237	.000	.871	237	.000

The results of normality test of Total UCEEM and its sub scales are shown in Table 4.4. The p values of all variables were statistically significant

(<0.001) indicating that the data is not normally distributed. Thus, non-parametric statistical tests were used for inferential analysis.

Table 4.5: Comparison of UCEEM Scores According to Gender Using Mann–Whitney U Test

Variable	Male Rank	Mean	Female Mean Rank	Mann–Whitney U	p-value
Subscale 1: Opportunities to Learn in and Through Work & Quality of Supervision	122.77		118.45	2992.000	0.747
Subscale 2: Preparedness for Student Entry	135.18		116.65	2619.500	0.164
Subscale 3: Workplace Interaction Patterns & Student Inclusion	109.92		120.32	2832.500	0.435
Subscale 4: Equal Treatment	107.50		120.67	2760.000	0.307
Total UCEEM	114.25		119.69	2962.500	0.684

Table 4.5 presents the comparison of UCEEM scores between male and female participants using the Mann–Whitney U test. No statistically significant difference was observed between genders for Total UCEEM scores or

any of its subscales ($p > 0.05$), indicating comparable perceptions of the clinical educational environment among male and female students.

Table 4.6. Comparison of UCEEM Scores According to Education Level Using Mann–Whitney U Test

Variable	BSN Mean Rank	Post RN Mean Rank	Mann–Whitney U	p-value
Subscale 1: Opportunities to Learn in and Through Work & Quality of Supervision	117.53	121.77	6127.500	0.649
Subscale 2: Preparedness for Student Entry	112.76	130.80	5387.500	0.052
Subscale 3: Workplace Interaction Patterns & Student Inclusion	115.45	125.71	5805.000	0.271
Subscale 4: Equal Treatment	114.10	128.26	5596.000	0.116

Total UCEEM	114.18	128.11	5608.000	0.136
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Table 4.6 demonstrates the comparison of UCEEM scores between BSN and Post RN students using the Mann–Whitney U test. No statistically significant differences were identified in Total UCEEM scores or any subscale scores between the two educational

groups ($p > 0.05$). However, Subscale 2 approached statistical significance ($p = 0.052$), suggesting slightly higher preparedness perceptions among Post RN students.

Table 4.7. Comparison of UCEEM Scores According to Marital Status Using Mann–Whitney U Test

Variable	Single Rank	Mean	Married Mean Rank	Mann–Whitney U	p-value
Subscale 1: Opportunities to Learn in and Through Work & Quality of Supervision	121.68		111.10	4836.000	0.300
Subscale 2: Preparedness for Student Entry	121.86		110.55	4803.000	0.266
Subscale 3: Workplace Interaction Patterns & Student Inclusion	118.25		121.22	5177.000	0.771
Subscale 4: Equal Treatment	120.79		113.71	4992.500	0.473
Total UCEEM	120.53		114.48	5038.500	0.554

Table 4.7 shows the comparison of UCEEM scores according to marital status using the Mann–Whitney U test. The findings revealed no statistically significant differences between single and married participants regarding

Total UCEEM scores and all subscales ($p > 0.05$). This indicates that marital status did not significantly influence perceptions of the clinical educational environment.

Table 4.8: Correlation Between Age, UCEEM, and Its Subscales Using Spearman's Rho

Variables	Age	Subscale 1	Subscale 2	Subscale 3	Subscale 4	Total UCEEM
Age	1	-0.098	-0.035	-0.021	0.083	-0.034
Subscale 1: Opportunities to Learn in and Through Work & Quality of Supervision	-0.098	1	0.144*	0.239**	0.166*	0.768**
Subscale 2: Preparedness for Student Entry	-0.035	0.144*	1	0.099	0.089	0.502**
Subscale 3: Workplace Interaction Patterns & Student Inclusion	-0.021	0.239**	0.099	1	0.049	0.573**

Subscale 4: Equal Treatment	0.083	0.166*	0.089	0.049	1	0.324**
Total UCEEM	-	0.768**	0.502**	0.573**	0.324**	1
	0.034					

*Correlation is significant at $p < 0.05$

*Correlation is significant at $p < 0.01$ when p value is less than 0.01.

Spearman's rho correlation analysis was performed to see if there was a correlation between age, Total UCEEM and subscales of Total UCEEM as shown in Table 4.8. There was no statistically significant correlation between total UCEEM and age, as well as each of its subscales ($p > 0.05$). Total UCEEM scores were found to have significant positive correlations with a number of the sub scores. Subscale 1 demonstrated a strong positive correlation with Total UCEEM ($r = 0.768$, $p < 0.01$), while Subscale 2 ($r = 0.502$, $p < 0.01$), Subscale 3 ($r = 0.573$, $p < 0.01$), and Subscale 4 ($r = 0.324$, $p < 0.01$) also showed significant positive relationships with the overall UCEEM score.

5. DISCUSSION

This study evaluated the clinical learning environment for nursing students by using Undergraduate Clinical Education Environment Measure (UCEEM). The results showed moderate positive perception of the clinical learning environment with the mean Total UCEEM score of 63.90 ± 8.88 . The highest mean score was for the scale "Opportunities to Learn in and Through Work & Quality of Supervision" and the lowest mean score was for the scale "Equal Treatment". In addition to the mean UCEEM scores, the categorization of perception levels revealed that 49.4% of the participants had poor perception of the clinical learning environment, 47.3% had moderate perception, and only 3.4% demonstrated good perception. Although the overall mean score suggested a moderate perception, the categorical analysis indicated that a substantial proportion of students perceived the clinical learning environment unfavorably. This finding suggests that relying solely on mean scores may mask the experiences of students who encounter challenges within clinical settings. The predominance of poor to

moderate perceptions highlights the need for targeted interventions aimed at improving the quality of clinical placements, particularly in areas related to equity, support, and student inclusion (Razak et al., 2025).

The results of the present study are similar to the majority of research findings that have been reported in the literature regarding students' generally positive perceptions of the clinical learning environment, with room for improvement (Zhang et al., 2022). Some studies have incorporated students from nursing, radiography and allied health and have reported moderate to high scores for the clinical learning environment, suggesting that students in general value clinical exposure and supervision (Sellberg et al., 2021).

The present study found that the dimension with the highest rating was "Opportunities to Learn in and Through Work & Quality of Supervision." This is corroborated by previous studies on satisfaction and positive learning experience, which have repeatedly cited how well students are supervised, supportive feedback provided and how much clinical hands-on learning provided (Visiers-Jiménez et al., 2021).

The subscale "Preparedness for Student Entry" in the present study scored moderately with only a slight increase in perceptions among the Post RN students, however not significantly. These observations are consistent with those of previous studies reporting preparedness, orientation and clarity of learning objectives as weaker aspects of the clinical environment (Sellberg et al., 2021). Post RN students' perceptions of preparedness might be higher than that of other students in the current study because they have some clinical experience and prior work experience that makes it easier for them to adapt to the clinical environment (Maalouf & El Zaatari, 2024).

The current study regarding the Workplace Interaction Patterns and Student Inclusion

showed moderate perceptions of its participants. This is similar to a previous study that found difficulties with inclusion, communication and interpersonal support within clinical placements (Panda et al., 2021). In the present study there was also no significant difference for Total UCEEM scores and subscale scores between genders. This was consistent with other studies which found similar levels of perceptions of the clinical learning environment among males and females (Karimi Mirzanezam et al., 2024).

“Equal Treatment” was the lowest rated subscale in the current study, suggesting that students felt that there were areas of weakness in regards to the fairness, respect or equal opportunity in the clinical setting. This is in contrast to a number of studies based on the UCEEM framework that have been completed across the globe where equal treatment and respectful interactions are commonly the top-rated dimensions. (O'Connor & McNulty, 2024).

The present study also showed no significant difference based on gender for Total UCEEM scores or subscale scores. This is similar to other research that reported similar perceptions of the clinical learning environment between males and females (Karimi Mirzanezam et al., 2024). However, not all reports confirm this, with some reporting better satisfaction, or competency for female students compared with male students, that is not consistent in the literature. Thus, there appears to be a context-specific nature of the impact of demographics on the clinical learning environment rather than a generalizable type (Ogunmuyiwa et al., 2025).

Likewise, there were no significant differences statistically between levels of education or marital status. Some other studies, however, indicate that educational level, clinical experience and other factors may moderate the adaptation and satisfaction in some settings (Benti Terefe & Gameda Gudeta, 2022). In the present study, Total UCEEM was found to be positively and significantly correlated with all subscales of the instrument with the highest positive correlation being found between The results of the present study, which show strong positive correlations between each dimension

of the clinical environment and the overall perception of the clinical environment, support the hypothesis that enhancement of individual dimensions of the clinical environment can positively influence students' perceptions and educational experiences (Rodríguez-García et al., 2021).

In the present study, there was no significant relation with Total UCEEM or any of the subscales and age. But a few sources indicate that senior students or the students who have more clinical experience might also adjust and be more confident in placements. In the current study, lack of significant age-related associations could suggest that the clinical learning experiences of participants were relatively homogenous between age groups (Sedek et al., 2025).

The findings from the present study indicate that nursing students perceived the clinical learning environment as ranging from poor to moderate. While the overall mean UCEEM score reflected a moderate perception, nearly half of the participants reported poor perceptions of their clinical learning experiences. These findings emphasize that, despite the presence of valuable learning opportunities and supervision, considerable improvements are required to create a more supportive, equitable, and inclusive clinical learning environment.

Outcomes and Utilizations:

The results of the present study would be useful:

- The results may be used to identify strengths and weaknesses of clinical training.
- The outcomes can be used to enhance supervision, support for students and inclusiveness in clinical placements.
- The findings of this study can help design policies and training programs to improve clinical teaching practices.

The results are baseline information for future investigation of clinical learning contexts of nursing students in similar settings.

Recommendations:

The following recommendations are suggested on the basis of findings of the study:

- Further, the nursing institutions and clinical settings are recommended to further

enhance their supervisory support and mentorship to assist students more in clinical placement learning.

- Clinical educators and hospital administration need to create strategies to foster equal and fair treatment, respectful relationships and inclusive clinical environments for all students.
- Orientation and clarifications of clinical learning objectives to improve students' preparedness prior to entering clinical placement.
- Training sessions and workshops should be held for clinical staff to further develop communication skills, inclusion of students and supportive teaching.
- Standardized evaluation of the clinical learning environment, for example, UCEEM, should be encouraged, and strengths and areas for improvement identified, at regular intervals.
- For future research, the findings should be replicated in other institutions and with larger samples in order to enhance generalizability and to investigate other factors impacting perceptions of the CL environment

Implications for future researches:

Implication of Study for future researches are:

- The provision of supportive supervision coupled with adequate learning opportunities can help build nursing students' confidence, competence and overall learning experience.
- In the clinical context, ensuring that students are fairly treated and engage each other in respectful ways, can increase their satisfaction and sense of belonging to the classroom.
- The introduction of a friendly orientation and easy-to-understand clinical learning goals can ease students into the transition into clinical placements.
- The positive interaction in the workplace and supportive communication from health care workers may reduce students' stress level and improve students' socialization in the work environment.
- The assessment tools can be standardized and used routinely to identify the strengths and weaknesses and to take targeted action in clinical learning environments.

- Good academic adjustment, professional development and retention in nursing are outcomes that may be achieved through exemplary clinical learning environments.

Limitations of the study:

Current study has certain limitations described below

- The study was done in a small number of nursing institutions, which may limit its applicability to other settings.
- It was a cross sectional study and therefore one could not make causal statements.
- Data were gathered by means of self-reported questionnaires which could have introduced response and social-desirability bias.
- Most of the participants were female students, which could impact the balance of genders.
- Other variables like clinical workload, institutional policies and teaching methods were not evaluated.

Strengths of the study:

The study is robust on several fronts. The study has notable strengths.

- The study used the Undergraduate Clinical Education Environment Measure (UCEEM) that is validated and increased the trustworthiness of the results.
- Assessment of multiple dimensions of the clinical learning context that will give a holistic view of students' perceptions.
- BSN and Post RN students were included to increase the diversity in education representation of the sample.
- Appropriate non-parametric statistical tests were used depending on the distribution of the data, enhancing the accuracy of the statistical analysis.

Associations were examined between demographic variables, Total UCEEM and subscales to provide an additional dimension of understanding regarding factors related to perceptions of the clinical learning environment.

Conclusion

The results of the present study indicated that the clinical learning environment was in a

moderately positive perception of the nursing students. Opportunities to Learn in and Through Work & Quality of Supervision earned the highest rating on the UCEEM, highlighting the critical importance of support in supervision and clinical learning in students' educational experiences. By contrast, "Equal Treatment" was the lowest rated, reflecting concerns about fairness and respect and inclusion in clinical treatment. Moreover, no statistically significant differences were found based on gender, level of education, marital status and age. A significant positive correlation with the subscores of Total UCEEM indicates that there is a correlation between the improvement of the individual aspects of the clinical learning environment and the improvement of students' perceptions and learning experiences.

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