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CHALLENGES, CONTRIBUTING FACTORS, AND COPING STRATEGIES AMONG UNDERGRADUATE NURSING STUDENTS: A SYSTEMATIC REVIEW

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Abstract

Objective: The study aimed to identify challenges faced by undergraduate nursing students in clinical and academic environments, analyze contributing factors, and evaluate strategies supporting these students in overcoming challenges. Method: This systematic review, conducted in 20th June 2024, followed PRISMA guidelines to explore challenges and strategies faced by undergraduate nursing students during clinical practice. A search in Google Scholar and PubMed yielded 6,230 studies, with 30 meeting inclusion criteria. Data were extracted using a standardized form, and quality assessed with the MMAT. Key themes and strategies were identified for improvement, emphasizing mentorship, supervision, and feedback and resource availability for enhanced learning outcomes. Results: The study results highlight several challenges nursing students encounter during clinical practice, including heavy workloads, inadequate supervision, limited access to resources, and poor communication, all of which adversely affect their skill development and confidence. Contributing factors such as ineffective mentorship, supervision, feedback, and poorly organized placements exacerbate these challenge. Conversely, effective mentorship, supervision, structured feedback, well-organized clinical placements, and access to essential resources were identified as critical for enhancing students' learning experiences. Addressing these challenges and leveraging these positive factors are essential to fostering professional growth, improving clinical competency, and ultimately enhancing healthcare services and patient health outcomes. Conclusion: The study concludes that by addressing challenges like inadequate supervision and limited resources through effective mentorship, structured feedback, and organized placements, nursing students' clinical competency is enhanced, leading to improved healthcare outcomes and quality patient care.

INTRODUCTION

Globally, clinical training constitutes over 50% of nursing curricula, highlighting its critical role as a cornerstone of nursing education. [1] Nursing education combines theoretical instruction with practical clinical exposure; ensuring students acquire both academic knowledge and hands-on skills. Research [2, 3] emphasizes this integration as vital for nurturing competent nurses capable of meeting real-world healthcare demands. This balance enables nursing students to bridge the gap between theoretical concepts and practical application, ultimately fostering the development of clinical competencies necessary for professional practice.[4]

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Nursing education has undergone significant transformation, evolving from informal training programs to structured academic curricula. In the 20th century, countries like the USA, Canada, and Spain formalized nursing education, setting a precedent for global standards.[5, 6] The World Health Organization (WHO, 2020) has further emphasized the adoption of global educational frameworks to improve patient care outcomes. Pakistan has followed this progression by transitioning from traditional diploma-based programs to comprehensive degree programs, such as the Bachelor of Science in Nursing (BScN), to produce proficient nurses equipped for modern healthcare challenges. [6]

Clinical training serves as a critical platform for nursing students to apply theoretical knowledge, refine clinical skills, and build professional confidence. By fostering critical thinking, decision-making, and leadership, clinical education contributes to the overall enhancement of healthcare systems. [7] Despite its significance, nursing students encounter numerous challenges during clinical practice, including limited access to resources, lack of confidence, and inadequate mentorship. [8-10]

This systematic review was conducted to explore the challenges faced by undergraduate nursing students, examine the factors contributing to these challenges, and evaluate effective strategies to address them. By identifying these barriers and proposing actionable solutions, the study aimed to support the development of competent nursing professionals capable of excelling in diverse clinical environments.

OBJECTIVES

1. Identified the challenges faced by undergraduate nursing students in clinical and academic environments.
2. Analyzed the factors contributing to these challenges within nursing education.
3. Evaluated strategies that support nursing students in overcoming these challenges.

CRITICAL APPRAISAL QUESTIONS

The review was guided by critical appraisal questions to ensure the quality and relevance of included studies:

1. Was the research question clearly stated and relevant to the study's objectives?
2. Were the study's aims well-defined and aligned with the research question?
3. Was the research design appropriate for addressing the stated objectives?
4. Did the study employ robust methods to minimize potential biases?
5. Was a specific hypothesis tested, and was it consistent with the study's objectives?
6. Were the statistical analyses and data interpretations conducted appropriately?
7. Do the findings logically support the authors' conclusions?

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8. Were potential conflicts of interest disclosed, and how might they have impacted the study's findings?

SEARCH STRATEGY

A systematic search strategy was developed to identify relevant studies. Databases searched included Google Scholar and PubMed. Predefined keywords such as "obstacle," "issues," "hurdles," "exposure," "encounter," "incident," and "faced" were connected using OR. These terms were further combined with "nursing students," "student nurse," "pre-license," and "trainee" using AND. The NOT operator excluded "midwives" to maintain focus on nursing students. The search yielded 11,900 articles from Google Scholar and 152 articles from PubMed.

INCLUSION AND EXCLUSION CRITERIA

Eligibility criteria were defined to ensure relevance and quality. The review included peer-reviewed studies focusing on undergraduate nursing students, published between January 2020 and June 2024, written in English, and addressing challenges, contributing factors, or strategies for improving clinical competency. Studies were excluded if they focused on postgraduate students, were non-English publications, or consisted of non-peer-reviewed content such as opinion pieces or editorials. After removing duplicates, 6,230 unique studies remained. Screening by titles and abstracts excluded 5,430 studies, leaving 800 full-text articles for eligibility assessment. Following detailed review, 770 articles were excluded for ineligibility, resulting in 30 studies being included in the final analysis.

DATA EXTRACTION AND QUALITY ASSESSMENT

Key study characteristics, such as research frameworks, methodologies, and findings, were extracted using a standardized data extraction form. Quality assessment was performed using the Mixed Methods Appraisal Tool (MMAT). Two independent reviewers conducted the assessments, resolving discrepancies through consensus or consultation with a third reviewer.

DATA ANALYSIS

The included studies were synthesized to identify common themes and trends. Quantitative data were pooled where appropriate, while qualitative findings were narratively analyzed to uncover strategies for addressing challenges and enhancing clinical competency among undergraduate nursing students. The findings are summarized in Table 1.

RESULTS

Following the PRISMA guidelines, a systematic search of databases yielded a total of 12,052 records, with 11,900 from Google Scholar and 152 from PubMed. After the removal of 5,822 duplicate records, 6,230 studies remained for screening. Titles and abstracts were meticulously reviewed, resulting in the exclusion of 5,430 studies that did not align with the inclusion criteria. Subsequently, 800 full-text articles were assessed for eligibility. Of these, 770 studies were excluded for reasons such as irrelevance to the research focus, lack of methodological rigor, or incomplete data. Ultimately, 30 studies were deemed eligible and were subjected to data extraction and in-depth analysis (see Figure 1 for the PRISMA flow diagram).

The included studies encompassed diverse geographical regions, including Pakistan, India, Ethiopia, Iran, the USA, and Canada, offering a broad spectrum of insights into the challenges nursing students encounter during clinical practice. These studies collectively highlighted pervasive issues related to inadequate resources, ineffective communication, insufficient supervision, high stress levels, and unstructured clinical placements, alongside notable contextual variations.

In Pakistan, a recurring theme was the critical shortage of resources essential for effective clinical learning. Bibi et al. (2021) identified the lack of access to essential procedural equipment, diagnostic kits, and teaching aids, which created significant obstacles to the development of nursing students' competencies. [11] Ahmad et al. (2020) from Peshawar underscored poorly organized clinical placements, where irregular scheduling and limited patient interaction opportunities impeded skill acquisition and confidence building. Moreover, the absence of mentorship programs further exacerbated students' challenges, leaving them without the necessary guidance to navigate complex clinical environments. [12]

In the USA, studies highlighted the critical role of mentorship programs in supporting nursing students. Harvey et al. (2020) noted that the absence of structured mentorship led to feelings of isolation and inadequacy among students, significantly affecting their ability to adapt to clinical settings. Conversely, mentorship was shown to alleviate stress, foster confidence, and provide valuable guidance, enabling students to excel in their clinical training. The integration of formal mentorship programs was recommended as an effective strategy to address these challenges and improve clinical competency outcomes. [12, 13]

In India, Rozario et al. (2020) identified communication barriers between clinical staff and nursing students as a major impediment. Students frequently reported being excluded from clinical discussions, which reduced their ability to learn through collaboration and observation. Similarly, Hakim (2019) in Iran highlighted the detrimental effects of ineffective communication, emphasizing the need for a more supportive dialogue between students and clinical staff to enhance confidence and learning outcomes. [13,14,15] These findings indicate a pressing need for training programs aimed at fostering effective communication skills within clinical environments.

In Ethiopia, Amoo and Enyan (2021) drew attention to persistent issues such as inadequate supervision and resource scarcity. Students frequently reported the absence of trained preceptors during their clinical practice, leaving them without appropriate guidance during critical learning moments. Furthermore, limited access to medical equipment and technological tools can be hindered students' ability to practice essential skills, leading to reduced motivation. Stress was a universally reported challenge across the included studies, driven by factors such as heavy workloads, fear of errors, and the constant pressure to perform. Sayed et al. (2021) highlighted that stress negatively affected students' focus, decision-making, and overall performance during clinical practice. Moreover, insufficient and non-constructive feedback from clinical staff exacerbated these stressors, creating an environment where students felt unsupported and undervalued. [16, 17]

The review also identified some context-specific challenges. In Pakistan and Ethiopia, resource shortages and the lack of clinical tools were particularly prominent, while in the USA, stress management and mentorship were key areas of concern. India and Iran emphasized communication barriers, reflecting the need for targeted interventions that address these contextual nuances. This systematic review underscores the urgent need for targeted strategies to mitigate the challenges faced by nursing students during clinical practice. Recommendations include enhancing resource availability, introducing structured mentorship programs, improving the organization of clinical placements, and fostering effective communication between nursing students and clinical staff. Addressing these issues is essential for creating a supportive learning environment that facilitates skill acquisition, reduces stress, and promotes the professional growth of nursing students.

DISCUSSION

This systematic review highlights significant challenges faced by nursing students during clinical practice, emphasizing their adverse effects on learning outcomes and skill development. Heavy workloads, inadequate supervision, and ineffective communication with clinical staff emerged as prominent barriers, contributing to heightened stress and diminished confidence among students. These findings are consistent with previous studies, such as Alamri and Alhamidi, [17] who identified similar challenges during nursing internships in Saudi Arabia, including insufficient guidance and workload issues. Berhe and Gebretensaye [18] also reported that nursing students in Ethiopia struggled with limited support in clinical environments, which impacted their ability to integrate theoretical knowledge into practice. Similarly, Nasiru and Salahudeen [19] observed that undergraduate nursing students in Nigeria encountered difficulties such as inadequate clinical preparation and poor supervision, which hampered their professional development. Panda et al. [20] through a systematic review and meta-synthesis, further highlighted systemic issues like lack of resources and strained relationships with clinical staff as recurring barriers. In Pakistan, Soomro et al. [21] documented academic and clinical challenges faced by nursing students, underscoring the need for enhanced mentorship and structured clinical support. Collectively, these studies reaffirm the importance of fostering supportive and well-organized clinical environments to promote nursing students' competency and confidence.

The review revealed that insufficiently organized placements, resource shortages, and a lack of feedback, supervision, and mentorship programs exacerbate these challenges. For example, Fadana and Vember [22] emphasized the need for adequate resources to create a supportive learning environment, while Alsadaan et al. [23] and Ziba et al. [24] identified feedback and mentorship as pivotal for enhancing students' confidence and decision-making. Similarly, Fadana and Vember [22] and Khan and Begum [25] highlighted the necessity of effective communication to bridge gaps between students and clinical staff, which can otherwise hinder the acquisition of practical skills.

Further, the review highlighted that poorly organized clinical placements and a lack of structured feedback negatively impacted student experiences. Studies by Mbakaya et al. [26] and Rezakhani Moghaddam et al. [27] emphasized the need for

structured and supportive clinical environments, highlighting how resource inadequacies and strained relationships with nursing staff negatively affect student learning. Kaliyangile and Ngoma [28] further noted that factors such as poor communication and a lack of mentorship significantly hinder the clinical learning process. These findings suggest that addressing organizational and interpersonal barriers is crucial to improving the clinical experiences of nursing students.

The review also revealed that stress, poor communication, and a lack of mentorship were consistently reported challenges. Students often faced mental strain due to heavy workloads, fear of errors, and limited opportunities for meaningful interactions with patients. These stressors were compounded by inadequate supervision and the absence of structured mentorship programs. In line with these findings, Mwale et al. [29-34] noted that nurse educators experienced significant difficulties in fostering clinical reasoning skills among students, citing resource limitations and unstructured environments as critical barriers. Hong et al. [35] highlighted that clinical reasoning competence among nursing students was strongly linked to the quality of supervision and structured educational strategies in clinical practice. These findings further underline the necessity of supportive and organized clinical settings to enhance nursing students' competence and decision-making abilities.

In light of these challenges, the review emphasizes the need for a multi-faceted approach involving nursing schools, clinical institutions, and policymakers. Educational strategies such as implementing effective supervision, providing constructive feedback and mentorship, ensuring resource availability, and fostering collaborative communication channels are necessary to bridge the identified gaps. For instance, Önerileri [29] emphasized the need for targeted interventions to address disorganized clinical environments, while Zhang et al. [30] highlighted the importance of supervision and resource allocation in shaping nursing students' future professional intentions. Ahmadi et al. [31] identified mentorship and structured support as essential to overcoming barriers in clinical training, and Alammar et al. [32] underscored the role of positive student perceptions of clinical environments in enhancing learning outcomes. Furthermore, Jafarian-Amiri et al. [33] stressed the critical importance of supporting nursing students through tailored educational strategies during clinical education.

Future research should evaluate the effectiveness of such interventions to optimize clinical learning environments, improve nursing education outcomes globally, and enhance patient health outcomes.

CONCLUSION

This systematic review identified key challenges faced by nursing students during clinical practice, including heavy workloads, inadequate supervision, and limited resources, all of which hinder skills development and confidence. It also emphasized the positive impact of structured placements, mentorship, effective supervision, and feedback from instructors and supervisors. These factors enhance learning outcomes and clinical competency. The findings suggest that educational strategy programs, collaboration between nursing institutions and policymakers, and further research on educational strategies are crucial. These

efforts will contribute to the development of skilled, confident nursing professionals, ultimately improving healthcare services and patient health outcomes. In conclusion, addressing these challenges through evidence-based strategies is essential to fostering professional growth and improving clinical education, which will directly benefit both nursing students and the healthcare system as a whole.

To achieve this, it is strongly recommended to design and conduct experimental studies focused on implementing and evaluating educational strategies such as simulation training, structured workshops, and innovative teaching approaches. These strategies should be rigorously tested to assess their effectiveness in mitigating the challenges identified in this review. Current literature offers limited evidence supporting the use of these interventions in nursing education, underscoring the need for further exploration in this domain. Effective application of these strategies has the potential to significantly enhance clinical competency and enrich nursing students' learning experiences. Moreover, these improvements in nursing education are expected to result in broader benefits, including heightened healthcare quality and improved patient health outcomes. By addressing the existing gaps through targeted and innovative educational interventions, nursing education can play a transformative role in developing competent and confident professionals poised to meet the evolving demands of the healthcare sector.

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