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Nursing students' experiences of the clinical learning environment at Hafr Al Batin University: A cross-sectional study

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ABSTRACT

The clinical learning environment plays a crucial role in nursing education, significantly affecting student learning. This research aimed to examine the learning experiences of nursing students at the University of Hafr Al Batin, specifically within their clinical learning environments. The study used the Clinical Learning Environment, Supervision, and Nurse Teacher (CLES+T) scale to assess these experiences in hospital placements. Participants included nursing students in their second year and beyond who had completed at least one clinical placement in hospitals. The research adopted a quantitative approach, utilizing descriptive and inferential statistical methods for data analysis. Results indicated that final-year students were less satisfied with certain aspects, including the physical environment of the ward, supervisory relationships, and the involvement of nurse teachers. In contrast, second and third-year students generally viewed the clinical learning environment more positively. These outcomes are consistent with findings from international studies. The study suggests the importance of enhancing the roles of nurse teachers and supervisors to improve nursing students' learning experiences. Further qualitative research is recommended to gain a deeper understanding of these issues.

1. Introduction

The primary goal of nursing education is to prepare nurses to meet the needs of diverse healthcare users, to function as leaders, and to advance the science that benefits healthcare users and the capacity of healthcare professionals to deliver safe, quality healthcare (Widad and Abdellah, 2022). As such, clinical practice plays a substantial role in nursing education. In particular, practice in clinical settings allows nursing students to convert theoretical knowledge into practical skills that are mandatory when caring for healthcare users (Khatoon et al., 2019).

The clinical learning environment is a significant part of nursing education, and it has a sizable impact on the students' learning (Gurková et al., 2016). To better understand this impact, several empirical studies have been employed to investigate the clinical learning environment for nurses using the Clinical Learning Environment, Supervision, and Nurse Teacher evaluation instrument (CLES+T) (De Witte et al., 2011; Gurková et al., 2016; Khatoon et al., 2019; Zhang et al., 2022). This instrument is one of the most commonly used to investigate nursing students' perceptions of clinical learning environments in Western countries (De Witte et al., 2011; Vizcaya-Moreno et al., 2015; Gurková et al., 2016; Atay et al., 2018). These studies relied upon this validated instrument to measure the quality of clinical education within undergraduate nursing programs.

Exploring nurses' experiences within their clinical learning environments is crucial to improving their overall learning experience (Gurková et al., 2016), and interest in this area is growing around the world. In particular, a questionnaire-based study conducted among nursing students in China found a significant correlation between the learning environment and nursing students' intentions to be nurses in the future. It also found value in having a ward manager to build a strong clinical teaching atmosphere and in promoting opportunities for students to make practical and theoretical connections via a feedback mechanism (De Witte et al., 2011). This can influence the clinical learning experience to help build nurses' professional competencies. A study carried out with

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nursing students in Pakistan explored how they perceive and feel about their clinical learning environment. The findings showed that the students appreciated the effective supervision and leadership provided by their ward manager. However, the learning environment varied depending on gender, the type of clinical setting, and the level of supervision. Additionally, these factors—gender, clinical setting, and supervision—significantly influenced the learning environment (Khatoon et al., 2019).

A study in Finland investigated how nursing students perceive the support they receive from nurse teachers in clinical practice. The results highlighted the crucial role that teachers play in facilitating students' clinical learning, which depends on the interactions among students, mentors, and teachers. The study found that student satisfaction was highest when there were frequent meetings between students and their nursing teachers. It also emphasized the importance of direct contact while recognizing the value of communication methods like email, virtual learning environments, and texting. These communication tools are as important as clinical knowledge and skills for effective learning in clinical practice. The study suggested using emerging communication and educational technologies to enhance this learning process (Saarikoski et al., 2009).

These studies demonstrated the importance of exploring how nursing students experience their educational environment. However, to date, no study has explored this question in the context of Saudi Arabian universities, particularly at the University of Hafr Al Batin, which is a newer university founded in 2015 by a royal decree of King Abdullah (Alharbi et al., 2022). Therefore, this study was conducted to address this research gap and ultimately improve the educational experiences of nursing students at the University of Hafr Al Batin.

2. Methods

2.1. Study aim and design

The purpose of this study is to explore the learning experiences of nursing students at the University of Hafr Al Batin regarding their clinical learning environment. This research utilized a quantitative approach, specifically employing a cross-sectional design through a validated questionnaire. This design was chosen to examine the situation during a specific timeframe, which will help in effectively understanding the issue at hand.

2.2. Study participants

This study is open to male and female participants who are undergraduate nursing students at the University of Hafr Al Batin in their second, third, fourth, or subsequent years. Newly admitted nursing students and those who have not yet completed any clinical placements are excluded from participating in this research.

To detect the sample size, the study size used the G*Power software (Kang, 2021). According to the statistical power, a total number of 140 undergraduate nursing students were contacted to participate in an electronic CLES+T instrument. This number gave us a sufficient number of participants to perform descriptive and inferential analysis (Tariq and Woodman, 2013). The CLES+T instrument was sent to the participants by electronic mail. A convenient sampling will be used to recruit according to inclusion criteria

2.3. Research instrument

This CLES-T scale was used as a part of the total quality assessment of nursing education to measure the clinical learning environment (Vizcaya-Moreno et al., 2015). The CLES-T scale contains 34 items, which form 5 sub-dimensions. These sub-dimensions are (1) Pedagogical atmosphere (9 items); (2) Supervisory Relationships (8 items); (3) the Leadership Style of Ward Managers (4 items); (4) Premises of Nursing (4 items); and (5) the Role of the Nurse Teacher (9 items). This instrument has been validated and widely used in several studies (De Witte et al., 2011; Vizcaya-Moreno et al., 2015; Gurková et al., 2016; 2018; Atay et al., 2018; Guejdad et al., 2022). The instrument Cronbach's alpha values satisfactory level that ranged from high (0.96) to marginal (0.77).

2.4. Recruitment and ethical consideration

This study received approval from the Ethical Committee of the University of Hafr Al Batin. Informed consent was obtained from all participants. The researcher presented the study details, including the eligibility criteria, to the facility's administration. Subsequently, an email was sent to eligible undergraduate nursing students, inviting them to participate and respond to the questionnaire. The email assured participants of their autonomy in deciding whether to participate.

2.5. Data analysis

To achieve the study aim, the researcher used a descriptive and inferential analysis. The descriptive statistics summarized the demographical characteristics of the participants. The statistics involved frequency distribution, mean, standard deviations, and median (Tariq and Woodman, 2013; Baškarada and Koronios, 2018). SPSS (Version 29) was used for initial data cleaning, variable coding, variable computation, assumption checking, and analyses. Descriptive analyses identified any potential outliers, out-of-range values, and missing data values. No out-of-range values or outliers were detected. Fourteen missing values were detected across 12 of the CLES-T items, and 8 missing values

were detected on 3 of the demographic items. To account for the missing data on the CLES-T items and to prevent bias, mean scores for each factor were calculated.

3. Results

Five students were excluded from the study because they did not consent to participate. Additionally, ten students were removed for failing to respond to all five factors on the CLES-T questionnaire. Out of those surveyed, 100 participants completed the questionnaire, yielding a response rate of 71%.

The participants consisted of 100 undergraduate nursing students, ranging in age from 20 to 25 years, with an average age of 22.23 years and a standard deviation of 1.11 years. According to Table 1, the majority of the students were male (59.0%) and lived in Hafr Al Batin City (59.6%). Over half of the students (54.0%) were in their fourth year or higher in their nursing program, and 54.5% had completed more than three clinical placements. The majority of students were supervised primarily by a nurse (32.2%), followed by both a nurse educator and nurse manager (25.3% each), while 15.2% had supervision from both a nurse manager and nurse educator. Only two participants were supervised by a doctor.

As indicated in Table 2, the students assessed the clinical learning environment as moderate on average. The scores for the different subscales, which ranged from 1 to 5, varied from 2.76 for the 'Leadership style of the ward manager' to 3.19 for the 'Role of the nurse teacher.' The average scores for individual items ranged from 2.62 (SD = 1.50) to 3.34 (SD = 1.44).

Table 1: Frequencies and percentages of demographic variables

Demographic variables	Categories	Frequency	Percentage
Gender	Female	41	41.0%
	Male	59	59.0%
Current year of nursing program	Second year	15	15%
	Third year	31	31.0%
	Fourth year and above	54	54.0%
Location	Hafr Al Batin City	59	59.6%
	Outside the city	40	40.4%
Number of clinical placements completed	One	9	9.1%
	Two	5	5.1%
	Three	31	31.3%
	More than three	54	54.5%
Title of highest supervisor	Doctor	2	2.0%
	Nurse	32	32.2%
	Nurse educator	25	25.3%
	Nurse manager	25	25.3%
	Nurse educator and nurse manager	15	15.2%

The three highest scores were for the items: 'The nursing teacher effectively implemented the learning goals of this clinical placement' (Mean = 3.34, SD = 1.44), 'In my view, the nursing teacher successfully merged theoretical knowledge with daily nursing practice' (Mean = 3.27, SD = 1.54), and 'Patients received personalized nursing care' (Mean = 3.24, SD = 1.51).

Conversely, the three lowest scores were for: 'The staff made an effort to know the students personally' (Mean = 2.62, SD = 1.50), 'The Ward Manager considered the staff as key resources' (Mean = 2.68, SD = 1.41), and 'Feedback from the Ward Manager was easily seen as a learning opportunity' (Mean = 2.76, SD = 1.54).

Table 2: Mean scores of the dimensions of the CLES+T

Subscales	Mean (SD)
Pedagogical atmosphere	2.87 (1.31)
Leadership style of the ward manager	2.76 (1.37)
Premises of nursing in the ward	3.09 (1.36)
Supervisory relationship	3.00 (1.40)
Role of the nurse teacher	3.19 (1.42)
Total score	3.00 (1.28)

Bivariate correlations were employed to examine the relationship between student age and the scores on the five CLES+T subscales and the total scale. Univariate analyses of variance (ANOVA) explored the associations between various factors—gender, current year of the nursing program, location, number of completed clinical placements, and title of the highest supervisor—and the scores on the CLES+T subscales and total scale. Welch's test was used to account for unequal variances and sample sizes.

As presented in Table 3, a statistically significant difference was found in the scores for the 'Premises of nursing in the ward' across different years of the nursing program (Welch (2, 36.16) = 5.70, p = .007). Tukey's post hoc analysis indicated that students in their fourth year or above rated this aspect significantly lower than students in their second (p = .006) and third years (p = .042).

Similarly, the 'Supervisory relationship' scores varied significantly with the year of the nursing program (Welch (2, 35.57) = 4.57, p = .017). Students in their fourth year and above rated their supervisory relationships less favorably compared to students in their third year (p = .022).

There was also a significant difference in the 'Role of the nurse teacher' across the years of the nursing program (Welch (2, 37.74) = 3.83, p = .031). Students in their fourth year or above gave less favorable ratings to this aspect compared to third-year students, although this difference approached but did not reach statistical significance (p = .052). A significant difference was observed in the total

CLES+T scores among the different years of the nursing program (Welch (2, 37.05, p = .019). Tukey's post hoc analysis showed that second-year students experienced a more positive overall clinical learning environment compared to those in their fourth year or higher (p = .044). While only nearing statistical significance (p = .050), it is notable that third-year students also reported a more positive overall clinical learning environment compared to those in their fourth year or higher.

Table 3: Mean scores of the dimensions of the CLES+T by demographic variables

Demographic variables	Categories	Pedagogical atmosphere	Leadership style of the ward manager	Premises of nursing in the ward	Supervisory relationship	Role of the nurse teacher	Total CLES+T
Gender	Female	2.92 (1.33)	2.65 (1.35)	3.25 (1.30)	3.20 (1.45)	3.17 (1.38)	3.06 (1.27)
	Male	2.83 (1.30)	2.83 (1.39)	2.98 (1.41)	2.86 (1.36)	3.20 (1.45)	2.95 (1.29)
Current year of nursing program	Second year	3.47 (1.19)	3.20 (1.50)	3.88 (1.47)*	3.48 (1.47)	3.67 (1.39)	3.54 (1.28)*
	Third year	3.04 (1.27)	3.10 (1.36)	3.40 (1.18)*	3.44 (1.40)*	3.57 (1.26)	3.32 (1.19)
	Fourth year and above	2.60 (1.31)	2.44 (1.28)	2.69 (1.31)*	2.62 (1.28)*	2.84 (1.43)	2.66 (1.25)*
Location	Hafr Al Batin	2.85 (1.42)	2.75 (1.49)	3.15 (1.52)	3.03 (1.49)	3.16 (1.54)	3.00 (1.40)
	Outside	2.88 (1.15)	2.77 (1.20)	2.99 (1.13)	2.94 (1.29)	3.21 (1.24)	2.98 (1.09)
Number of clinical placements completed	One	2.80 (1.69)	2.19 (1.46)	3.17 (1.73)	2.81 (1.81)	2.89 (1.83)	2.80 (1.67)
	Two	2.96 (1.18)	2.65 (0.68)	2.30 (0.54)	2.48 (0.66)	3.22 (1.27)	2.80 (0.77)
	Three	3.12 (1.24)	3.09 (1.37)	3.36 (1.38)	3.16 (1.35)	3.39 (1.36)	3.23 (1.27)
	More than three	2.76 (1.29)	2.71 (1.38)	3.02 (1.33)	3.03 (1.41)	3.14 (1.41)	2.95 (1.26)
Title of highest supervisor	Doctor	2.72 (0.71)	3.71 (0.06)	2.88 (1.37)	3.89 (0.56)	3.88 (1.42)	3.43 (0.12)
	Nurse	2.81 (1.40)	2.73 (1.35)	3.24 (1.42)	2.79 (1.46)	3.11 (1.53)	2.93 (1.35)
	Nurse educator	2.84 (1.43)	2.77 (1.54)	2.83 (1.42)	2.87 (1.45)	3.10 (1.48)	2.91 (1.40)
	Nurse manager	2.91 (1.22)	2.80 (1.54)	3.03 (1.31)	3.16 (1.36)	3.19 (1.39)	3.04 (1.26)
	Nurse educator and nurse manager	2.96 (1.27)	2.57 (1.26)	3.30 (1.36)	3.16 (1.30)	3.35 (1.28)	3.10 (1.15)

*: Indicates a statistically significant difference

4. Discussion

The results of this study are significant because understanding the learning experiences of nursing students using the CLES-T questionnaire is a key approach to improving the quality of teaching and learning. The present study found significant disparities among the learning experiences of nursing students that need to be considered.

In particular, nursing students currently in their fourth year or above provided less favorable scores for premises of nursing in the ward compared to students in their second or third year. This could be attributed to the fact that final-year students are most familiar with the ward and hospital, having followed the same routine for a number of years. Therefore, they feel less interested in hospital practice. A comparable study examining the satisfaction levels of nursing students reported that those in their final year showed less interest in several aspects, including the conditions of the nursing premises in the ward (Calma et al., 2022).

Furthermore, students currently in their fourth year and above in this study provided less favorable scores with respect to their supervisory relationship when compared to students in lower years. This could be attributed to the students having a different supervisor every time they worked at the hospital. However, it is not clear why this relationship was affected. A qualitative study may be needed to examine this area more deeply.

In addition, students in their fourth year or above provided less favorable scores related to the domain role of the nurse teacher compared to students in their third year. This was likely because final-year students have the advanced skills to critique the nursing teacher as compared to students at lower levels. The results of an earlier study conducted in a geriatric hospital aligned with this finding and revealed that the final-year nursing students rated less score to the role of nursing teacher (McCloskey et al., 2020).

Finally, students in the second or third year of their nursing program were found to have experienced a more positive overall clinical learning environment compared to students in their fourth year or higher. This can be attributed to the fact that nursing students begin their hospital placement in their second year. Students in their second and third years are naturally more interested in practice because it is a new experience for them. A similar study confirmed this finding (Lamont et al., 2015).

5. Conclusion

This study was conducted with the aim of exploring the experiences of nursing students within their clinical practice environments, focusing particularly on how these experiences influence their education and preparation for professional roles. The findings of the research suggest that nursing students, especially those in their final year, require additional support from the hospital administration and the University of Hafr Al Batin. This indicates a gap in the current support system provided to these students, which could potentially impact their readiness and confidence as they transition from student roles to professional nursing roles. The results highlight the necessity for enhancing the supervisory role within clinical settings. Strengthening this aspect could significantly improve the relationship between students and their supervisors, which is crucial for fostering a conducive learning environment. Enhanced supervision not only aids in better academic and practical performance but also helps students deal

with the complexities of real-world clinical scenarios more effectively.

Additionally, the role of the nursing teacher needs to be amplified. Educators play a pivotal role in bridging theoretical knowledge and practical skills, and an enhanced role could lead to improved educational outcomes. Effective teaching strategies and a closer alignment of curricular content with clinical realities are essential for enhancing the educational experiences of nursing students.

Given these findings, there is a clear need for a qualitative study to delve deeper into these issues. Such a study could provide richer, contextual insights into the students' perspectives and experiences, identifying specific areas of need that may not be apparent through quantitative methods alone. This approach would allow for a more nuanced understanding of the challenges faced by nursing students and could lead to more targeted interventions to enhance their clinical learning environments.

Conclusively, this study underscores the importance of targeted educational support and robust supervisory relationships to enhance the clinical training of nursing students, aiming to equip them with the necessary skills and confidence to succeed in their future nursing careers.

This study was conducted in a single educational facility and only considered undergraduate nursing students. Therefore, these findings may not be generalizable to other settings and professions. In addition, convenience sampling was used in this study, which may also limit the generalisability of the findings.

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Compliance with ethical standards

Ethical considerations

This research was approved by the University of Hafr Al Batin Scientific Research Center and the Institutional Review Board (IRB) in Saudi Arabia (Approval No. UHB-004-03-2023).

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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