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EXPLORING THE RELATIONSHIP BETWEEN INSTITUTIONAL GROWTH AND CLINICAL TRAINING QUALITY AMONG NURSING STUDENTS

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ABSTRACT

Background: *The fast proliferation of nursing colleges, particularly in developing countries such as Pakistan, has generated concerns about the quality of clinical education. Limited clinical placement chances, overcrowded hospital settings, and inadequate supervision may have a negative impact on students' competency development. To investigate the link between institutional growth and clinical training quality among nursing students.*

Methodology: *A quantitative cross-sectional descriptive study was undertaken with 140 participants, including clinical teachers and nursing principals from Pakistan's public and private nursing institutions. Data were collected using a structured questionnaire based on the Clinical Learning Environment, Supervision, and Nurse Teacher (CLES+T) scale. Data was analyzed using descriptive statistics (mean, standard deviation, frequency, and percentage) and inferential statistics (Pearson correlation, independent t-test, and ANOVA) in the Statistical Package for the Social Sciences (SPSS).*

Results: *The findings demonstrated significant levels of institutional growth, as evidenced by increased student enrollment, limited affiliated hospitals, and overcrowded clinical settings. Overall clinical training quality was moderate to low (mean = 2.92 ± 0.87), with lower scores in hands-on practice chances. There was a substantial negative connection between institutional growth and clinical training quality ($r = -0.62$, $p < 0.05$). Public institutions provided higher-quality clinical training than private institutions ($p < 0.05$).*

Conclusion: *According to the findings, rapid institutional expansion without proportionate development in clinical training capacity has a negative impact on nursing education quality. Strengthening clinical infrastructure, strengthening supervision, and ensuring a balanced student intake are all critical to improving clinical learning outcomes and preparing competent nurses.*

Keyword: *Nursing students, clinical instructors, training quality, Nursing education*

Introduction:

Nursing education is vital in strengthening healthcare systems by preparing skilled professionals for safe patient care. Clinical training is the most crucial component, allowing students to apply theoretical knowledge in real settings [1]. Insufficient clinical exposure impairs the development of critical thinking and essential skills. Clinical environments are where students gain hands-on experience, build confidence, and refine communication skills, shaping their professional identity. Consequently, the quality of clinical training significantly impacts the

competence and readiness of nursing graduates [2]. The global rise in nursing institutions, particularly in developing countries like Pakistan, is driven by increasing healthcare demand and nursing workforce shortages. Both government and private sectors are establishing new schools to boost nursing graduates. However, this rapid growth raises concerns about education quality, especially in clinical training [3]. A significant challenge lies in the discrepancy between student enrollments and available clinical training opportunities in hospitals.

Clinical placements are essential for nursing education, enabling supervised practice and real-life experience. However, as more institutions send students to hospitals, overcrowding occurs, limiting learning opportunities [4]. This environment reduces student participation in patient care, confining them to observation rather than hands-on procedures, which hampers skill acquisition and the development of competencies [5]. The quality of clinical training is impacted by factors like patient availability, access to equipment, and qualified instructors. A well-structured clinical environment is vital for effective learning. New nursing institutions often lack affiliated teaching hospitals, relying on external facilities, which prioritize larger institutions' students, limiting access for others [6].

The shortage of qualified clinical instructors complicates nursing education, as effective supervision is vital for guiding students and ensuring safe practice. In overcrowded settings, instructors struggle to provide individualized attention [7]. Staff nurses, expected to support student learning, face heavy workloads that limit their ability to mentor. This leads to a gap between theoretical knowledge and clinical practice, causing confusion and reducing student confidence. Additionally, limited clinical rotation periods restrict practice time, hindering skill mastery [8]. Repetition is crucial for skill development, but short placements do not offer adequate opportunities for students to gain independent procedural experience.

Psychological factors significantly impact clinical learning, as students often face anxiety, fear of mistakes, and low confidence in hospital settings, hindering participation and learning [9]. The healthcare staff's attitude also influences experiences, with supportive staff enhancing learning and negative attitudes discouraging engagement. Additionally, limited resources, such as medical supplies and materials, restrict effective practice, prioritizing patient care over student training and reducing skill development opportunities [10].

Institutional growth without adequate planning and resource allocation can jeopardize the quality of clinical education. While more nursing institutions might address workforce shortages, they do not ensure the production of competent nurses. Effective clinical training depends on coordination between educational institutions and healthcare facilities. However, often such coordination is absent, resulting in disorganized clinical placements and ineffective learning experiences, which hinder students from achieving competencies [11]. Additionally, overcrowding can impede accurate assessment of student skills, leading to unreliable evaluation outcomes. The rapid growth of nursing institutions has resulted in varied education quality [12]. Some maintain high standards, while others lack essential resources. This discrepancy can impact healthcare systems negatively, as inadequately trained nurses may not meet professional and patient care standards. Organizations like the WHO stress the need for quality nursing education and training [13].

This study investigates the impact of nursing institution growth on clinical training quality for nursing students, focusing on hands-on experience, supervision, and learning outcomes. It aims to identify gaps and recommend evidence-based solutions to enhance clinical education. Improving training quality is essential for developing competent nursing professionals, ultimately benefiting patient care, healthcare outcomes, and strengthening the nursing workforce for future challenges.

Methodology

This research will utilize a quantitative, cross-sectional descriptive method to investigate the connection between the swift expansion of nursing institutions and the standard of clinical training for nursing students in Pakistan. The research was take place in chosen public and private nursing schools in Pakistan. These

organizations was selected according to their operational condition, number of enrolled students, and presence of clinical partnerships. Incorporating both public and private institutions was enhance diversity and elevate the generalizability of results.

The intended population was included clinical instructors and nursing administrators employed in accredited nursing schools. These individuals are chosen due to their crucial role in overseeing clinical placements, guiding students, and maintaining the standards of nursing education.

The study included a total of 140 participants. This would included clinical teachers and nursing leaders chosen using a non-probability convenience sampling method. This sampling technique is frequently applied in educational studies where participant access is restricted, yet necessary expertise is essential. Inclusion criteria consists of clinical instructors having a minimum of one year of teaching experience and nursing leaders presently employed in accredited institutions. Individuals who are not willing to take part or are not accessible during data gathering was removed from the study.

Data was gathered through a structured, self-completed questionnaire created by modifying items from recognized clinical learning environment instruments. The tool will comprise three parts: demographic details, institutional development indicators, and evaluation of clinical training quality. Data collection was conducted through a structured, self-administered questionnaire formulated by modifying items from recognized clinical learning environment instruments. The instrument included three parts: demographic data, indicators of institutional growth, and evaluation of clinical training quality.

The clinical training quality component was modified from established instruments like the Clinical Learning Environment, Supervision and Nurse Teacher (CLES+T) scale, commonly utilized to assess students' clinical learning settings, supervision standards, and the contributions of nurse teachers. This instrument has shown high reliability and validity across various international research [14]. Further elements was created to evaluate factors influencing institutional growth, such as trends in student enrollment, the count of affiliated hospitals, student-to-instructor ratios, and accessibility of clinical resources. These factors would assist in assessing the degree of institutional growth and its effect on clinical education. More elements will be created to evaluate factors contributing to institutional growth, such as student enrollment patterns, quantity of associated hospitals, student-to-faculty ratio, and accessibility of clinical resources. These factors will aid in assessing the degree of institutional growth and its effect on clinical education. Responses will be evaluated on a 5-point Likert scale that spans from strongly disagree (1) to strongly agree (5). Increased scores will signify better perceived quality of clinical training, whereas decreased scores will represent difficulties and obstacles.

The instrument's validity will be verified through evaluation by specialists in nursing education. The content validity index (CVI) will be determined to verify the relevance and clarity of the items. A preliminary study will be performed on 10% of the sample to evaluate the tool's feasibility and reliability. The instrument's reliability will be evaluated through Cronbach's alpha coefficient. A score of 0.70 or higher will be deemed acceptable, signifying the questionnaire's internal consistency.

Data gathering will commence once ethical approval is secured from appropriate institutional review boards and administrative consent is received from chosen nursing institutions. Participants will be made aware of the study's objective, and written informed consent will be secured before data collection commences. The privacy and anonymity of participants will be rigorously upheld. No personal identification will be documented, and information will be utilized exclusively for research objectives.

Data will be examined with statistical software like the Statistical Package for the Social Sciences (SPSS) version 25 or newer. Descriptive statistics such as frequency, percentage, mean, and standard deviation will be utilized to summarize demographic information and study variables. Inferential statistics will be utilized to analyze the connections between institutional development and the quality of clinical training. Pearson correlation analysis will assess the strength and

direction of relationships among variables.Furthermore, independent t-tests and one-way ANOVA will be utilized to assess variations in clinical training quality among various groups according to institutional traits. A p-value below 0.05 will be regarded as statistically significant. The findings will be displayed in tables and graphs for enhanced clarity and improved understanding. Ethical guidelines will be rigorously adhered to as per the recommendations from the World Health Organization for studies involving human subjects.

Results

The study explored the relationship between institutional growth and clinical training quality for nursing students in Pakistan, analyzing data from 140 participants, including clinical instructors and nursing principals. Descriptive and inferential statistics were utilized. Most participants (71.4%) were clinical instructors, with nursing principals at 28.6%. A significant majority were female (78.6%), reflecting gender trends in nursing. In terms of experience, 42.9% had 6–10 years, followed by 35.7% with 1–5 years, and 21.4% with over 10 years. More than half (57.1%) were from private institutions, while 42.9% were from public institutions, facilitating sector comparison on training quality.

Table 1: Demographic Characteristics of Participants

Category	Frequency (f)	Percentage (%)
Designation		
Clinical Instructor	100	71.4
Nursing Principal	40	28.6
Gender		
Male	30	21.4
Female	110	78.6
Experience		
1–5 years	50	35.7
6–10 years	60	42.9
>10 years	30	21.4
Institution Type		
Public	60	42.9
Private	80	57.1

Institutional Growth Indicators

The analysis of institutional growth indicators revealed strong perceptions of nursing education expansion, with mean scores indicating significant increases in student enrollment (4.12, SD = 0.76). The limited availability of affiliated hospitals (3.98, SD = 0.81) underscores the gap between educational growth and clinical resources. Additionally, the high student-to-instructor ratio (4.25, SD = 0.69) and overcrowded clinical settings (4.30, SD = 0.65) reflect pressure on clinical environments, showing that growth hasn't corresponded to clinical training capacity increases.

Table 2: Institutional Growth Indicators

Variable	Mean	SD
Increase in student enrollment	4.12	0.76
Limited affiliated hospitals	3.98	0.81
High student-to-instructor ratio	4.25	0.69
Overcrowding in clinical settings	4.30	0.65

Clinical Training Quality Scores

The assessment of clinical training quality showed moderate to low scores across key indicators. Clinical learning opportunities had a mean score of 2.85 (SD = 0.90), indicating limited access to meaningful experiences. Hands-on practice scored lower at 2.70 (SD = 0.95), highlighting a lack of practical engagement. Supervision quality was slightly better at 3.10 (SD = 0.88), reflecting moderate satisfaction but indicating a need for individualized guidance. Student confidence development was at 3.05 (SD = 0.82), influenced by limited practice. The overall training quality score of 2.92 (SD = 0.87) suggests below-optimal educational standards, necessitating improvements in various areas.

Table 3: Clinical Training Quality Scores

Variable	Mean	SD
Availability of clinical learning opportunities	2.85	0.90
Supervision quality	3.10	0.88
Hands-on practice opportunities	2.70	0.95
Student confidence development	3.05	0.82
Overall clinical training quality	2.92	0.87

Correlation Between Institutional Growth and Clinical Training Quality

Pearson correlation analysis revealed a significant negative correlation (r = -0.62, p = 0.001) between institutional growth and clinical training quality, indicating that increased growth correlates with decreased training quality. This supports the hypothesis that rapid expansion harms clinical education.

Table 4: Correlation Between Institutional Growth and Clinical Training Quality

Variables	r-value	p-value
Institutional Growth vs Clinical Training Quality	-0.62	0.001

Comparison by Institution Type

An independent t-test showed a significant quality difference between public (mean 3.15 ± 0.80) and private institutions (mean 2.75 ± 0.85), suggesting public institutions have better access to resources or training systems.

Table 5: Comparison by Institution Type (t-test)

Variable	Public (Mean ± SD)	Private (Mean ± SD)	p-value
Clinical Training Quality	3.15 ± 0.80	2.75 ± 0.85	0.003

Difference between experience level and clinical training quality

One-way ANOVA revealed significant differences (p = 0.021) in clinical training quality based on experience, with participants over 10 years reporting higher quality (Mean = 3.20), suggesting that experienced professionals excel in managing teaching challenges or have distinct perceptions.

Table 6: ANOVA by Experience Level

Experience	Mean Score	p-value
1–5 years	2.80	0.021
6–10 years	3.00	
>10 years	3.20	

Discussion

The study found that the majority of participants were clinical instructors (71.4%) and females (78.6%), reflecting the gender dominance of females in the nursing profession. This aligns with global nursing workforce trends, where females constitute the majority of nursing staff. The inclusion of experienced

participants (majority having 6–10 years of experience) strengthens the credibility of the findings, as experienced educators are more capable of evaluating clinical training quality.

The results indicate that increased student enrollment without corresponding improvements in clinical facilities leads to overcrowded settings, negatively impacting the quality of education. Studies reveal that higher student-to-instructor ratios and congestion in clinical environments hinder students' ability to meet their educational objectives [15]. Overall, institutional growth must be matched with adequate infrastructure to ensure effective learning [16].

The current study found low mean scores for hands-on practice (Mean = 2.70), reflecting insufficient practical exposure for students, often relegated to observational roles. Many nursing students reported difficulties in meeting clinical objectives due to limited practical engagement, which is critical for developing essential skills. The quality of supervision received a moderate score (Mean = 3.10), indicating partial satisfaction but highlighting gaps in mentorship, corroborated by a 2024 review noting that inadequate staffing diminishes available supervision time [12].

In busy hospital settings, nurses often prioritize patient care, which limits their interaction with students and negatively affects mentorship, learning, and professional growth. A study reports moderate student confidence (Mean = 3.05), possibly due to limited exposure and varied experiences. The clinical learning environment is critical for shaping confidence and competence, and a 2024 study highlights that overcrowded or poorly organized settings can heighten anxiety, diminishing students' ability to perform clinical tasks effectively [17].

The overall clinical training quality score (Mean = 2.92) suggests suboptimal conditions, supported by studies in Pakistan that highlight the complexity of the clinical learning environment influenced by supervision, resources, and ward atmosphere [18]. A significant negative correlation ($r = -0.62$, $p = 0.001$) was found between institutional growth and clinical training quality, indicating that increased nursing institutions and students correspond with decreased training quality. This supports recent research that shows a rise in student enrollment without adequate planning leads to diminished educational quality and clinical learning outcomes, highlighting concerns regarding the balance between quantity and quality in nursing education systems globally [15].

The study indicated that public institutions offer superior clinical training quality compared to private ones, likely due to better access to government hospitals and structured training systems. Private institutions often lack dedicated teaching hospitals, relying on shared facilities, which hampers student learning [19]. ANOVA results revealed that individuals with over 10 years of experience perceived higher training quality, possibly reflecting the adaptability and resourcefulness of experienced educators or differing expectations from less experienced instructors.

The study emphasizes that overcrowding, inadequate supervision, and limited resources hinder effective clinical learning in nursing education. It points out that rapid institutional growth without sufficient clinical infrastructure negatively impacts training quality, potentially leading to poorly trained graduates who lack essential competencies, thus jeopardizing patient safety [20].

The study has notable limitations affecting the interpretation of results. Firstly, the cross-sectional design restricts establishing causal relationships between institutional growth and clinical training quality, as data collected at one time may not reflect changes. Secondly, the non-probability convenience sampling may hinder generalizability, as participants were chosen based on accessibility, increasing sampling bias risk. Thirdly, self-reported data from clinical instructors and nursing principals could be influenced by bias, impacting result accuracy. Fourthly, the limited sample size of 140, though adequate for analysis, may not represent the diversity of nursing institutions in Pakistan. Fifthly, excluding nursing students, who are key beneficiaries of clinical training, misses valuable insights. Lastly, the study's specific context limits applicability to different countries or healthcare systems.

Conclusion

This study investigates the connection between institutional growth and clinical training quality for nursing students. Findings indicate that rapid expansion of nursing institutions, without sufficient clinical training capacity development, adversely affects education quality. Challenges include increased student enrollment, scarce affiliated hospitals, high student-to-instructor ratios, and overcrowded clinical settings, which hinder hands-on practice and supervision, thereby impacting competency development. Clinical training quality is rated moderate to low, particularly lacking in practical skill development. Public institutions generally offer better training opportunities than private ones due to superior infrastructure. Experienced educators perceive clinical training quality more favorably, emphasizing expertise's role. To address workforce shortages, institutional growth must align with planning, resource allocation, and quality assurance to ensure sufficient training and improve healthcare outcomes in Pakistan.

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