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CLINICAL PRACTICE ENVIRONMENT WITH STRESS LEVELS AMONG FIRST YEAR NURSING STUDENTS IN HOSPITALS

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ABSTRACT

Background: Clinical practice is an essential component of nursing education, complementing theoretical knowledge and preparing students to become competent professionals. However, clinical practice can be a significant source of stress, particularly for first-year nursing students.

Purpose: This study aimed to examine the relationship between the clinical practice environment and stress levels among first-year nursing students in hospital settings.

Methods: A cross-sectional study was conducted with ethical approval. The study population comprised 438 first-year nursing students, from which 202 participants were selected through purposive sampling. Data were collected using online questionnaires, including the Clinical Learning Environment Scale – T (CLES-T) and the Nursing Student Stress Scale (NSSS). Data analysis included univariate and bivariate analyses, with the chi-square test applied to assess associations.

Results: The findings indicated that 102 participants (50.5%) reported a positive clinical practice environment, while 106 participants (52.5%) experienced high stress levels. Bivariate analysis revealed a significant association between the clinical practice environment and stress levels ($p = 0.001$, OR = 3.889).

Conclusions: These results suggest that supportive clinical environments are crucial in reducing stress among nursing students. Institutions should implement strategies, such as structured guidance and nursing rounds, to foster a positive learning environment and mitigate stress during clinical practice.

KEYWORDS: Hospital environment; Nursing Students; Stress

INTRODUCTION

Nurses are professional practitioners equipped with the knowledge, skills, responsibilities, and authority to provide comprehensive care to patients with diverse health conditions(1). The preparation of competent nurses capable of delivering high-quality and safe patient care requires nursing education programs to continuously adapt to evolving healthcare demands, technological advancements, and professional standards (2). Such adaptability ensures that graduates acquire not only theoretical knowledge, but also clinical competencies aligned with contemporary healthcare expectations.

Clinical practice constitutes a fundamental component of nursing education, serving as a bridge between theoretical instruction and real-world patient care. Through clinical placements, students develop essential competencies, including clinical decision-making, communication, teamwork, and problem-solving skills (2). In many nursing curricula, clinical exposure begins during the first academic year, marking a significant transition from classroom-based learning to direct patient care responsibilities. This transition period is often accompanied by psychological challenges, as students must adjust to unfamiliar environments, heightened expectations, and increased accountability (3).

Stress is commonly defined as a physiological and psychological response to environmental demands that exceed an individual's adaptive capacity (4). Within nursing education, stress is a prevalent phenomenon, particularly during clinical practice. Excessive stress has been shown to negatively influence academic performance, cognitive functioning, emotional regulation, and overall well-being (5). Empirical evidence supports this concern; for instance, a study conducted among 139 nursing students in New Delhi reported that 76.9% experienced moderate stress, 19.4% mild stress, and 3.6% severe stress during hospital-based clinical training (6). These findings underscore the widespread nature of stress in clinical education settings.

Multiple factors contribute to stress among nursing students in clinical environments. These include prior clinical experience, competency levels, workload, self-efficacy, motivation, social support systems, and characteristics of the clinical practice environment itself (7). Among these determinants, the clinical environment plays a particularly critical role, as it represents the context in which theoretical knowledge is translated into practice. Hospital settings are inherently dynamic and unpredictable, characterized by high patient acuity, complex procedures, time constraints, and diverse interpersonal interactions. For first-year students with limited clinical exposure, such conditions may generate feelings of inadequacy, fear of making mistakes, and heightened performance anxiety, particularly when supportive supervision is lacking.

Preliminary data obtained by the researchers further illustrate the magnitude of this issue. Approximately 88% of psychological responses reported during clinical practice were related to stress, with excessive worry (68%),

tension (72%), unease (56%), panic (52%), and difficulty concentrating (40%) frequently identified. Notably, the hospital environment emerged as a prominent stressor. Non-conducive learning conditions such as insufficient guidance from clinical instructors, limited feedback, and ineffective communication with hospital staff were associated with fear, anticipatory anxiety, and sleep disturbances prior to clinical placement. These findings suggest that environmental factors may substantially shape students' stress experiences and adaptation processes during early clinical exposure.

Despite the growing body of literature examining stress among nursing students, most existing studies primarily focus on individual determinants such as coping strategies, resilience, academic workload, or psychological characteristics. While these factors are important, there remains limited empirical evidence specifically examining how the clinical practice environment as a contextual and structural factor influences stress levels among first-year nursing students. Furthermore, many previous studies have treated clinical stress as a general phenomenon without distinguishing between different academic levels, even though first-year students represent a particularly vulnerable group due to their limited clinical exposure and developing competencies.

Given that unmanaged stress may adversely affect learning outcomes, clinical competence development, professional identity formation, and long-term retention in the nursing profession, it is imperative to examine contextual determinants within clinical education. Understanding the relationship between the clinical practice environment and stress levels among first-year nursing students is therefore essential. Evidence generated from this study may inform the development of structured support systems, mentorship strategies, and evidence-based educational interventions aimed at fostering a supportive, psychologically safe, and conducive clinical learning environment.

METHOD

This study employed a correlational quantitative design with a cross-sectional approach, collecting data at a single point in time. The population consisted of 438 Entry to Practice nursing students from the 2023 academic year at a private university in Tangerang, Indonesia. A total of 202 participants were selected using purposive sampling based on predefined inclusion and exclusion criteria. Ethical approval was obtained from the Institutional Ethics Committee (No.051/KEPFON/I/2024), and informed consent was obtained from all participants prior to data collection. Two instruments were used in this study: the Clinical Learning Environment Scale-T (CLES-T) to assess the clinical learning environment across domains such as supervisory relationships, pedagogical environment, leadership style, ward care, and clinical instructor roles, and the Nursing Student Stress Scale (NSSS) to measure stress levels among students during clinical practice. Both instruments were translated into Indonesian and underwent pilot testing for validity and reliability before the main data collection. For the CLES-T, corrected item-total correlations ranged from 0.570 to 0.873, with a Cronbach's alpha of 0.973, indicating that all items were valid and highly reliable. For the NSSS, corrected item-total correlations ranged from 0.339 to 0.899, with a Cronbach's alpha of 0.967, demonstrating that most items were valid and highly reliable. Two items (questions 11 and 14) fell slightly below the validity threshold (0.350 and 0.339) and were revised for clarity to ensure ease of understanding for respondents. Data were analyzed using univariate analysis to describe participant characteristics and the distribution of variables. Bivariate analysis using the chi-square test was conducted to examine the association between the clinical learning environment and stress levels. Statistical significance was set at $p < 0.05$.

RESULT

Table 1: Distribution of Demographic Characteristics of Respondents

	Mean	Median	Std. Deviasi	Frequency (n)	Percentage (%)
Age	18.54	19	0.78		
Gender					
Male				21	10,4%
Female				181	89,6%
Total				202	100%
Education					
Senior High School				178	88,1%
Vocational High School				24	11,9%
Total				202	100%

Table 1 presents the demographic characteristics of the 202 nursing students who participated in the study. The participants' ages ranged around a mean of 18.54 years, with a median of 18.54 years. In terms of gender, the majority were female (181 students, 89.6%), while male students accounted for 21 participants (10.4%). Regarding educational background, most respondents had graduated from senior high school (178 students, 88.1%), with the remaining 24 students (11.9%) having completed vocational high school. These results indicate that the sample was predominantly young, female, and primarily senior high school graduates.

Table 2: Frequency Distribution of Clinical Practice Environment

Subcategories	Good	Poor

	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Pedagogical Environment	97	48	105	52
Leadership Style	202	100	0	0
Care in the Room	90	44,6	112	55,4
Supervisory Relationship	0	0	202	100
Role of Clinical Instructor	115	56,9	87	43,1

Table 2 presents the distribution of responses regarding the clinical practice environment across five subcategories. For the pedagogical environment, 97 students (48%) reported a good environment, while 105 students (52%) rated it as poor. In the leadership style domain, all participants (202 students, 100%) perceived it as good. Regarding care in the room, 90 students (44.6%) rated it as good, whereas 112 students (55.4%) perceived it as poor. For the supervisory relationship, all respondents (100%) indicated a poor level of supervision. Finally, for the role of the clinical instructor, 115 students (56.9%) reported it as good, and 87 students (43.1%) as poor.

Table 3: Frequency Distribution of Clinical Practice Environment

Environment	Frequency (n)	Percentage (%)
Poor	100	49,5%
Good	102	50,5%
Total	202	100%

Table 3 shows the overall distribution of students' perceptions of the clinical practice environment. Of the 202 participants, 102 students (50.5%) reported a good clinical practice environment, while 100 students (49.5%) perceived it as poor. These findings indicate that students' experiences of the clinical environment were almost evenly split, suggesting variability in the quality of clinical practice settings across different areas or placements.

Tabel 4 Frequency Distribution of Nursing Students' Stress Levels

Stress	Frequency (n)	Percentage (%)
Low	96	47.52
High	106	52.48
Total	202	100

Table 4 presents the distribution of stress levels among the 202 nursing students. A total of 96 students (47.5%) experienced low stress, whereas 106 students (52.5%) reported high stress levels. These results indicate that slightly more than half of the participants experienced elevated stress during their clinical practice, highlighting the potential impact of the clinical learning environment on students' psychological well-being.

Table 5: Results of the Analysis of the Relationship Between the Clinical Practice Environment and Stress Levels of Nursing Students

Environment	**Stress**				**Total**		**OR**	**P value**
	High		**Low**		**n**	**Persentage**		
	n	**Percentage**	**n**	**Percentage**				
Good	102	64,0%	100	36,0%	202	100%	20,266	0,0001
Poor	96	31,4%	106	68,6%	202	100%		

Table 5 presents the relationship between the clinical practice environment and stress levels among nursing students. The results show that students who perceived a good clinical practice environment were more likely to report high stress (102 students, 64.0%) compared to low stress (100 students, 36.0%). Conversely, among students who perceived a poor clinical practice environment, 96 students (31.4%) reported high stress, while 106 students (68.6%) reported low stress. Statistical analysis using the chi-square test indicated a significant association between the clinical practice environment and stress levels, with an odds ratio (OR) of 20.266 and a p-value of 0.0001. These findings suggest that the quality of the clinical practice environment is strongly related to nursing students' stress levels during clinical training.

DISCUSSION

Based on the study findings, the mean age of first-year nursing students was 18.54 years, which aligns with statistics from the Ministry of Education and Culture for the 2019/2020 academic year, indicating that the average age of high school and vocational school graduates is above 18 years, with many students continuing their education at higher levels (8). Most participants were female, reflecting the higher proportion of women in the nursing field. This gender disparity is influenced by societal stereotypes that associate nursing with caregiving and patient service roles, which are often perceived as requiring patience and nurturing qualities more

characteristic of women than men (9,10). The findings also indicate that most students had completed senior high school as their highest level of education. This may be attributed to the stronger motivation of high school graduates to pursue nursing, as they generally possess a solid foundation of relevant knowledge. In contrast, students from vocational schools, especially those from non-health tracks, may have less exposure to core science subjects such as physics, chemistry, and biology, as well as limited experience in nursing-related coursework during secondary education (11–13).

Regarding the clinical practice environment, the majority of students perceived the overall environment as positive. This finding is consistent with (2) who noted that students apply their knowledge, skills, attitudes, and problem-solving abilities to address patient care needs during clinical placements. Thus, the clinical environment, particularly in hospitals, supports the development of students' assessment, diagnostic, and care delivery skills. However, some subcategories of the clinical environment were rated less favorably. For the pedagogical environment, students reported challenges in applying theoretical knowledge to practice. The ward atmosphere and influence of staff nurses sometimes created pressure, particularly for first-year students who require more time to adapt, making the environment feel less supportive (14).

In contrast, leadership style was generally perceived positively. Most students reported that the head nurse's leadership motivated them to perform effectively in patient care, reflecting the role of leadership in guiding team performance and achieving clinical goals (15–17).

Regarding care in the ward, first-year students reported less favorable experiences due to their limited skills and experience, which made it challenging to provide optimal nursing care (7). The supervisory relationship subcategory received consistently negative feedback, with all students reporting unsatisfactory supervision during clinical practice. This aligns with previous studies showing that students may experience discrimination, public criticism, and poor communication from supervisors, which can hinder performance and concentration (18). Finally, the role of clinical instructors was perceived positively. Students valued the mentorship provided by experienced clinical instructors, which facilitated skill development and effective guidance during clinical practice (19–21).

The study revealed that most first-year nursing students experienced high levels of stress during clinical practice. Stress arises from individuals' perceptions of challenging situations, often leading to feelings of anxiety, frustration, and tension (22,23). Nursing students face dual responsibilities as learners and healthcare providers, which intensifies stress, particularly for first-year students who must adapt to clinical demands while developing competence in patient care (24,25)

Chi-square analysis demonstrated a significant association between the clinical practice environment and stress levels among students. The odds ratio indicates that a positive perception of the clinical practice environment increases the likelihood of experiencing high stress by 3.889 times. This finding is consistent with (18) who noted that the clinical environment can exert both positive and negative influences on students. While a supportive environment fosters skill development and learning, it may also introduce pressure and increased expectations. First-year students, with limited knowledge and competencies, may feel overwhelmed by the demands of providing high-quality patient care, leading to elevated stress levels.(7,26). These results underscore the need to balance a challenging clinical learning environment with adequate support to optimize student outcomes.

CONCLUSION

The findings of this study indicate that most first-year nursing students are female, reflecting societal perceptions that associate nursing with women. Most students have a high school educational background, which provides a stronger foundation for pursuing nursing compared to vocational school graduates. Importantly, the study revealed a significant association between the clinical practice environment and students' stress levels, with an odds ratio of 3.889. While a positive clinical practice environment is generally intended to support learning and skill development, it may also contribute to elevated stress among students due to high expectations, workload, and limited clinical experience. These results underscore the need for strategies that balance supportive clinical learning with interventions to manage stress, particularly for first-year nursing students.

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RECOMMENDATIONS

Based on the findings of this study, it is recommended that nursing educators and clinical instructors create a supportive and structured clinical learning environment that balances high expectations with guidance and mentorship. Providing clear supervision, constructive feedback, and effective mentorship can help mitigate stress levels among first-year nursing students. Students should also be encouraged to adopt effective stress management strategies, including time management, peer support, and reflective practices, to cope with the demands of clinical practice. Additionally, nursing program administrators are advised to implement policies that

continuously monitor and enhance the quality of the clinical learning environment, ensuring adequate staffing, mentorship, and resources to support students' learning and well-being. Future research should explore additional factors influencing stress among nursing students, such as clinical workload, personal coping mechanisms, and differences between clinical settings. Such investigations will provide deeper insights and inform the development of comprehensive strategies to optimize students' clinical experiences and promote their professional growth.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest related to this study. All procedures and analyses were conducted objectively, and no financial or personal relationships influenced the research outcomes.

REFERENCES

1. Setiani B. Pertanggungjawaban Hukum Perawat Dalam Hal Pemenuhan Kewajiban Dan Kode Etik Dalam Praktik Keperawatan. J Ilm Ilmu Keperawatan Indones. 2018;8:4.
2. Mirzanezam AK, Ghahramanian A, Ghafourifard M, Davoodi A, Bagheriyeh F. Nursing students ' perception of the clinical learning environment and its impact on academic adjustment : a cross-sectional descriptive study. BMC Med Educ. 2024;24:1543.
3. Susani YP, Lestari R. Persepsi Mahasiswa terhadap Lingkungan Belajar Klinik Fakultas Kedokteran Universitas Mataram dan Faktor-Faktor yang Mempengaruhi. J Kedokt Unram. 2018;7(4):1–7.
4. Ni Wayan Murniti. Trancendental Meditation Sebagai Strategi dalam memotivasi Minat Belajar Siswa SMA Negeri Bali Mandara. J Pendidikan, Agama Dan Budaya. 2022;6(2).
5. Hamzah B RH. Faktor-Faktor yang Berhubungan dengan Tingkat Stres Akademik Pada Mahasiswa Indonesia. Indones J Heal Sci. 2020;4(2):59–67.
6. Nirmala Sing CK. Stress Reaction and Coping Strategies among Nursing Students in Delhi. Asian J Nurs Educ Res. 2015;5(2):274–8.
7. Firmawati, Damansyah, H., & Mile N. Faktor-faktor yang mempengaruhi tingkat stres mahasiswa profesi ners Universitas Muhhamadiyah Gorontalo dalam menjalani Praktik Profesi. J Ilm Ilmu Kesehat dan Kedokt. 2023;11(2):29–36.
8. Ahmad Avenzora et al. Potret pendidikan Indonesia statistik pendidikan. Badan Pusat Statistik. 2020;102–236.
9. Prosen M. Nursing students ' perception of gender - defined roles in nursing : a qualitative descriptive study. BMC Nurs [Internet]. 2022;1–11. Available from: https://doi.org/10.1186/s12912-022-00876-4
10. Marmoah S. Profil gender dan pendidikan kota Jambi. J Stud Gend dan anak. 2017;II(1):59–82.
11. Bvumbwe T. Nursing education challenges and solutions in Sub Saharan Africa : an integrative review. BMC Nurs. 2018;1–11.
12. Jihye K, Kyungmi L. Readiness for Practice Among Nursing College Graduates : A Cross-Sectional Correlation Study. SAGE Open Nurs. 2025;
13. Leigh J, Vasilica C, Dron R, Gawthorpe D, Burns E, Kennedy S, et al. Redefining undergraduate nurse teaching during the coronavirus pandemic: use of digital technologies Jacqueline. Br J Nurs. 2020;29(10):566–9.
14. Yilmaz SG. Clinical - practice stress levels and factors affecting these on first - year nursing students. Perspect Psychiatr care. 2022;11(March):1–11.
15. Amin, S., Meri, D., & Anggraini D. The Relationship between the Implementation of Nursing Supervision with the Performance of Nursing in Patient Room at Dumai City General Hospital. J Glob Res Public Heal. 2022;7(2):125–9.
16. Efendy, M. A., & Prisantika ED. Analysis of nurse unit manager supervision on the performance of nurses at x hospital kediri city, indonesia: a cross-sectional study. J Public Heal Res community Heal Dev. 2023;7(1):6–10.
17. Nurhidayati F, Daely W, Purnama A. Supervisi Kepala Ruangan dan Kepuasan Kerja dapat Meningkatkan Kinerja Perawat Pelaksana di Rumah Sakit. Jakarta J Heal Sci. 2023;2(10):923–9.
18. Jamshidi N, Molazem Z, Sharif F, Torabizadeh C, Kalyani MN. The Challenges of Nursing Students in the Clinical Learning Environment : A Qualitative Study. Sci World J. 2016;7.
19. Joae P, Nito B, Ayu O, Manto D, Wulandari D. Pengaruh Program Mentoring Terhadap Peningkatan Kemampuan Berpikir Kritis Penggunaan Standardized Nursing Language Mahasiswa Keperawatan sebagai Metode Pembelajaran. Din Kesehat J Kebidanan dan Keperawatan. 2020;11(2).
20. Wasim T, Haroon F, Shahid A, Wasim A. Mentees perception of Formal Mentorship at public sector Medical School , Pakistan. Pakistan J Med Sci. 2025;41(2):488–493.
21. Wurmser T, Kowalski MO, Researcher N. Perceptions of a statewide nurse mentorship programme : A qualitative study. J Nurs Manag. 2020;(May):1–8.
22. Liu J, Yang Y, Chen J, Zhang Y, Zeng Y, Li J. International Journal of Nursing Sciences Stress and coping styles among nursing students during the initial period of the clinical practicum : A cross-section study. Int J Nurs Sci [Internet]. 2022;9(2):222–9. Available from: https://doi.org/10.1016/j.ijnss.2022.02.004
23. Dias JM, Subu MA, Al-yateem N, Ahmed FR, Rahman SA, Abraham MS, et al. Nursing students ' stressors and coping strategies during their first clinical training : a qualitative study in the United Arab Emirates. BMC Nurs. 2024;23(322):1–11.

24. Onieva-zafra MD, Fernández-muñoz JJ, Fernández-martínez E, García-sánchez FJ, Abreu-sánchez A, Parra-fernández ML. Anxiety , perceived stress and coping strategies in nursing students : a cross- sectional , correlational , descriptive study. BMC Nurs. 2020;20:1–9.
25. Aslan H. Nursing students ' views on the COVID - 19 pandemic and their percieved stress levels. Perspect Psychiatr care. 2021;(June 2020):695–701.
26. Savitsky B, Findling Y, Ereli A, Hendel T. Anxiety and coping strategies among nursing students during the covid-19 pandemic. Nurse Educ Pract. 2020;46(January).