
Enhancing Clinical Training in Nursing Education: Overcoming Barriers and Exploring Innovative Solutions: A Discussion Review

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Abstract

Background: The availability of clinical training sites presents a significant barrier to developing and implementing an effective nursing curriculum. There are several challenges to effective nursing clinical training, affecting both students and healthcare facilities globally.

Method: This study reviews the barriers and challenges related to clinical training in nursing education, examining existing literature on related aspects. Additionally, the paper explores innovative solutions, such as simulation training, inter-professional education, and academic-practice partnerships, to address these issues.

Results: The findings highlight critical obstacles, including insufficient clinical placements, shortage of nurse educators, and inadequate infrastructure. Simulation and inter-professional education models were identified as effective strategies to supplement traditional clinical training and improve student competencies while encouraging collaboration among healthcare professionals.

Conclusion: Addressing training site limitations and adopting simulation-based learning, inter-professional education, and stronger academic-practice partnerships will ensure a more effective, adaptable nursing curriculum that meets the evolving needs of healthcare systems.

Keywords: Clinical training, training sites, challenges, nursing education, recommendations.

Introduction

The availability of clinical training sites presents a significant barrier to developing and implementing an effective nursing curriculum^{7,2}. Clinical training

sites in nursing are defined as a “healthcare facilities or community settings where nursing students apply theoretical knowledge in real-world clinical environments under supervision, developing practical skills, critical thinking, and professional behavior essential for nursing practice”³.

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Clinical placement is an essential component of nursing and midwifery education worldwide. Nursing programs rely on clinical placements to provide students with hands-on experience and practical skills development¹⁵. However, the scarcity of available training sites can restrict the number of clinical placements offered to students. This limitation may result in overcrowded clinical settings, limited opportunities for individualized instruction, and challenges in meeting accreditation standards for clinical education hours³¹. Consequently, hospitals, clinics, and healthcare facilities may face difficulty accommodating the influx of students from various nursing programs, which may affect the quality of training.

Increasing the number of nursing students in universities despite limited clinical areas for practice requires innovative solutions and collaboration between educational institutions, healthcare facilities, and policymakers. American Association of Colleges of Nursing (AACN) highlighted several challenges faced by nursing schools that prevented them from accepting more students. These included a shortage of clinical sites, faculty, and preceptors, as well as budget limitations and other various factors that further complicated the situation¹. Undergraduate Nursing students training in a healthcare setting can face various challenges that impact the quality of education and preparation for future nurses.

In many countries, the shortage of clinical areas for nursing students poses a significant challenge to nursing education. Therefore, the purpose of this paper is to (1) identify the issues of training site availability in curriculum development and implementation and (2) suggest recommendations to enhance the training process.

Issues of Training in Nursing Curriculum

Nursing practice in the 21st century faces many challenges, including increased nursing teaching schools and institutes, inadequate nursing staff, increasing healthcare costs, limited facilities, need for preceptors, and inadequate quality. Clinical practice is vital in nursing education to merge theory and practice, as well as to acquire skills and competencies of critical thinking, decision-making, and problem-solving. Shortage of training sites in hospitals,

insufficient space in the ward, lack of educational activities and places, and inadequate training programs were significant challenges in the clinical education environment²⁸. Therefore, the authorities have to take necessary actions to compensate for the deficiencies. Here are some of the most common training barriers to effective curriculum implementation related to the training process:

Accessibility Due to Location and Economic Challenges

Location and economic barriers present considerable challenges to the delivery of effective nursing education. In rural and remote regions, the lack of proximity to academic institutions offering nursing programs severely restricts access for students residing in these areas. Additionally, limited public transportation options and underdeveloped infrastructure can hinder students' ability to commute to institutions providing nursing education²³. In certain regions, inadequate access to technology, including reliable internet connections, further obstructs students' participation in virtual nursing programs, thereby constraining their educational opportunities.

Shortage of Qualified Nurse Educators

The shortage of qualified nurse educators limits the ability of nursing programs to admit and train enough students, which in turn intensifies the nursing shortage in clinical settings and reduces access to education at clinical sites. The lack of professional development programs to prepare clinical nurses to be nurse educators is considered the most important issue in the training process⁵.

Accommodating Cultural Diversity in Nursing Education

In today's increasingly diverse society, nursing education programs must prioritize cultural sensitivity and inclusivity. Nurses routinely care for patients from a wide range of backgrounds, making it crucial to equip them with the skills to provide culturally competent care. Creating an educational environment that values and respects cultural diversity while promoting inclusivity and understanding of human needs requires deliberate action and ongoing cultural awareness. To achieve

this, nursing schools should integrate cultural competency training into their curricula and ensure that faculty members are knowledgeable about diverse cultural practices³⁹.

Merging Technology and Clinical Practice for Compassionate Care

Technological advancements have the potential to transform nursing education, offering significant benefits to both students and educators. For instance, incorporating technology into clinical practice can enrich students' learning experiences and improve patient care. Virtual reality (VR) simulations, for example, allow students to engage in realistic scenarios that help develop critical thinking and decision-making skills. However, integrating technology in a way that preserves the essence of compassionate, patient-centered care requires a careful balance. This involves creating educational strategies that ensure technology supports, rather than diminishes, the human connection inherent in nursing practice. Moreover, comprehensive training in the use of advanced medical equipment and healthcare technologies necessitates access to state-of-the-art resources and continuous professional development for faculty to stay abreast of technological innovations³⁷.

Constantly Evaluating and Updating the Nursing Curriculum

Ongoing assessment, evaluation, and revision of the nursing curriculum present significant challenges in providing relevant and effective nursing education. As the healthcare system evolves with rapid changes in clinical practices, technologies, and policies, it is essential for nursing curricula to be updated accordingly. However, ensuring that these updates align with emerging trends while maintaining the overall coherence and structure of the curriculum can be difficult. Furthermore, the process of continually evaluating and updating the curriculum demands considerable time, expertise, and financial resources. These are some of the predominant challenges that academic institutions with limited funding and support may struggle to overcome. At the same time, balancing the preservation of core nursing knowledge with the integration of new technologies and evidence-based practices requires careful

deliberation and collaboration among academic institutions and other stakeholders. This process must also account for the need to meet accreditation and regulatory standards⁴.

Lack of Preceptors Nurses

The unavailability of preceptors significantly impacts both nurse educators and nursing students. The ongoing nursing shortage has led to understaffed nursing units, with staff-to-patient ratios that are higher than usual. Preceptors, who serve as mentors for hands-on training and provide consistent guidance to nursing students in clinical settings, are essential to the learning process. When there is a shortage of preceptors, inadequate staffing, or insufficient preparatory courses, it can negatively affect the quality of education for nursing students and the transition of new nursing graduates into practice³⁰.

Developing Clinical Training Sites in Resource-Constrained Settings

In resource-constrained settings, the development of nursing clinical training sites often evolves through collaborative partnerships between educational institutions, local healthcare facilities, and international organizations. Due to limited infrastructure, staffing shortages, and high patient loads, traditional clinical placements may be insufficient or inconsistent. To address these gaps, nursing programs frequently rely on memorandums of understanding (MOUs) with regional hospitals and clinics, and integrate community-based care settings to expose students to diverse health needs. Faculty members often take on dual roles as clinical supervisors and healthcare providers to compensate for limited human resources. Moreover, support from non-governmental organizations (NGOs) and international donors has facilitated the establishment of basic training facilities and mentorship programs to strengthen the quality and consistency of clinical education⁴⁰.

In such contexts, simulation-based education serves as a vital complement to traditional clinical training. Simulation allows students to practice clinical skills and decision-making in a controlled, risk-free environment, making it particularly valuable where patient safety and exposure to varied clinical

conditions may be compromised due to limited access. Low- and medium-fidelity simulations, including mannequins and role-playing, are cost-effective and adaptable to resource-limited settings, enabling institutions to reinforce essential nursing competencies without reliance on fully equipped hospitals³³. Simulation also helps standardize clinical experiences, reduce variability in training, and prepare students for high-stakes scenarios they may rarely encounter in real practice, thus improving readiness and confidence in under-resourced health systems.

Recommendations to Enhance the Training Process

Simulation: The Future of Nursing Education

In recent years, simulation training has gained global prominence, driven by factors such as the shortage of nursing educators and preceptors, along with patient-related challenges in hospital environments. As a result, simulation has emerged as a highly effective educational strategy that can improve patient outcomes and foster a culture of safety among nurses. Studies from various countries have demonstrated that nursing students' participation in simulation exercises leads to notable improvements in clinical skills, including identifying deteriorating patient conditions, accurately triaging emergency patients, managing stroke cases, and collaborating effectively with multidisciplinary teams⁶.

Simulation training is a dynamic approach that combines both the art and science of reimagining clinical practice, making it an essential tool in nursing education. It is particularly valuable because it allows for the assessment of cognitive, psychomotor, and practical learning competencies³⁵. Through simulation, nursing students have the opportunity to practice and refine their skills until they reach a level of proficiency that ensures safe patient care¹³. Looking ahead, the future of nursing education may see an increased use of high-fidelity simulation, which involves the use of computerized mannequins capable of mimicking a wide variety of patient conditions and symptoms, much like real patients. This type of simulation training has proven to be an efficient and effective way for nurses to practice the critical competencies needed to manage complex clinical situations; something that traditional training methods cannot fully replicate⁶.

Develop and Test Innovative Program Models/ Technology Models

Developing and testing innovative program models and technology-based solutions can significantly improve nursing education. Information technology plays a crucial role in enhancing the delivery of course materials, making course management more accessible to both students and faculty, reducing costs, and ultimately improving educational outcomes¹⁹. The integration of technologies in nursing programs has a wide range of applications, including e-learning platforms, simulations, blogs, and access to online scholarly and research journals. Tools like clinical simulations and virtual learning environments enable educational institutions to invest in resources that expand and enrich teaching materials, offering students a more dynamic and comprehensive learning experience.

Inter-Professional Education (IPE)

Koh and Baker emphasized that nursing education in the 21st century must prioritize inter-professional education (IPE) for nursing students²². There is widespread consensus that improving the quality of care requires the collaboration of healthcare professionals, with each recognizing and understanding the roles of others in the care process. IPE is an educational approach that brings together advanced practitioners or students from various healthcare and social care disciplines in a shared space, encouraging the exchange of competencies and knowledge across different specialties²⁶. As such, IPE is seen as a crucial strategy for bridging gaps among healthcare providers, enhancing communication, and improving patient care outcomes. Accreditation bodies and professional organizations have recognized IPE as essential for achieving safe, secure, and high-quality patient services.

Interdisciplinary team education enables nursing students to collaborate with healthcare professionals from various fields, allowing them to benefit from shared educational experiences and diverse perspectives. This approach not only fosters increased inter-professional engagement but also promotes a clearer understanding and stronger cooperation in future work environments¹⁴. The International Nursing Association for Clinical Simulation Learning

(INACSL) and The National League for Nursing (NLN) have demonstrated that simulation is a powerful tool in training students for inter-professional teamwork, refining clinical judgment for complex cases, and enhancing competencies. Simulation-based inter-professional education (Simulation-IPE) involves the use of healthcare simulation techniques within frameworks designed to deepen understanding of other disciplines, creating comprehensive and transformative learning experiences^{34,36}.

Simulation-based inter-professional education (Simulation-IPE) allows nursing students and professionals to collaborate effectively as a team in a controlled environment that closely mirrors real healthcare settings. This approach has shown significant improvements in the acquisition of knowledge, skills, attitudes, and team behaviors, all of which contribute to enhanced learning outcomes and, ultimately, better patient care¹¹. The goal of simulation-enhanced IPE is to elevate the quality and safety of healthcare services, foster respect and understanding among different professions, strengthen relationships and collaboration, improve information sharing, and enhance problem-solving capabilities. Additionally, it promotes cost-effectiveness, prepares healthcare providers for future system needs, and improves communication across the healthcare team¹⁷.

Academic and Practice Partnerships

Building partnerships with community institutions and healthcare providers can foster shared interests and expand learning and training opportunities for nursing students. While faculty may envision an ideal clinical training experience as one where students work one-on-one with instructors and patients scheduled at set times, collaborating with hospitals and care providers across diverse clinical settings could offer valuable insights for curriculum development and enhancement. This approach allows for a more dynamic and comprehensive learning experience, preparing students for a range of real-world healthcare environments.

Establishing community partnerships within a service-learning framework can provide unique opportunities for students to engage in health promotion, conduct physical and mental health

assessments, and intervene with individuals who lack access to healthcare services in a specific community²⁵. This collaborative approach between nursing schools and hospitals or clinical practice settings offers a solution to the complex challenges faced by educators and clinicians, enabling nursing students to effectively meet the objectives of their clinical training while contributing to the well-being of underserved populations.

Academic-practice partnerships provide the necessary leadership, mentorship, and support within a collaborative framework to implement and integrate the latest evidence-based practices while fostering stronger professional interactions among nurses. These partnerships can be an effective strategy to address workforce shortages, as they equip nurses with the skills needed to be employed directly in institutions involved in these collaborations. Given their potential benefits, such partnerships should receive backing from policymakers and professional organizations¹⁶.

Academic partnerships offer a valuable opportunity for collaboration between academic institutions, hospitals, and healthcare organizations. By working together, they can develop innovative and supportive strategies to prepare nurses and nurse educators while also expanding nursing academic programs. Although these programs may be costly, the potential benefits are substantial. If these advantages are clearly recognized, educational institutions, hospitals, and healthcare providers may be more willing to invest in their success.

Nurse Educators and Preceptors Preparation

The roles of nurse educators and preceptors are vital in shaping the future of nursing. While both contribute to the professional development of nurses, their functions, settings, and required preparation differ significantly. Nurse educators primarily work in academic institutions, focusing on theoretical instruction and curriculum development, whereas preceptors provide hands-on clinical training in healthcare settings¹⁰.

The journey to becoming a nurse educator begins with a strong educational foundation. Most academic institutions require nurse educators to hold at least a Master of Science in Nursing (MSN), while some

prefer a Doctor of Nursing Practice (DNP) or a Doctor of Philosophy (PhD) in nursing³². Additionally, certifications such as the Certified Nurse Educator (CNE) credential enhance an educator's credibility and demonstrate a commitment to excellence in teaching³⁸. Beyond formal education, clinical experience remains a fundamental prerequisite, as it ensures that educators possess real-world nursing knowledge to integrate into their teaching⁸.

Preparation for the nurse educator role extends beyond clinical expertise. The ability to develop curricula, design assessments, and implement evidence-based teaching strategies is essential⁹. Many educators participate in faculty development programs to refine their pedagogical skills and stay current with emerging trends in nursing education²¹. Furthermore, engagement in research and professional organizations allows educators to contribute to the advancement of nursing knowledge².

On the other hand, nurse preceptors play a different yet equally significant role. As clinical mentors, they guide nursing students and newly hired nurses through real-world patient care, bridging the gap between classroom learning and clinical practice²⁹. Unlike nurse educators, preceptors do not necessarily require an advanced degree but must demonstrate clinical expertise, strong communication skills, and a commitment to mentorship¹².

Preceptor preparation involves specialized training programs, often offered by healthcare institutions, which focus on teaching strategies, leadership, and competency assessment¹⁸. Understanding adult learning principles is crucial, as preceptors must tailor their guidance to learners with varying levels of experience and knowledge²⁴. In addition, fostering a supportive learning environment is a critical responsibility, as new nurses often face challenges in confidence and clinical decision-making²⁷.

Despite their different pathways, both nurse educators and preceptors share a commitment to fostering nursing excellence. Their preparation ensures that future nurses are equipped with the knowledge, skills, and confidence necessary to provide high-quality patient care. Ongoing professional development remains a cornerstone of

both roles, as the healthcare landscape continues to evolve²⁰.

Summary and Conclusion

All in all, the current study enlightens the key challenges encountered in the training of nursing students. Addressing these issues more effectively can enhance clinical learning and training, ultimately improving the quality of nursing care. Several factors contribute to the problems encountered in nursing student training. One primary reason is the increasing demand for healthcare services, leading to higher enrollment in nursing programs. This surge in student numbers strains resources, such as clinical placement opportunities and faculty availability. Additionally, rapid advancements in medical technology and treatments require nursing curricula to adapt continually, which can create challenges in keeping educational programs up-to-date. Moreover, financial constraints in both educational institutions and healthcare facilities may limit investment in training resources and infrastructure.

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