

Implementing Preceptorship in Baccalaureate Nursing Program in Middle-Low-Income Countries: A Scoping Review

Mary A. Asirifi¹, Bernard A. Mensah², Emmanuel A. Marfo³, Fernanda d. S. N. d. Goes¹, Sehzipreet K. Padda¹, Oluwaseun O. Satimehin¹, Trinity Knibbs¹ & Charles A. Adjei⁴

¹ Faculty of Nursing, MacEwan University, Edmonton, Canada

² Yale School of Nursing, Yale University, New Haven, USA

³ Faculty of Nursing, University of Alberta, Edmonton, Canada

⁴ School of Nursing, University of Ghana, Accra, Ghana

Correspondence: Mary Asirifi, Faculty of Nursing, MacEwan University, Edmonton, Alberta, T5J 4S2, Canada.
Tel: 1-780-263-2181. E-mail: asirifim@macewan.ca

Received: July 3, 2024 Accepted: August 6, 2024 Online Published: August 15, 2024

doi:10.5539/gjhs.v16n8p14

URL: <https://doi.org/10.5539/gjhs.v16n8p14>

Abstract

Background: Preceptorship is critical for developing the next generation of nurses to provide high-quality patient care. However, challenges in implementing preceptorship programs in low-middle-income countries (LMICs) exist, affecting the quality of nursing care provided to patients.

Objectives: To (1) explore the extent of literature on key strategies for effective implementation of undergraduate preceptorship nursing education in LMICs and (2) identify existing evidence and gaps in the literature about the implementation of preceptorship in LMICs.

Method: This scoping review followed Arksey and O'Malley's (2005) methodological framework. We used the following databases: CINAHL, PubMed, MEDLINE, and ERIC to conduct a systematic search of articles in 2023. The search strategies were focused on the following aspects: "preceptorship," "baccalaureate nursing program," "implementation strategies," and "Low-middle-income countries." Criteria for including the studies were a) preceptorship in undergraduate/ baccalaureate nursing programs, b) primary quantitative and qualitative studies, and c) implementation of preceptorships in LMICs.

Result: Twenty-three (n=23) studies met the inclusion criteria. Five themes were identified from the analysis of the data: 1) Setting clear guidelines for preceptorship, 2) Preceptor professional development, 3) Strengthening preceptor roles in the development of future nursing force, 4) Preceptorship experience in clinical placement environment, and 5) Collaborative approach to preceptorship.

Conclusion: This scoping review highlighted the importance of structured guidelines for preceptorship programs in elevating the quality of nursing education in LMICs. There is a paucity of evidence on preceptor professional development related to integrating evidence-based pedagogy in student supervision.

Keywords: baccalaureate nursing education, low-middle-income countries, preceptorship.

1. Introduction

As a clinical teaching and learning model, preceptorship is a crucial component of nursing education as it supports students in acquiring clinical knowledge and skills, critical thinking, confidence in practice, and professional socialization (Regaira-Martínez et al., 2023; Rooke et al., 2022). Preceptors, as role models of good practice, facilitators, socialization agents, and evaluators, play a pivotal role in bridging the gap between theory and practice for nursing students (Bengtsson & Carlson, 2015; Rooke et al., 2022). They do this by supporting students to develop competencies and provide care based on the best evidence (Stewart & Krueger, 1996). However, preceptors often face challenges in their activities, such as time constraints due to their regular clinical duties, lack of support from the nursing institution, inexperience or lack of preparation, and lack of recognition (Benny et al., 2023).

Additionally, the preceptorship experience is significantly influenced by the clinical placement environment. For nursing students to get the best of real-life experience, a positive clinical environment can shape their ideas about

the kind of nurse they aspire to be (Rooke et al., 2022). However, the students often encounter challenges, such as feelings of unwelcomeness, unmet learning needs, and clinical placement discomfort (Rooke et al., 2022; Minton & Birks, 2019; Bakker et al., 2019). Negative clinical experiences and preceptor behaviors are some of the reasons nursing students drop out of a nursing program (Bakker et al., 2019), which can hinder the effectiveness of preceptorship. All stakeholders must, therefore, collaborate effectively to overcome these challenges to promote the best possible clinical learning environment for students to achieve their learning outcomes (Lafrance, 2018; Korzon & Trimmer, 2015). Preceptorship also allows for teamwork among students and healthcare workers to communicate effectively and understand their roles, responsibilities, expectations, and professional behaviors (Hardie et al., 2022).

Given the challenges often faced in nursing preceptorship, exploring strategies to enhance the effective implementation of this clinical teaching model in nursing education becomes crucial. Effective preceptorship models should establish clear learning outcomes, provide robust support systems for preceptors, and create a structured integrated relationship between educational and healthcare institutions (Asirifi et al., 2019; Dias et al., 2017; Sedgwick & Harris, 2012; Smit & Tremethick, 2014; Sackey, 2022; Vosoughi et al., 2022). However, it is worth noting that while the implementation of preceptorship in the baccalaureate clinical nursing education programs has the potential to improve the professional competency of nursing students, the program must be tailored to the country's particular needs for health care and available resources (Asirifi et al., 2017; Lafrance, 2018; L'Ecuyer et al., 2018; Rosli et al., 2022).

Preceptorship also depends on the country's per capita income (Chicca, 2020; Sedgwick & Harris, 2012). The current nursing shortage will continue to grow, with an estimated deficit of 7.6 million nurses and midwives for low-income countries and 5.7 million for high-income countries by 2030 (World Health Organization, 2020). In 2022, it was suggested that around 90% of the global deficit of nurses was in low-middle-income countries (LMICs) (Iman et al., 2022), creating a depletion of health workers from LMICs and exacerbating existing health inequities (Bortolussi-Courval, 2023). Given the resulting lack of time to precept nursing students and guide them on ideal practices, these conditions may render the clinical education process ineffective for students, putting even more pressure on the healthcare system, especially in low-income countries.

This review focuses on an understanding of successful preceptorship models in LMICs by mapping the literature to identify strategies that would inform the effective implementation of preceptorship models in LMICs and contribute to optimal clinical teaching and learning outcomes. For this review, low-income countries as those with per capita incomes less than 10% of the United States (US); middle-income countries as those with per capita incomes between 10% and 50% of the US; and high-income countries as those with per capita incomes over 50% of the US (Bulman et al., 2017). Understanding the successful implementation of preceptorship models in LMICs would pave the way to identify effective strategies for the future implementation of nursing preceptorship in other similar countries. This review aims to (1) explore the extent of literature on key strategies for effective implementation of undergraduate preceptorship nursing education in LMICs and (2) identify existing evidence and gaps in the literature about the implementation of preceptorship in middle-low-income countries.

2. Method

The scoping review adhered to Arksey and O'Malley's (2005) six-stage methodological framework: i) formulate research questions, ii) identify relevant studies, iii) select studies, iv) chart data, v) collate, summarize, and report the results, and vi) consultations (this is a voluntary step, and we did not use it in this scoping review).

2.1 Research Questions

This scoping review answers the following questions:

- 1). What is the scope of literature about implementing preceptorship in baccalaureate nursing programs in LMICs from 2002 to 2023?
- 2). What is the evidence(s) for effective implementation strategies of preceptorship in baccalaureate nursing programs in LMICs?
- 3). What are the gaps in the literature that need to be acknowledged to inform the effective implementation of preceptorship in baccalaureate nursing programs in LMICs?

2.2 Identifying Relevant Studies

The focus of this scoping review is to use a comprehensive search approach to identify an extensive number of studies related to the question. The expertise of a librarian was sought in finding electronic databases for relevant literature pertaining to the implementation strategies of preceptorship in baccalaureate nursing programs in LMICs.

The search was conducted in 2023. The following databases were used for the literature search: Cumulative Index for Nursing and Allied Health Literature (CINAHL), Educational Resources Information Center (ERIC), and Google Scholar. The complete search strategies are included in the Appendix.

2.3 Eligibility Criteria

This scoping review critically examines primary qualitative and quantitative research designs written in the English language and published within 20 years. Criteria for including the studies were a) preceptorship in undergraduate/baccalaureate nursing programs, b) primary quantitative and qualitative studies, and c) implementation of preceptorships in LMICs.

2.4 Study Selection

Following the search, all identified citations were collated and uploaded into *Covidence*, and duplicates were removed. Following a pilot test, titles and abstracts were screened by two independent reviewers for assessment against the inclusion criteria. Relevant sources were retrieved in full by two independent reviewers (MAA, BM), and their citation details were saved in *Covidence*. The full texts of selected citations were assessed in detail against the inclusion criteria by four independent reviewers. Reasons for excluding sources of evidence in the full text that did not meet the inclusion criteria were recorded. Any disagreements between the reviewers at each stage of the selection process were resolved through discussion with three reviewers (MAA, BM, EAM). The search results and the study inclusion process are reported in full in Fig. 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram (Page et al., 2021).

2.5 Charting Data

Using data extraction form provides a well-structured method to gather relevant data to answer the research questions (Armstrong et al., 2011). Therefore, we developed a standardized data charting form to collect data from the selected articles for the review focused on the following areas: authors, year; study setting/country and continent; LMICs category; type of baccalaureate nursing program, e.g., undergraduate nursing program; purpose/objective/aim; study design; type/focused areas of preceptorship; and findings of the study/key information from the article. The third author (EAM) created the data extraction form, and the first author (MAA) reviewed the table for accuracy. Data was extracted from articles included in the scoping review by four independent reviewers, including the first author (MAA), second author (BM), fifth author (SKSP), sixth author (OOS), and seventh author (KT), using the data extraction form. To ensure consistency of the data extraction across reviewers, the first (MAA) and second author (BM) piloted the data charting form by extracting data from four papers each to ensure that all the data were captured appropriately.

2.6 Collation and Summarization of Results

The first author used thematic analysis (Braun & Clarke, 2006) to guide the analysis of the extracted data. Data obtained was analyzed line by line to identify patterns and for repeated phrases. Codes were developed to describe identified concepts. Codes with similar meanings were collated and labelled to form categories and themes. The themes were discussed with the fourth author (SKSP) to verify if the themes identified reflect the meanings inherent to the data.

3. Result

3.1 Screening Results

The initial search strategy retrieved 13124 articles; the excluded duplicates of 472 articles were removed automatically by the *Covidence* software. A total of 12619 articles were excluded by title and abstract level of screening, nine articles were excluded at the full-text screening level, and 23 articles were used for this review. All the studies included in this review were published between 2002–2022.

3.2 Characteristics of Included Studies and Findings

The included studies originated from Botswana, Brazil, Ghana, Honduras, Iran, Indonesia, Kenya, Pakistan, Namibia, and South Africa (see Tables 1 & 2). Table 3 presents the summary of the findings. Five themes were identified from the analysis of the data: 1) Setting clear guidelines for preceptorship, 2) Preceptor professional development, 3) Strengthening preceptor roles in the development of future nursing force, 4) Preceptorship experience in clinical placement environment, and 5) Collaborative approach to preceptorship.

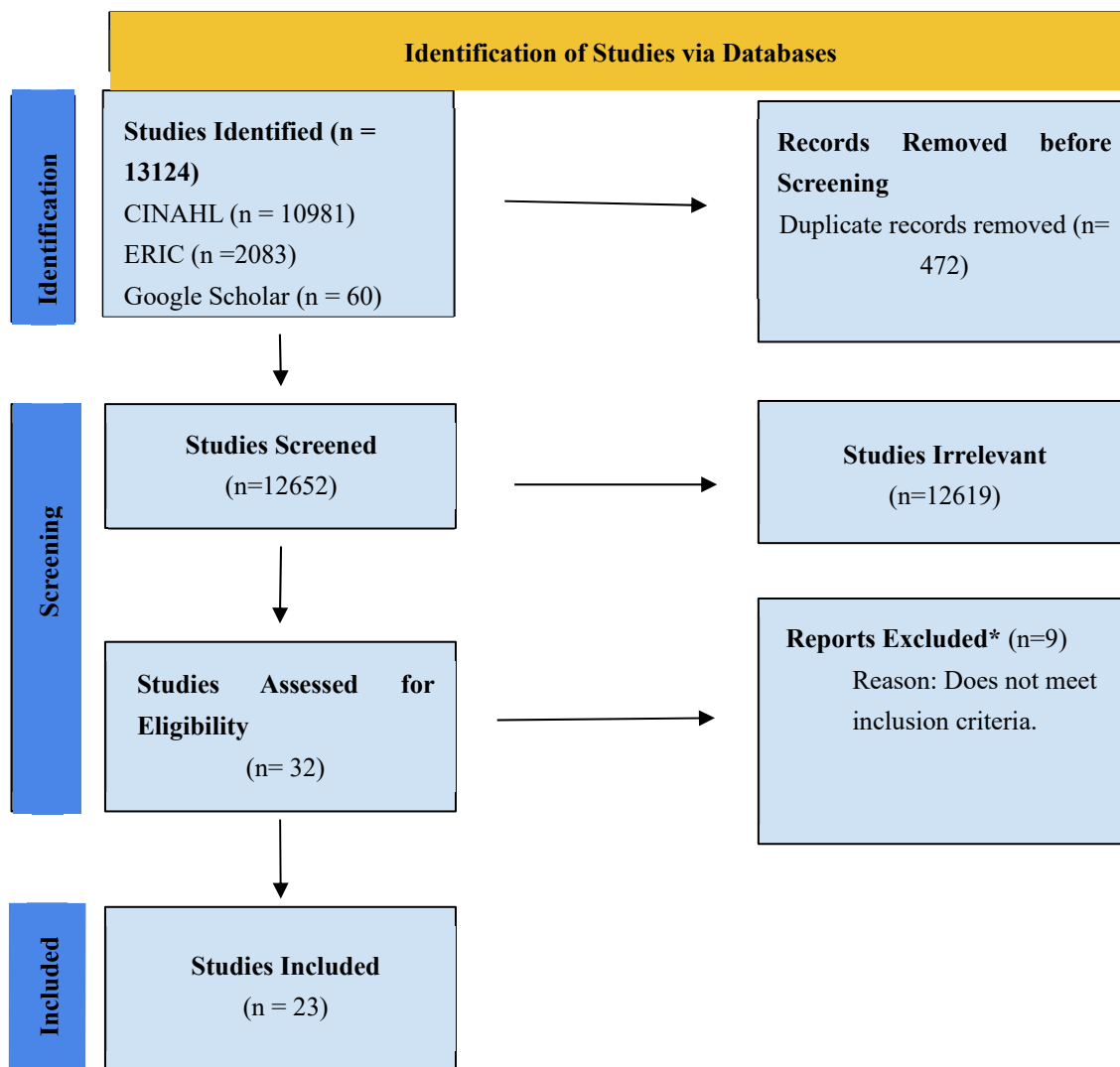


Figure 1. Prisma diagram - Implementation Strategies of Preceptorship in Baccalaureate Nursing Program Middle to Low-income Countries: A Scoping Review

Table 1. Number of Articles from Lower to Middle-Income Countries

| Study Origin | Number of Articles | Author(s)/Sources |
|-------------------------------|--------------------|---|
| Lower-income country | 1 | Dias et al. 2017 |
| Lower-middle-income countries | 15 | Habibzadeh et al. (2022); Monareng et al. (2009); Nachinab & Armstrong (2022); Smit & Tremethick (2014); Hugo & Botma (2020); Asirifi et al. (2017); Nyaga & Kyololo (2017); Masruroh & Kurnia, (2018); Solombela & Ehlers (2002); Cloete & Jeggels (2014); Dube, & Rakhudu (2021); Mamaghani et al. (2018); Asirifi et al. (2019); Enyan et al. (2021); Enyan et al. (2022). |
| Middle-income countries | 1 | Ferreira et al. (2018) |
| Upper-middle-income countries | 6 | Ashipala & Kampala (2022) ; Jeggels & Traut (2014), Lethale et al. (2019) ; Hugo Van Dyke et al. (2022) ; Hugo et al. (2018) ; Jeggels et al. (2013). |

Table 2. Number of Articles from Lower to Middle-Income Countries and Continents

| Study Origin | Number of Articles | Author(s)/Sources/Country |
|---------------|--------------------|---|
| Africa | 17 | Ashipala & Kampale (2022, [<i>Namibia</i>]); Asirifi et al. (2019, [<i>Ghana</i>]); Asirifi et al. (2017, [<i>Ghana</i>]); Cloete & Jeggels (2014, [<i>South Africa</i>]); Dube & Rakhudu (2021, [<i>South Africa</i>]); Enyan et al. (2021, [<i>Ghana</i>]); Enyan et al. (2022, [<i>Ghana</i>]); Hugo & Botma (2020, [<i>South Africa</i>]); Hugo et al. (2018, [<i>South Africa</i>]); Jeggels & Traut (2014 [<i>South Africa</i>]); Jeggels et al. (2013, [<i>South Africa</i>]); Lethale et al. (2019, [<i>South Africa</i>]); Monareng et al. (2009, [<i>Botswana</i>]); Nachinab & Armstrong (2022, [<i>Ghana</i>]); Nyaga & Kyololo (2017, [<i>Kenya</i>]); Hugo-Van Dyke et al. (2022, [<i>South Africa</i>]); Solombela & Ehlers (2002, [<i>South Africa</i>]). |
| Asia | 4 | Dias et al. (2017, [<i>Pakistan</i>]); Habibzadeh et al (2022, [<i>Iran</i>]) ; Mamaghani et al. (2018, [<i>Iran</i>]); Masuroh & Kurnia, (2018, [<i>Indonesia</i>]). |
| South America | 2 | Ferreira et al. (2018, [<i>Brazil</i>]); Smit & Tremethick (2014, [<i>Honduras</i>]). |

Table 3. Summary of Review Findings

| Main themes | Key findings | Location and authors |
|---|--|--|
| 3.2.1 Setting Clear Guidelines for Preceptorship | Need for restructuring preceptorship to meet the intended objective of clinical nursing education in Botswana. | Dube & Rakhudu's (2021)- <i>Botswana</i> |
| | Proposed strategies for effective preceptorship in Ghana include a) educational preparation for preceptors, b) setting clear objectives and expectations for students, preceptors, and non-preceptors to achieve the goal of the student's education, c) preceptors and students run the same shifts, and d) instituting criteria for selection of effective preceptors. | Asirifi et al. (2017) – <i>Ghana</i> |
| | Need to schedule regular assessments of the quality of clinical nursing education to guide the improvement strategies of preceptorship. | Nachinab and Armstrong (2022) – <i>Ghana</i> |
| | Discussing the clinical course expectations at the beginning of the clinical practice influences preceptorship positively. | Lethale et al. (2019) - <i>South Africa</i> . |
| | Designing a preceptorship program in a developing country should consider benefits that preceptors view as positive, such as the opportunity and value of sharing knowledge with students to meet their clinical education expectations. | Smit & Tremethick (2014) - <i>Honduras, South America</i> . |
| | Strategies to establish the new roles of clinical preceptors (CPs) include a) CPs to supervise students' clinical work to ensure quality practice and keep the regulatory compliance of faculty-student ratio of 1:10; b) holding brainstorming sessions with the stakeholders to support the new role of CPs; c) CPs to receive clinical orientation and possess strong clinical experience in the clinical agency they provide clinical supervision, and d) Organize meetings with faculty to understand the clinical objectives and evaluation tools and all the components of the course grid. | Dias et al. (2017) – <i>Pakistan</i> . |
| | Strategies for effective preceptorship include a) stakeholders establishing plans to reduce the large numbers of students practicing in the clinical agencies at the same time, b) preceptorship educational preparation for faculty and preceptors, c) students and preceptors running the same shift, d) preceptor | Asirifi et al. (2019) – <i>Ghana</i> . |

| | | |
|--|--|--|
| | selection should focus on the interest to teach, and create preceptor certification for post-RN students as part of their undergraduate degree program, e) Fostering respective interpersonal relationships between preceptors, faculty, and nursing staff; f) using clinical objectives and evaluation criteria that encourage students to supplement faculty objectives with personal objectives related to learning needs, and g) providing preceptor appreciation. | |
| | Identified moderate level of professional development (PD) for the preceptors on ethical, cultural, and individual dimensions. Low-moderate PD level was noted for the organizational, research, and educational dimensions. | Habibzadeh et al. (2022) - <i>Iran</i> . |
| | Preceptor training programs should focus on education theories, clinical teaching strategies, and identifying learning opportunities for novice nurses. | Jeggels and Traut (2014) - <i>South Africa</i> |
| | Selecting and maintaining a venue for the course was the most significant challenge in implementing the preceptorship training. | Jeggels and Traut (2013) - <i>South Africa</i> |
| | Nursing education institutions (NEIs) should work in collaboration with clinical facilities in the provision of PD programs. | Nachinab and Armstrong (2022) – <i>Ghana</i> |
| 3.2.2 Preceptor Professional Development | Need for continuous training programs for preceptors. | Dube and Rakhudu's (2021) – <i>Botswana</i> . |
| | PD programs for preceptors should aim at strategies for enhancing resilience among preceptors during adversities such as the COVID-19 pandemic. | Hugo-Van Dyk et al. (2022) - <i>South Africa</i> |
| | Integration of technology in clinical education in the preceptor development programs. | |
| | Continuing education policy for preceptors contributes to increasing their theoretical and practical knowledge in the clinical field. | Ferreira et al. (2018) – <i>Brazil</i> |
| | Preceptors who receive training are more knowledgeable about their roles, responsibilities, and self-efficacy. | Nyaga & Kyololo (2017) – <i>Kenya</i> |
| | Short introductory courses on teaching and learning, mentorship, and ongoing support for preceptors help support students learning. | Dias et al. (2017) - <i>Pakistan</i> |
| | Challenges in strengthening preceptor roles include a) inability to plan preceptees' learning opportunities, b) lack of time to identify preceptees' learning needs, lack of motivation of preceptees to participate in clinical learning, and c) preceptors inadequately prepared educationally for their roles. | Monareng, et al. (2009) – <i>Botswana</i> . |
| 3.2.3 Strengthening Preceptors Roles in Development of Future Nursing Force | Challenging communication among preceptors and students. | Smit and Tremethick (2014) – <i>Honduran</i> |
| | Time constraints in meeting preceptee's learning outcomes and lack of support for preceptees from unit staff negatively influenced preceptorship. | Lethale et al.(2019) - <i>South Africa</i> |
| | Equip preceptors with adult learning communication skills to perform their supervisory roles. | |
| | Preceptor/student roles should be clearly specified at the beginning of the clinical placement. | Nyaga & Kyololo (2017) – <i>Keyna</i> |
| | Challenges of engaging with stakeholders from the educational institutions and the clinical agents to bring the new role of the CP | Dias et al. (2017) - <i>Pakistan</i> |

| | | |
|---|--|--|
| | in preceptorship to fruition. | |
| | The potential barriers to effective preceptorship in Ghana include fiscal and human resource constraints, traditional hierarchical teacher/student relationships, and resistance to change. | Asirifi et al. (2019) – <i>Ghana</i> |
| | Challenges facing preceptors include burnout, lack of interest in the role, and increased workload. | Enyan et al. (2021) - <i>Ghana</i> . |
| | Preceptors in South Africa demonstrated an average COVID-19 Stress Scale (CSS) score that varied from no stress to moderate stress. | Hugo-Van Dyk et al. (2022) - <i>South Africa</i> |
| | Due to the COVID-19 pandemic, the preceptors amended their functioning, cognitive, and system roles in supporting students' learning. | |
| | The clinical experience of CPs was an asset to enhance students' confidence in clinical performance. | |
| | CPs use an adult education approach and various clinical teaching methods for clinical supervision. | Masruroh and Kurnia (2018) <i>Indonesia</i> |
| | Preceptors were confident in teaching, tolerated diversity, and facilitated student competency achievement. | |
| | Preceptors invested time in teaching, bonded with students, and invested in continuing education. | Ferreira et al. (2018) – <i>Brazil</i> |
| | Senior students perceived preceptors' performances as good, and preceptors delivered learning objectives before their initial clinical meetings. | Enyan et al. (2021) – <i>Ghana</i> |
| | Preceptors were excited by their role, which they described as an honorable opportunity. | Dias et al. (2017) – <i>Pakistan</i> |
| | Preceptors gained personal satisfaction from their roles, felt comfortable with the workload, and committed to performing their roles. | Cloete, & Jeggels (2014) - <i>South Africa</i> |
| | Preceptors should have a desire to teach, sufficient time to fulfill their roles/responsibilities, and adequate equipment to demonstrate clinical skills. | Ashipala and Kampale (2022) – <i>Namibia</i> . |
| | Recognize preceptors' roles and provide incentives for their work. | Dube & Rakhudu's (2021) - <i>Botswana</i> |
| | Establishing service-learning programs in congruence with the expectations of preceptors contributes to successfully meeting preceptors' and students' clinical teaching and learning needs. | Smit and Tremethick (2014) |
| | Preceptors contribute to developing a competent nursing workforce by promoting interprofessional collaboration, liaising with stakeholders, and facilitating the development of students' critical thinking. | Hugo and Botma (2020) – <i>South Africa</i> |
| | Preceptors' roles contribute to the determination of nurses' responsibility and commitment to the education of future professional generations. | Ferreira et al. (2018) |
| 3.2.4 Preceptorship Experience in Clinical Placement Environment | Hospital units were good learning environments. However, insufficient knowledge and skills of preceptors to meet preceptees' learning outcomes and hospital unit nurses not supporting student learning influenced preceptorship negatively. | Lethale et al. (2019) - <i>South Africa</i> . |
| | Problems encountered by students in preceptorship experience include a lack of learning opportunities, bullying from preceptors, | Mamaghani et al. (2018) - <i>Iran</i> |

| | | |
|--|---|---|
| | and discrimination towards students. | |
| | Preceptors observed students' low interest in learning and running parallel schedules with the students during clinical practice. | Enyan et al. (2021) – <i>Ghana</i> |
| | Poor internet, unstable power supply, heavy workload of preceptors, unfamiliarity with technology, time constraints, and ineffective collaboration between faculty and preceptors were identified during the preceptorship experience. | Enyan et al. (2022) – <i>Ghana</i> |
| | Planning of clinical learning activities were focused on the needs of the clinical area, preceptors' problems, and professional roles rather than on student clinical learning. | Monareng et al. (2009) – <i>Botswana</i> |
| | Clinical placement communications should be assessed and optimized for students starting each academic year. | Nachinab and Armstrong (2022) - <i>Ghana</i> |
| | Preceptors' academic qualifications significantly influenced their perception of the clinical placement area. | |
| | Need for a well-established relationship between preceptors and professors to enhance nursing students' education. | Habibzadeh et al. (2022) – <i>Iran</i> |
| | Nursing faculty should collaborate with colleagues in other countries to build relationships and facilitate international curricular partnerships and academic exchanges in preceptorship. | Smit and Tremethick (2014) |
| | Collaborative approaches, such as preceptors discussing expected learning outcomes with preceptees and unit nurses and encouraging support from unit managers, staff members, and other interdisciplinary team members, foster inter-professional relationships in preceptorship. | Lethale et al. (2019) – |
| | Preceptors should build good interpersonal relationships with stakeholders and contribute to interprofessional collaboration in a positive clinical learning environment that promotes a biopsychosocial approach to healthcare. | Hugo and Botma (2020) |
| 3.2.5 Collaborative Approach to Preceptorship | Socialization is an integral component of the preceptors' role as preceptors' non-threatening attitude reduces students' anxiety and fears of harming patients by their skills performance. | Dias et al. (2017). |
| | Student nurses did not develop interpersonal relationships with patients/families and colleagues from the first year until their fourth year of training. | Solombela & Ehlers (2002) - <i>South Africa</i> |
| | Collaboration among nursing education stakeholders promotes the delivery of high-quality preceptorship experiences. | Asirifi et al. (2019) – <i>Ghana</i> |
| | Collaborative approaches that foster effective preceptorship include regular meetings with nursing education institutions and healthcare agencies. | Enyan et al., 2021 - <i>Ghana</i> |
| | Strengthening the relationship between the university's nursing program and the provincial government fosters effective preceptorship. | Jeggels et al., 2013. |

3.2.1 Setting Clear Guidelines for Preceptorship

Seven studies (Asirifi et al., 2017; 2019; Dias et al., 2017; Dube & Rakhudu, 2021; Nachinab & Armstrong, 2022; Lethale et al., 2019; Smit & Tremethick, 2014) addressed the importance of setting clear guidelines for quality preceptorship in the baccalaureate nursing program. Dube & Rakhudu's (2021) study to develop a preceptorship model to facilitate effective nursing clinical education in Botswana reported the need to set clear preceptorship guidelines and restructure the preceptorship model to meet the intended objective of clinical nursing education in the country. Similarly, in Ghana, Asirifi et al. (2017) reported that stakeholders of nursing education in Ghana

supported reconceptualizing preceptorship to fit the Ghanaian context of nursing education for effective clinical teaching and learning. The recommended strategies proposed by the stakeholders to guide effective preceptorship in Ghana include a) training nurses to become preceptors and instituting criteria for preceptor selection, b) setting clear objectives for clinical learning, c) establishing clear goals and support for the preceptors, d) orientation for students, faculty, preceptors, and non-preceptor nurses to set expectations and roles preceptorship, and e) preceptors and their assigned students run the same shifts. Another study conducted in Ghana by Nachinab and Armstrong (2022) on assessing preceptors' perceptions of the quality of clinical nursing education revealed the need to schedule regular assessments of the quality of clinical nursing education to guide the improvement strategies of preceptorship. It was also revealed in Lethale et al.'s (2019) study, which explored the perceptions of preceptors, preceptees, and unit managers about preceptorship in South Africa, that discussing the clinical course expectations at the beginning of the clinical practice influences preceptorship positively. Further, understanding the rewards and barriers for nurse preceptors has also been noted as a vital element in developing and maintaining a preceptorship program (Smit & Tremethick, 2014). The authors reported that when designing a preceptorship program in a limited-resource country such as Honduras, South America, it is important to emphasize benefits that the preceptors view as positive, which include the opportunity and value of sharing knowledge with students to meet their clinical education expectations (Smith & Tremethick, 2014).

Dias et al. (2017) also identified strategies to establish the new roles of clinical preceptors (CPs) in an undergraduate nursing program in Pakistan aimed at overcoming the nursing faculty shortage and meeting the clinical teaching and practice objectives set by the nursing regulations. The strategies include; a) CPs to supervise students' clinical work to ensure quality practice and keep the regulatory compliance of faculty-student ratio of 1:10; b) hold brainstorming sessions with the School of Nursing management team, and stakeholders such as the Director of Nursing Services, nursing unit managers, and Human Resource Department for hiring competent CPs to execute their new role; c) early conceptualization of the roles of the CPs in clinical settings; d) organize meetings to clarify misconceptions and role ambiguity about what is expected of the CPs; e) hire CPs one month prior to the start of the semester to ensure support from leadership/administration; f) retain the CPs for one month after the semester ended to provide feedback and complete clinical evaluation forms for student; g) CPs to provide clinical preceptorship to year II BScN students; h) CPs to possess four years of strong clinical experience in the same clinical agency that they provide clinical supervision; i) CPs to receive orientation in the clinical agency under the mentorship of a senior faculty to familiarize themselves in their new role; j) organize meetings with faculty to understand the clinical components of the course grid, the clinical objectives, and evaluation tool used for student's clinical practice; k) hold biweekly meetings to discuss issues and concerns brought up by the CPs and faculty; and l) the need for the director and coordinator of the preceptorship program to provide ongoing support and mentorship to the CPs. Further, in collaboration with stakeholders and policymakers of nursing education in Ghana, Asirifi et al. (2019) identified strategies for effective preceptorship in Ghana, which include a) a central planning strategy for stakeholders in terms of planning coordination to reduce the numbers and diversity of students practicing in the clinical agencies at the same time, b) educational preparation of faculty and preceptors for clinical teaching, c) negotiate for students and preceptors to run the same shift, d) preceptor selection should focus on the interest to teach, and create preceptor certification for post-RN students as part of their undergraduate degree program, e) clarify relationships, roles, and responsibilities of preceptors, faculty, nursing staff, and students, as well as foster respectful relationships; f) clinical objectives and evaluation criteria should encourage students to supplement faculty objectives with personal objectives related to learning needs/interests, and g) providing preceptor appreciation in terms of monetary incentives and preceptorship recognized as a competency for renewal of professional registration.

3.2.2 Preceptor Professional Development

Eight studies (Dias et al., 2017; Dube & Rakhudu, 2021; Ferreira et al., 2018; Habibzadeh et al., 2022; Hugo-Van Dyk et al., 2022; Jeggels & Traut, 2014; Nachinab & Armstrong, 2022; Nyaga & Kyololo, 2017) contributed to this theme. Habibzadeh et al. (2022) investigated the career development of nursing preceptors in Iran. They reported that the total mean score for the career development of the preceptors on the six-dimension career development questionnaire, which addressed individual, educational, research, organizational, ethical, and cultural dimensions, indicated a moderate level of career development for the preceptors. Specifically, a moderate level of professional development for the preceptors was indicated on ethical, cultural, and individual dimensions. The organizational, research, and educational dimensions indicated a low-moderate professional development level for the preceptors. In the comparison of professional development based on demographic information (e.g., age, gender, employee status, years of work experience, and discipline), Habibzadeh et al. (2022) reported the highest mean scores of professional development for female preceptors with more than 20 years of work experience,

preceptors with master's degrees, and contract employees. Jeggels and Traut (2014) noted perceptions of positive changes in knowledge, skills, and attitudes of nurse preceptors in South Africa who attended a preceptor training program offered by the University of Western Cape (UWC) in the country. The authors reported that the preceptor training program focused on education theories, clinical teaching strategies, and the importance of identifying learning opportunities for novice nurses. On the other hand, another study also conducted in South Africa by Jeggels et al. (2013) on implementing a two-week preceptorship training course for registered nurses identified that selecting and maintaining a venue for the course to take place was the greatest challenge of implementing the training.

Despite the above-mentioned challenge, Nachinab and Armstrong (2022) assessed preceptors' perceptions of the quality of clinical nursing education in Northern Ghana and suggested that nursing education institutions (NEIs) should work in collaboration with clinical facilities in the provision of professional development programs for experienced nurses who aspire to be preceptors. Similar to the aforementioned observation, 98% of the participants in Dube and Rakhudu's (2021) study focused on the development of a preceptorship model to facilitate clinical education in health training institutions in Botswana and suggested continuous training programs for preceptors. Further, Hugo-Van Dyk et al. (2022) conducted a study in South Africa during the coronavirus disease 2019 (COVID-19) pandemic to identify preceptors' professional development program needs to support student's clinical accompaniment. The study revealed that professional development programs for preceptors should aim at strategies to enhance resilience among preceptors during adversities such as the COVID-19 pandemic and integrate innovative approaches that incorporate technology in clinical education in the preceptor development programs. Additionally, Ferreira et al. (2018) identified that continuing education policy for preceptors in Brazil contributes to increasing the theoretical and practical knowledge critical for the reflexive growth of preceptors and their relationship with undergraduate students in the internship field. Nyaga and Kyololo (2017) also revealed that preceptors in Kenya who received formal training on preceptorship were more knowledgeable about their roles, responsibilities, and self-efficacy. Dias et al. (2017) also reported that introductory short courses on teaching and learning, mentorship, and ongoing support for preceptors in Pakistan were helpful in supporting their students.

3.2.3 Strengthening Preceptors Roles in Development of Future Nursing Force

Thirteen studies (Ashipala & Kampale, 2022; Asirifi et al., 2019; Cloete & Jeggels 2014; Dube & Rakhudu 2021; Dias et al., 2017; Enyan et al., 2021; Ferreira et al., 2018; Hugo-Van Dyk et al., 2022; Lethale et al., 2019; Masruroh and Kurnia. 2018; Monareng et al., 2009; Nyaga & Kyololo, 2017; Smit & Tremethick, 2014) addressed this theme. In Botswana, Monareng, et al., (2009) described the role of preceptors in the planning of learning activities during the clinical accompaniment of student nurses. The authors reported challenges in the preceptor roles, such as a) inability to plan preceptees' learning opportunities effectively, lack of time to identify preceptees' learning needs, lack of motivation of preceptees to participate in preceptorship, problems with scheduling learning opportunities and holding planning sessions, and educationally inadequately prepared for their roles. Smit and Tremethick (2014) also described the anticipated rewards and barriers of preceptors in Honduran supervising students from the United States. The authors observed that communication among preceptors and students was a challenge. Further, Lethale et al. (2019) found that preceptors in South Africa reported time constraints in meeting preceptee's learning outcomes, and lack of support for preceptees from unit staff influenced preceptorship in a negative manner. Similarly, Nyaga and Kyololo (2017) identified that in Kenya, only a few nurses had been trained and prepared for preceptorship roles. The authors reported that the preceptor/student roles should be clearly specified at the beginning of the clinical placement. Further, the authors explained that staff nurses were used as preceptors in many LMICs due to the shortage of faculties in nursing schools in those countries. Dias et al. (2017) reported that the introduction of new roles of the clinical preceptors in Pakistan was challenging due to the need to engage with stakeholders from the educational institutions and the clinical agents to bring the new role of the CP to fruition. Similarly, Asirifi et al. (2019) reported that the potential barriers or threats to making changes for effective preceptorship in Ghana include fiscal and human resource constraints, traditional hierarchical teacher/student relationships, and resistance to change. Additionally, Enyan et al. (2021) reported challenges such as burnout, lack of interest in the role, and increased workload when they described the lived experiences of preceptors in Ghana. On the other hand, Hugo-Van Dyk et al. (2022) found that preceptors in South Africa demonstrated an average COVID-19 Stress Scale (CSS) score that varied from no stress to moderate stress, and the Burnout Assessment Tool (BAT) data revealed that the preceptors rarely experienced burnout. Further, due to the COVID-19 pandemic, the preceptors amended their functioning, cognitive, and system role in supporting students' learning.

Notwithstanding the above challenges of the preceptor's roles, Masruroh and Kurnia (2018) reported that senior students in Indonesia perceived most of the preceptors' performances as good, and the preceptors delivered the learning objectives before their initial clinical meetings. Similarly, Dias et al. (2017) also reported that nursing

students in Pakistan perceived the CPs' prior knowledge and their four years of clinical experience as valuable assets to enhance students' confidence in clinical performance. Furthermore, the students asserted that CPs used various clinical teaching and adult learning approaches to deal with various clinical scenarios, such as conducting supervised practice sessions in the skills lab and then asking students to perform on patients under their supervision. The CPs will always organize post-conferences with the students to discuss new learning opportunities and the ramifications of unique special cases on the unit. Similarly, in Brazil, Ferreira et al. (2018) observed that the preceptors were willing to be with nursing students in terms of investing time in teaching, bonding with students, investing in continuing education, and working in their new roles. Similarly, Enyan et al. (2021) described the lived experiences of preceptors' roles in Ghana, and they revealed that preceptors were excited by the role and described their role as an honorable opportunity. Further, Cloete and Jeggels (2014) explored preceptors' perceptions of benefits, support, and commitment to the preceptor role in South Africa. They reported that the preceptors were committed, satisfied, comfortable, and inspired to perform their best in their roles and workload. However, less than half of them felt that the workload was inappropriate.

Ashipala and Kampale (2022) recommended improving future preceptorship experiences in Namibia when they explored the experience of learning through a preceptor in nursing students' clinical settings. The authors postulated that preceptors should have sufficient time to fulfill their preceptor roles along with their other responsibilities. There should be adequate equipment to demonstrate their clinical skills, and they should be energetic with a desire to teach. Dube & Rakhudu's (2021) study that focused on developing a preceptorship model for facilitating clinical education in health training institutions in Botswana revealed the need for recognition of preceptors and the provision of incentives for their work. Another recommendation includes equipping preceptors with adult learning communication skills to perform their students' supervisory roles (Lethale et al., 2019). Smit and Tremethick (2014) also found that service-learning programs that are designed in congruence with the expectations and values of preceptors have a higher potential to be successful in meeting preceptors' and students' clinical teaching and learning needs.

In exploring the perceptions of preceptors in South Africa about their contribution to the development of the future of the nursing workforce, Hugo and Botma (2020) revealed that preceptors contribute significantly to the development of the nursing workforce as they promote competence, people-centeredness, and interprofessional collaboration and liaising with stakeholders. Further, they facilitate the development of students' critical thinking and the integration of knowledge, skills, and behavior in nursing practice, which contribute to developing a competent nursing workforce (Hugo & Botma, 2020). Similarly, through the quest to identify the perception of senior nursing students toward clinical preceptors' performance in Indonesia, Masruroh & Kurnia (2018) revealed that the preceptors looked confident while guiding students, accepted criticism, tolerated diversity, and facilitated the achievement of student competency. Further, Ferreira et al. (2018) postulated that the preceptors' role in Brazil contributed to the determination of nurses' responsibility in the preceptorship experience and commitment to the education and training/internship of future professional generations.

3.2.4 Preceptorship Experience in Clinical Placement Environment

Six studies (Enyan et al., 2021; 2022; Lethale et al., 2019; Mamaghani et al., 2018; Monareng et al., 2009; Nachinab & Armstrong, 2022) contributed to the development of the theme. Lethale et al.'s (2019) study, which explored the perceptions of preceptees, preceptors, and unit managers about preceptorship in a hospital unit in South Africa, revealed that the hospital units were good learning environments. On the other hand, the authors noted factors that influenced preceptorship negatively, such as preceptors' perceived they had insufficient knowledge and skills to meet preceptees' learning outcomes and the hospital unit nurses who did not support student learning in the clinical environment. Similarly, Mamaghani et al. (2018) reported that nursing students in Iran experienced problems in preceptorship, such as a lack of learning opportunities, bullying from preceptors, discrimination towards the students such as no access to restrooms and dressing rooms for the students, and lack of access to educational resources. Enyan et al. (2021) also noted challenges in preceptors' experiences in Ghana, where the preceptors reported observing students' low interest in learning and running parallel schedules with the students during clinical practice. Additionally, Enyan et al. (2022) conducted a study in Ghana during the COVID-19 pandemic to evaluate the thoughts of preceptors' use of digital technology in preceptorship during the pandemic. The finding indicated poor internet, unstable power supply, heavy workload of preceptors, unfamiliarity with technology, time constraints, and ineffective collaboration between faculty and preceptors during the preceptorship experience.

The findings of this review also revealed explications on the quality of clinical placement in preceptorship. Monareng et al. (2009) observed that the planning of learning activities during clinical accompaniment of nursing

students in Botswana was focused on the needs of the clinical area, nursing students' problems, preceptors' professional roles, and strengthening their existing skills rather than on students' clinical learning. In assessing preceptors' perceptions of the quality of clinical nursing education in Ghana, Nachinab and Armstrong (2022) advocated that clinical placements should be assessed and optimized for students at the start of each academic year. The authors indicated that the preceptors' academic qualifications significantly influenced their perception of the clinical placement area. Nachinab and Armstrong (2022) further suggested the need for better communication from the academic faculty responsible for publishing clinical placement dates and improving the quality of the preceptorship experience.

3.2.5 Collaborative Approach to Preceptorship

Nine studies (Asirifi et al., 2019; Dias et al., 2017; Enyan et al., 2021; Habibzadeh et al., 2022; Hugo & Botma, 2020; Jeggels et al., 2013; Lethale et al., 2019; Smit & Tremethick, 2014; Solombela & Ehlers, 2002) addressed the importance of effective collaboration amongst the stakeholders in preceptorship. Habibzadeh et al. (2022) investigated the career development of nursing preceptors in Iran and advocated for a well-established relationship between preceptors and professors to enhance nursing students' education. Smit and Tremethick (2014) also suggested that nursing faculty should work collaboratively with colleagues in other countries to build relationships and facilitate international curricular partnerships and academic exchanges in preceptorship. Lethale et al. (2019) indicated collaborative approaches in preceptorship, such as preceptors discussing expected learning outcomes with preceptees and unit nurses, encouraging preceptor support, and their good interpersonal relationships with unit managers, staff members, and other interdisciplinary team members. Similarly, Hugo and Botma (2020) added that preceptors should build good interpersonal relationships with stakeholders and contribute to interprofessional collaboration in a positive clinical learning environment that promotes a biopsychosocial approach to healthcare. Dias et al. (2017) postulated that socialization is an integral component of the preceptors' role in clinical teaching and learning, as preceptors' non-threatening attitude in the clinical reduced students' anxiety and fears of harming patients by their skills performance. However, Solombela & Ehlers (2002) observed that nursing students in South Africa did not seem to develop interpersonal relationships with patients, patient's families, and colleagues from the first until the fourth year of training. The authors also reported that collaboration among stakeholders in clinical nursing education promotes the delivery of high-quality preceptorship experiences. Further collaborative approaches identified in the review that foster effective preceptorship include regular meetings with nursing education institutions and healthcare agencies (Enyan et al., 2021) and strengthening the relationship between the university's nursing program and the provincial government (Jeggels et al., 2013).

4. Discussion

In general, this review contributes to evidence in the literature that effective preceptorship is a vital clinical teaching and learning approach that fosters students' competence in clinical nursing practice in diverse locations and contexts. This review aimed to identify existing evidence and gaps in the literature about implementing preceptorship in LMICs. While this review was also conducted to explore the extent of literature on key strategies for effective implementation of undergraduate preceptorship nursing education in LMICs, it was noted that most of the studies were conducted in Africa, possibly due to the many low-middle-income countries on the continent (World Bank, 2022). Five themes were developed from this review's result: 1) Setting clear guidelines for preceptorship, 2) Preceptor professional development, 3) Strengthening preceptor's roles in the development of future nursing force, 4) Preceptorship experience in clinical placement environment, and 5) Collaborative approach to preceptorship. We situate this review in the literature through the lens of the identified themes in the context of the discourse on strategies required for the effective implementation of preceptorship in nursing education.

4.1 Setting Clear Guidelines for Preceptorship

Evidence from the literature has highlighted clinical teaching and learning, including well-structured preceptorship, as the cornerstone of nursing education (Chicca, 2020), which allows for preparing competent nurses to practice effectively in the increasing complexities of the dynamic healthcare system (Lafrance, 2018; Pleshkan & Boykins, 2022; Rosli et al., 2022). This review also identified essential elements for setting clear guidelines for effective preceptorship, such as stakeholders of nursing education support for effective preceptorship, paying attention to rewards and barriers of preceptorship, and the need for well-structured preceptorship to meet the objectives of clinical nursing education (Asirifi et al., 2019; 2017; Dube & Rakhudu, 2021; Nachinab & Armstrong, 2022). The importance of a clear guideline for preceptorship was also noted in L'Ecuyer et al's., (2018) study, which reviewed Boards of Nursing rules and regulations in the U.S. for their published requirements regarding preceptors, student, faculty-student ratios, and their responsibilities in undergraduate preceptorship experiences. The authors reported that although some commonalities, such as eligibility (RN licensure), degree requirements (baccalaureate), and

years of experience (1 to 3), were noted, some of the states had no documented regulations and the existing documents appear to lack depth, specificity, and consistency. Similarly, a recent study by Sackey (2022) also reported inconsistent use of clinical standard procedures in nursing preceptorship in Ghana. The author recommended developing a manual, logistics, and monitoring to supervise nursing preceptorship in Ghana. Studies have shown that setting up clear guidelines and objectives for the stakeholders (faculty, students, preceptors, and clinical settings) involved in clinical teaching and learning promotes effective preceptorship experience (Asirifi et al., 2013; 2017; Ryan et al., 2024; Valizadeh et al., 2016). Stakeholder support, specifically policy makers of nursing education support, was identified as one of the components required for establishing an effective preceptorship (Asirifi et al., 2017; Quek & Shorey, 2018). Inherent in the above explanation is that providing a clear guideline for preceptorship would serve as a map for meeting the expectations and objectives of preceptorship.

Studies have also shown that benefits for preceptors promote effective preceptorship, which include a) preceptors developing teaching and leadership skills, feeling fulfilled to contribute to the nursing profession, and engaging in precepting as points toward building on clinical ladders (Chicca, 2020); and b) receiving rewards, support, recognition, and verbal appraisal for preceptors' efforts (Benny et al., 2023; Gholizadeh et al., 2022). On the other hand, McLeod et al. (2021) reported that although preceptors described a commitment to their clinical teaching, they found they had little break from teaching, experienced unfulfilled expectations, lacked recognition and incentives, and their rosters did not always align with their students. The above-mentioned benefits for preceptors should, therefore, be integral in implementing effective preceptorship programs in nursing.

Chicca (2020) also explained that preceptorships were noted to be less costly than the traditional clinical teaching model since larger student groups can be placed with nurse educators, and this was seen as important since clinical education is the most expensive part of undergraduate nursing curricula. Sedgwick and Harris (2012) added that economically, clinical supervision in preceptorship programs requires fewer faculty members than in traditional faculty-supervised clinical practice. Similarly, the findings of this review revealed that part of the reason for establishing preceptorship in Pakistan was to overcome the faculty shortage (Dias et al., 2017). However, Chicca (2020) cautioned that the hidden costs associated with preceptorships, such as costs in scheduling students, providing 24/7 support, and lengthy commutes in visiting students at their clinical facilities and incentives for preceptorships should be taken into consideration in the effective implementation of preceptorship programs.

4.2 Strengthening Preceptors Roles in the Development of Future Nursing Force

The above explanations call for strengthening preceptors' roles to enable them to contribute to developing the future nursing force. The findings of this review revealed challenges and facilitators of preceptor roles. The challenges identified in this review regarding preceptor roles include problems planning students' learning opportunities, inadequate time to identify students' learning needs, limited educational preparation for their roles, and shortage of faculty leading to using staff nurses as preceptors, especially in many LMICs (Asirifi et al., 2019; Monareng et al., 2009; Nyaga & Kyololo, 2017). The findings are congruent with Mhango et al.'s (2021) recent report that a) preceptorship was time-consuming as it disrupted preceptors' patient care duties and limited interaction with students, b) there is lack of support and follow-up initiatives from faculty on students' supervision, assessment, and evaluation, and c) shortage of staff and lack of teamwork among preceptors as other preceptors who were not trained were unwilling to teach students. On the other hand, this review revealed that some preceptors rarely experienced burnout, and some experienced moderate stress (Hugo-Van Dyk et al., 2022). This infers that the presence or absence of burnout or stress depends on the support that the preceptors receive in performing their roles as Quek and Shorey (2018) reported that preceptors experience mild or moderate stress depending on their workload level and support from nurse managers and healthcare organizations in addressing issues with protected preceptorship time and running same-shift schedules with preceptees. Quek and Shorey's (2018) findings call for strong connections between educational institutions and clinical agents to increase the effectiveness of preceptors' roles.

Notwithstanding the challenges mentioned above on preceptorship, evidence from the literature also reveals the facilitators, benefits, and rewards of the preceptor's role (Chang et al., 2015; Lafrance, 2018; McLeod, 2021). The facilitators of preceptor roles include positive peer support experience, group supervision (Benny et al., 2023; Borch et al., 2013), and motivation from colleagues to stay updated with their practice and knowledge (Quek & Shorey, 2018). Other benefits include preceptors supporting students to understand the rationales behind various nursing actions (Quek & Shorey, 2018), building confidence in teaching students (Smith et al., 2022; Aparicio & Nicholson, 2020), contributing to building students' clinical skills and reasoning (Omar et al., 2013; Rosli et al., 2021), nurturing the independence of students, and committing to their roles (McLeod, 2021). The rewards include personal satisfaction in developing students (Aparicio & Nicholson, 2020; Smith et al., 2022) and students

expressing high satisfaction with preceptor supervision (Aparicio & Nicholson, 2020; Kristofferzon, 2013; Löfmark, 2012; McLeod, 2021; Omar, 2013). This review also revealed that preceptors are becoming more knowledgeable in preceptorship (Enyan et al., 2021; Masruroh & Kurnia, 2018), they enhance students' comfort and confidence in clinical skills performance, organize post-conferences with the students to discuss cases (Dias et al., (2017), invest time for teaching, bonding with students, participating in continuing education (Ferreira et al. (2018), and personal satisfaction which inspired them to perform their roles (Cloete & Jeggels, 2014). Recommendations from this review focused on facilitating preceptor roles include sufficient time to fulfill preceptors' roles (Ashipala & Kampale, 2022), the need for adequate equipment to demonstrate clinical skills, preceptors' desire to teach, and incentive for preceptors (Dube & Rakhudu's, 2021). Similarly, studies show that continuing educational preparation supports preceptors' retention and satisfaction, stakeholders' understanding of the benefits of preceptorship, and strengthening preceptors' roles (Smith et al., 2022; Quek & Shorey, 2018). Kalischuk et al.' (2013) added that enhancing preceptor support has a great positive impact on the experiences of future generations of nurses.

4.3 Preceptor Preparation and Professional Development

Professional development (PD) programs for preceptors enhance the effectiveness of their roles in preceptorship (Bodine, 2021; Windey et al., 2015). The findings of this review identified dimensions of PD helpful for preceptors, such as clinical teaching strategies to identify learning opportunities for preceptees (Jeggels & Traut, 2014), mentorship (Dias et al., 2017), educational theories, and organizations' ethics or cultural dimensions (Habibzadeh et al., 2022). Likewise, Bengtsson and Carlson (2015) recommended focusing on critical components for preceptor preparation, such as teaching and learning strategies, reflective and critical reasoning, communication models, preceptor roles in the culture of organizations, and the concept of preceptorship to equip the preceptors with tools and knowledge for effective precepting of students. Similarly, Carlson & Bengtsson's (2015) study reported that preceptors illustrated growth in their abilities to provide collegial support, enhanced reflection, and improved professional status after completing a preceptorship PD program.

Our review also identified PD on research for preceptors to enhance their roles in teaching (Habibzadeh et al., 2022); we, however, noted a paucity of literature on this area, as only two studies (Josephsen, 2013; Zhou et al., 2024) were found related to the topic. Zhou et al. (2024) reported that traditional Chinese medicine nursing clinical preceptors (TCMN-CPs) showed inadequate research skills in EBP teaching. The authors explained that preceptors with EBP teaching competence promote EBP in their teaching, which is critical for effective preceptorship. Josephsen (2013) also integrated EBP reflective teaching in a preceptorship course case study and assignments. Josephsen indicated that student reports showed that the assignments met the learning outcomes for the course.

The findings of this review also noted resilience among preceptors during difficult times, such as the COVID-19 pandemic, which led to integrating technology in preceptorship education when face-to-face interaction is not feasible (Hugo-Van Dyk et al., 2022). Wu et al. (2022) discovered that a web-based clinical pedagogy program produced outcomes comparable to the face-to-face program related to preceptors' competence in clinical teaching. The authors added that the web-based clinical program was cost-effective and allowed for flexibility in accommodating preceptors' work schedules and PD activities. Similarly, Cotter and Dienemann (2016) noted that a blended training program that integrated online modules and nursing PD practitioner-led sessions allowed preceptors to gain efficiency in their skills and roles with a low turnover rate in the PD session, contributing to positive patient outcomes.

The findings of this review also identified challenges to the PD for preceptors, such as difficulties in selecting and maintaining venues for PD training (Jeggels et al., 2013). Similarly, Asirifi et al. (2013) reported disagreement between nursing educational institutions and healthcare management regarding the responsibility for preparing preceptors for their roles. This infers that establishing mutual partnerships with stakeholders' contributions to preceptor PD programs is critical. The findings of our review also identified recommendations for preceptor PD, such as collaboration with nursing education institutions and clinical facilities to provide PD programs for preceptors (Dube & Rakhudu, 2021; Nachinab & Armstrong, 2022). Similarly, studies show the importance of continuous PD for preceptors (Bengtsson & Carlson, 2015; Carlson & Bengtsson, 2015; Tofade et al., 2015) and partnership between nursing education institutions and healthcare agencies in preceptor educational preparation (Asirifi et al., 2013; 2017; Amirehsani et al., 2019; Schaubhut & Gentry, 2010; Shepard & Allen, 2014; Zawaduk et al., 2014).

4.4 Preceptorship Experience in Clinical Placement Environment

A safe clinical environment that fosters supportive pedagogical activities promotes a quality preceptorship experience (Akpor et al., 2023). However, the findings of this review showed that although clinical settings were

good learning environments, preceptors faced challenges teaching in the settings. The challenges include insufficient knowledge for preceptors to meet students' learning outcomes and working with nurses who do not support student learning (Lethale et al., 2019). Smith and Sweet (2019) also reported that preceptors felt overwhelmed and drained, particularly when challenged with multiple consecutive shifts of student supervision. Similarly, this review identified issues in preceptorship such as poor internet, unstable power supply, heavy workload of preceptors, unfamiliarity with technology, time constraints, and ineffective collaboration between faculty and preceptors during the preceptorship experience (Enyan et al., 2022). A recent study also reported online learning problems related to technological/ internet connectivity and electricity issues (Paul & Stephanas, 2023). Huang & Fang (2023) also reported students feeling stressed in online nursing practicum courses during the COVID-19 Pandemic. However, the students employed various coping strategies to navigate this challenging period. Inherent to this finding is that students and preceptors demonstrate resilience during challenging situations in preceptorship. However, it is important to understand and address the learning gaps during these difficult times.

Evidence shows benefits for online learning such as convenience, reduced cost in transportation, saving time, and opportunity to become tech savvy (Paul & Stephanas, 2023). Lai et al. (2022) also noted that nursing students perceived using nursing information smartphones as easy and useful for their clinical learning. In terms of convenience and saving costs for transportation, Li et al. (2021) reported that international students and teachers from low-income countries were satisfied with the online nursing education offered in China. The authors recommended enhancing collaborations with overseas institutions to create practice opportunities in students' local communities.

This review revealed that students also encounter challenges during their clinical placement experience, which include a lack of learning opportunities and educational resources, bullying from preceptors, and discrimination (Mamaghani et al., 2018). Similarly, the literature revealed that student nurses experience bullying, racism, discrimination, disrespect, physical aggression, and sexual abuse by their seniors, patients, physicians, and administrative staff (Anagor et al., 2021; Birks et al., 2018; Clarke et al., 2012; Hallett et al., 2023) as well as financial problems (Minton & Birks, 2019) during their preceptorship experience. Further, Anagor and colleagues also reported that while some students demonstrated a willingness to perform nursing procedures, others demonstrated negative attitudes toward clinical practice, such as absenteeism without permission, lateness for clinical practice, and nonchalant attitude when exposed to stressful and anxiety-provoking tasks. This aligns with our findings that preceptors observe students' low interest in clinical practice as they run parallel schedules with the students (Enyan et al. (2021). The above explications infer that quality clinical placement is required to motivate students to learn. Hence, understanding and overcoming challenges faced by students in clinical practice (Panda et al., 2021), establishing policies to address the issues of bullying (Clarke et al., 2012), and ensuring adequate preparation of students, clinical instructors, and staff nurses to recognize and address incivility in clinical environments (Birk et al., 2018; Minton & Birks, 2019) are critical in promoting quality preceptorship experience.

4.5 Collaboration in Preceptorship

Partnership between academia and practice and interpersonal and collaborative learning are very important for effective preceptorship. The findings of this review identified collaborative strategies such as well-established interpersonal and interprofessional relationships between stakeholders of clinical nursing education to promote high-quality preceptorship (Asirifi et al., 2019; Habibzadeh et al., 2022; Hugo & Botma, 2020). Studies conducted on preceptorship also endorse the collaboration of stakeholders, academia, students, and staff nurses in promoting effective preceptorship (Asirifi et al., 2013; 2017; Broadbent et al., 2014; Bvumbwe, 2016; Rebeiro et al., 2021). This review also revealed the importance of collaborative relationships among nursing faculty with international colleagues to facilitate international curricular partnerships and academic exchanges in preceptorship (Smit & Tremethick, 2014). This aligns with Halabi et al.'s (2012) observation of a collaborative preceptor training program in Jordan with Sweden. The authors reported that the training program facilitated connecting theory and practice, enhanced positive effects on the personal and professional growth of preceptors, and increased students' learning process and the quality of health care provided.

Our review also noted that preceptors used socialization to promote a safe and comfortable environment for collaborative teaching and learning (Dias et al., 2017). Inherent in this finding is the importance of participatory learning in preceptorship, which aligns with the findings of Nielsen et al. (2017) that effective learning in preceptorship happens when the preceptor and preceptee are physically present in the same learning room, keeping the balance between professional and personal relations, and getting along in performing nursing procedures together to obtain competent skills for patient care. Similarly, Matua et al. (2014) indicated that good orientation, effective communication, preparation of students for complex situations, appreciation and acknowledgment,

positive feedback, assurance of support, students and preceptors spending time together, giving breaks, and encouraging self-commitment were good strategies for healthy preceptor/preceptee relationship. However, the findings of this review indicated that nursing students seem not to develop interpersonal relationships with patients, patients' families, and colleagues in their first year until the fourth year of the nursing program (Solombela & Ehlers, 2002). There was a lack of evidence in the literature to add to the authors' observation, however, it could be due to building more experience with patient interaction in various clinical practices as they grow through the nursing education program. Recommendations found in the literature for effective preceptor/preceptee relationship in the clinical environment include mentorship (Omer & Moola, 2019), peer learning (Mamhidir et al., 2014), development of interpersonal and communication skills (Hardie, et al., 2022), caring ethics, and mutual respect (Hilli, et al., 2014), in preceptorship education and training programs.

4.6 Recommendation

The study's findings highlight the importance of incorporating preceptorship in baccalaureate nursing programs in LMICs. Therefore, structured preceptorship frameworks with clear guidelines and objectives are essential to ensure successful outcomes in preceptorship (Asirifi et al., 2017; Dube & Rakhudu, 2021). Additionally, policymakers of nursing education ought to contemplate establishing national standards for preceptorship (Asirifi et al., 2019) and policies that offer incentives or PD benefits to preceptors, which is vital to the undergraduate preceptorship programs' triumph.

Further, this review calls for more research on the impacts of structured preceptorship programs on nursing competencies and patient care outcomes, as well as examining the obstacles to successful preceptorship in LMICs.

4.7 Limitations

One primary limitation of this study is its narrow focus on literature published exclusively in English, which could potentially overlook relevant research conducted in other languages and thereby limit the comprehensiveness of the findings. Furthermore, excluding studies from high-income nations and those examining graduate programs or practicing registered nurses may curtail the applicability of the results across diverse nursing education environments. Future studies should strive to encompass a broader range of literature and a more varied array of educational contexts to increase the generalizability of the outcomes.

5. Conclusion

This scoping review highlighted the importance of structured preceptorship programs in elevating the quality of nursing education in LMICs. This review reveals a paucity of PD-related evidence for preceptors on integrating evidence-based pedagogy in student supervision. However, the review also reveals the need for further research and policy development to address any gaps or barriers that may arise. Effective strategies for preceptorship include setting clear guidelines for preceptorship, implementing continuous PD for preceptors, creating supportive policies to strengthen preceptors' roles in the development of future nursing force, and clinical placement for quality preceptorship experience. Further, to ensure that preceptorship programs remain effective and sustainable in LMICs, all nursing education stakeholders must collaborate to successfully implement and continually improve preceptorship programs in these regions.

Author Contributions

BM and EAM searched for the literature. MAA and BM conducted a selection of articles. BM, MAA, SKSP, OOS, and TK extracted the data, FS resolved conflicts while selecting articles, and MAA and SKSP analyzed the data. All authors contributed to the preparation of the manuscript, edited several drafts, and approved the final manuscript.

Funding

None.

Informed Consent

Obtained.

Provenance and Peer Review

Not commissioned; externally double-blind peer reviewed.

Data Availability Statement

The data that support the findings of this study are available on request.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

References

- Akpor, O. A., Tope-Ajayi, T. O., Muhammad, F. A., Dada, M. G., Aremu, K. D., Aina, O., ... & Bamigboye, T. O. (2023). Nursing preceptorship in Ekiti State, Southwest Nigeria: Perceptions of nursing students and clinical preceptors. *African Journal of Reproductive Health*, 27(6s), 51-59. <https://doi.org/10.29063/ajrh2023/v27i6s.7>
- Anagor, C. R., Lukpata, F. E., Ikechukwu-Okorozezi, J. N., & Obiora, M. U. (2021). Attitude of nursing students towards work in the clinical learning environment. *International Journal of Studies in Nursing*, 6(1), 54. <http://doi.org/10.20849/ijsn.v6i1.855>
- Amirehsani, K. A., Kennedy-Malone, L., & Alam, M. T. (2019). Supporting preceptors and strengthening academic-practice partnerships: Preceptors' perceptions. *The Journal for Nurse Practitioners*, 15(8), e151-e156. <https://doi.org/10.1016/j.nurpra.2019.04.011>
- Aparício, C., & Nicholson, J. (2020). Do preceptorship and clinical supervision programmes support the retention of nurses? *British Journal of Nursing*, 29(20), 1192-1197. <https://doi.org/10.12968/bjon.2020.29.20.1192>
- Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), 19-32. <https://doi.org/10.1080/1364557032000119616>
- Armstrong, R., Hall, J. B., Doyle, J., & Walters, E. (2011). Cochrane update 'Scoping the scope' of Cochrane review. *Journal of Public Health*, 33(1), 147-150. <https://doi.org/10.1093/pubmed/fdr015>
- Ashipala, D. O., & Kampale, I. (2022). Preceptorship as a clinical teaching strategy: Nursing students' experiences at selected clinical settings in north-east of Namibia. *African Journal of Nursing and Midwifery*, 24(1), <https://doi.org/10.25159/2520-5293/10021>
- Asirifi, M., Ogilvie, L., Barton, S., Aniteye, P., Stobart, K., Bilash, O., ... & Kwashie, A. (2019). Re-conceptualising preceptorship in clinical nursing education in Ghana. *International Journal of Africa Nursing Science*, 10, 159-166. <https://doi.org/10.1016/j.ijans.2019.04.004>
- Asirifi, M. A., Mill, J. E., Myrick, F. A., & Richardson, G. (2017). Preceptorship in the Ghanaian context: Marriage between school and clinical setting. *Quality Advancement in Nursing Education*, 3(2), 1-14. <https://doi.org/10.7939/R36T34>
- Asirifi, M., Ogilvie, L., Barton, S., Aniteye, P., Stobart, K., Bilash, O., ... & Kwashie, A. (2019). Assessing challenges of clinical education in a baccalaureate nursing program in Ghana. *Journal of Nursing Education and Practice*, 7(10), 109-118. <http://doi.org/10.5430/jnep.v7n10p109>
- Asirifi, M. A., Mill, J. E., Myrick, F. A., & Richardson, G. (2013). Preceptorship in Ghanaian context: Coaching for a winning team. *Journal of Nursing Education and Practice*, 3(9), 168-176. <http://doi.org/10.5430/jnep.v3n12p168>
- Bakker, E. J. M., Verhaegh, K. J., Kox, J. H. A. M., Van der Beek, A. J., Boot, C. R. L., Roelofs, P. D. D. M., & Francke, A. L. (2019). Late dropout from nursing education: An interview study of nursing students' experiences and reasons. *Nursing Education in Practice*, 39, 17-25. <https://doi.org/10.1016/j.nepr.2019.07.005>
- Bengtsson, M., & Carlson, E. (2015). Knowledge and skills needed to improve as preceptor: Development of a continuous professional development course – a qualitative study part I. *BMC Nursing*, 14(51), 1-7. <https://doi.org/10.1186/s12912-015-0103-9>
- Benny, J., Porter, J. E., & Joseph, B. (2023). A systematic review of preceptor's experience in supervising undergraduate nursing students: Lessons learned for mental health nursing. *Nursing Open*, 10(4), 2003-2014. <https://doi.org/10.1002/nop2.1470>
- Birks, M., Budden, L. M., Biedermann, N., Park, T., & Chapman, Y. (2018). A 'rite of passage?': Bullying experiences of nursing students in Australia. *Collegian*, 25(1), 45-50. <https://doi.org/10.1016/j.colegn.2017.03.005>
- Bodine, J. (2021). Preparing preceptors for the nursing professional development practitioner specialty. *Journal for Nurses in Professional Development*, 37(2), 120-121. <https://doi.org/10.1097/nnd.0000000000000718>
- Borch, E., Athlin, E., Hov, R., & Dupplis, G. S. (2013). Group supervision to strengthen nurses in their preceptor

- role in the bachelor nursing education—Perceptions before and after participation. *Nurse Education in Practice*, 13(2), 101-105. <https://doi.org/10.1016/j.nepr.2012.07.009>
- Bortolussi-Courval, É., Stake-Doucet, N., & Umaigba, B. (2023). Incentivizing an exodus: The implications of recruiting nurses from low-middle income countries to high-income countries. *PLOS Glob Public Health*, 3(9), e0002355. <https://doi.org/10.1371/journal.pgph.0002355>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Broadbent, M., Moxham, L., Sander, T., Walker, S., & Dwyer, T. (2014). Supporting bachelor of nursing students within the clinical environment: Perspectives of preceptors. *Nurse Education in Practice*, 14(4), 403-409. <https://doi.org/10.1016/j.nepr.2013.12.003>
- Bulman, D., Eden, M., & Nguyen, H. (2017). Transitioning from low-income growth to high-income growth: Is there a middle-income trap? *Journal of the Asia Pacific Economy*, (22)1, 5-28, <https://doi.org/10.1080/13547860.2016.1261448>
- Bvumbwe, T. (2016). Enhancing nursing education via academic–clinical partnership: An integrative review. *International Journal of Nursing Sciences*, 3(3), 314-322. <http://doi.org/10.1016/j.ijnss.2016.07.002>
- Carlson, E., & Bengtsson, M. (2015). Perceptions of preceptorship in clinical practice after completion of a continuous professional development course: A qualitative study Part II. *BMC Nursing*, 14, 1-7. <https://doi.org/10.1186/s12912-015-0092-8>
- Chang, C. C., Lin, L. M., Chen, I. H., Kang, C. M., & Chang, W. Y. (2015). Perceptions and experiences of nurse preceptors regarding their training courses: A mixed method study. *Nurse Education Today*, 35(1), 220-226. <https://doi.org/10.1016/j.nedt.2014.08.002>
- Chicca, J. (2020, July). Should we use preceptorships in undergraduate nursing education? *In Nursing Forum*, 55(3), 480-484. <https://doi.org/10.1111/nuf.12452>
- Clarke, C. M., Kane, D. J., Rajacich, D. L., & Lafreniere, K. D. (2012). Bullying in undergraduate clinical nursing education. *Journal of Nursing Education*, 51(5), 269-276. <https://doi.org/10.3928/01484834-20120409-01>
- Cloete, I. S., & Jeggels, J. (2014). Exploring nurse preceptors' perceptions of benefits and support of and commitment to the preceptor role in the Western Cape Province. *Curationis*, 37(1), 1-7. <https://doi.org/10.4102/curationis.v37i1.1281>
- Cotter, E., & Dienemann, J. (2016). Professional development of preceptors improves nurse outcomes. *Journal for Nurses in Professional Development*, 32(4), 192-197. <https://doi.org/10.1097/nnd.0000000000000266>
- Dias, J. M., Lalwani, E., Khowaja, A. A., & Mithani, Y. (2017). Emerging role of clinical preceptors (CPs) at a private university, Karachi, Pakistan. *Journal of Education and Training Studies*, 5(8), 46. <https://doi.org/10.11114/jets.v5i8.2529>
- Dube, A., & Rakhudu, M. A. (2021). A preceptorship model to facilitate clinical nursing education in health training institutions in Botswana. *Curationis Journal of the Democratic Nursing Organisation of South Africa*, 44(1), 2182. <https://doi.org/10.4102/curationis.v44i1.2182>
- Enyan, N., Boso, C., Ofori, A., Agyare, D., Aboh, I., Dike, N., Agyei, D., & Obiri-Yeboah, D. (2022). Clinical preceptorship in Ghana in the era of COVID-19 pandemic: An interventional study. *BMC Nursing*, 61, <https://doi.org/10.1186/s12912-022-00838-w>
- Enyan, N., Boso, C., & Amoo, S. (2021). Preceptorship of student nurses in Ghana: A descriptive phenomenology study. *Nursing Research and Practice*, 6, 1-8. <https://doi.org/10.1155/2021/8844431>
- Ferreira, F. D. C., De Carvalho Dantas, F., & Valente, G. S. C. (2018). Nurses' knowledge and competencies for preceptorship in the basic health unit. *Revista Brasileira De Enfermagem*, 71(suppl 4), 1564–1571. <https://doi.org/10.1590/0034-7167-2016-0533>
- Gholizadeh, L., Shahbazi, S., Valizadeh, S., Mohammadzad, M., Ghahramanian, A., & Shohani, M. (2022). Nurse preceptors' perceptions of benefits, rewards, support, and commitment to the preceptor role in a new preceptorship program. *BMC Medical Education*, 22(1), 472. <https://doi.org/10.1186/s12909-022-03534-0>
- Habibzadeh, S., Haririan, H., Hassankhani, H., & Wytenbroek, L. (2022). Career development of nursing preceptors in Iran: A descriptive study. *Modern Care Journal*, 19(3), e126729. <https://doi.org/10.5812/modernc-126729>

- Hallett, N., Gayton, A., Dickenson, R., Frankel, M., & Dickens, G. (2023). Student nurses' experiences of workplace violence: A mixed methods systematic review and meta-analysis. *Nurse Education Today*, *128*, 105845. <https://doi.org/10.1016/j.nedt.2023.105845>
- Hardie, P., Darley, A., Langan, L., Lafferty, A., Jarvis, S., & Redmond, C. (2022). Interpersonal and communication skills development in general nursing preceptorship education and training programmes: A scoping review. *Nurse Education in Practice*, *65*, 103482. <https://doi.org/10.1016/j.nepr.2022.103482>
- Hilli, Y., Salmu, M., & Jonsén, E. (2014). Perspectives on good preceptorship: A matter of ethics. *Nursing Ethics*, *21*(5), 565-575. <https://doi.org/10.1177/0969733013511361>
- Huang, H. M., & Fang, Y. W. (2023). Stress and coping strategies of online nursing practicum courses for Taiwanese nursing students during the COVID-19 pandemic: A qualitative study. *In Healthcare*, *14*(11), 2053. <https://doi.org/10.3390/healthcare11142053>
- Hugo, L., & Botma, Y. (2020). The contribution of nursing preceptors to the future nursing workforce. *African Journal of Health Professions Education*, *12*(3), 109-113. <https://doi.org/10.7196/AJHPE.2020.v12i3.1372>
- Hugo, L., Botma, Y., & Raubenheimer, J. (2018). Monitoring preceptors' supportive role: A measuring instrument for increased accountability. *Nurse Education Today*, *67*, 83-89. <https://doi.org/10.1016/j.nedt.2018.05.006>
- Hugo-Van Dyk, L., Nyoni, C. N., Williams, M., & Botha, B. S. (2022). Preceptor support during the COVID-19 pandemic: Recommendations for continuing development. *Curationis*, *45*(1), 2370. <https://doi.org/10.4102/curationis.v45i1.2370>
- Imam, A. O. S., Aluvaala, J., Maina, J. M., Gathara, D., & English, M. (2022). Identifying gaps in global evidence for nurse staffing and patient care outcomes research in low/middle-income countries: An umbrella review. *BMJ Open*, *12*(10), e064050. <https://doi.org/10.1136/bmjopen-2022-064050>
- Jeggels, J., Traut, A., & Africa, F. (2013). A report on the development and implementation of a preceptorship training programme for registered nurses. *Curationis*, *36*(1), e1-e6. <https://doi.org/10.4102/curationis.v36i1.106>
- Josephsen, J. M. (2013). Evidence-based reflective teaching practice: A preceptorship course example. *Nursing Education Perspectives*, *34*(1), 8-11. <https://doi.org/10.5480/1536-5026-34.1.8>
- Kalischuk, R. G., Vandenberg, H., & Awosoga, O. (2013). Nursing preceptors speak out: An empirical study. *Journal of Professional Nursing*, *29*(1), 30-38. <https://doi.org/10.1016/j.profnurs.2012.04.008>
- Korzon, J., & Trimmer, W. (2015). The mutual benefits of preceptorship. *Kai Tiaki Nursing New Zealand*, *21*(8), 14-16.
- Kristofferzon, M. L., Mårtensson, G., Mamhidir, A. G., & Löfmark, A. (2013). Nursing students' perceptions of clinical supervision: The contributions of preceptors, head preceptors and clinical lecturers. *Nurse Education Today*, *33*(10), 1252-1257. <https://doi.org/10.1016/j.nedt.2012.08.017>
- Lai, C. Y., Lee, T. Y., Lin, S. C., & Lin, I. H. (2022). Applying the technology acceptance model to explore nursing students' behavioral intention to use nursing information smartphones in a clinical setting. *CIN: Computers, Informatics, Nursing*, *40*(7), 506-512. <https://doi.org/10.1097/cin.0000000000000853>
- L'Ecuyer, K. M., Lancken, S. V. D., Malloy, D., Meyer, G., & Hyde, M. J. (2018). Review of state boards of nursing rules and regulations for nurse preceptors. *Journal of Nursing Education*, *57*(3), 134-141. <https://doi.org/10.3928/01484834-20180221-02>
- Li, W., Gillies, R., He, M., Wu, C., Liu, S., Gong, Z., & Sun, H. (2021). Barriers and facilitators to online medical and nursing education during the COVID-19 pandemic: Perspectives from international students from low- and middle-income countries and their teaching staff. *Human Resources for Health*, *19*(1), 64. <https://doi.org/10.1186/s12960-021-00609-9>
- Löfmark, A., Thorkildsen, K., Råholm, M. B., & Natvig, G. K. (2012). Nursing students' satisfaction with supervision from preceptors and teachers during clinical practice. *Nurse Education in Practice*, *12*(3), 164-169. <https://doi.org/10.1016/j.nepr.2011.12.005>
- Lafrance, T. (2018). Exploring the intrinsic benefits of nursing preceptorship: A personal perspective. *Nurse Education in Practice*, *33*, 1-3. <https://doi.org/10.1016/j.nepr.2018.08.018>
- Lethale, S. M., Makhado, L., & Koen, M. P. (2019). Factors influencing preceptorship in clinical learning for an undergraduate nursing programme in the North West Province of South Africa. *International Journal of*

- Africa Nursing Sciences*, 10, 19-25. <https://doi.org/10.1016/j.ijans.2018.11.006>
- Mamhidir, A. G., Kristofferzon, M. L., Hellström-Hyson, E., Persson, E., & Mårtensson, G. (2014). Nursing preceptors' experiences of two clinical education models. *Nurse Education in Practice*, 14(4), 427-433. <https://doi.org/https://doi.org/10.1016/j.nepr.2014.01.010>
- Mamaghani, E. A., Rahmani, A., Hassankhani, H., Zamanzadeh, V., Campbell, S., Fast, O., & Irajpour, A. (2018). Experiences of Iranian nursing students regarding their clinical learning environment. *Asian Nursing Research*, 12, 216-222. <http://dx.doi.org/10.1016/j.anr.2018.08.005>
- Masruroh, N., & Kurnia, A. D. (2018). Perception of senior nursing student toward clinical preceptor's performance: Clinical evaluation. *International Journal of Caring Sciences*, 11(3), 1731-1735. <https://doi.org/http://dx.doi.org/10.1016/j.nepr.2013.02.003>
- Matua, G. A., Seshan, V., Savithri, R., & Fronda, D. C. (2014). Challenges and strategies for building and maintaining effective preceptor-preceptee relationships among nurses. *Sultan Qaboos University Medical Journal*, 14(4), e530-e536.
- McLeod, C., Jokwiro, Y., Gong, Y., Irvine, S., & Edvardsson, K. (2021). Undergraduate nursing student and preceptors' experiences of clinical placement through an innovative clinical school supervision model. *Nurse Education in Practice*, 51, 102986. <https://doi.org/10.1016/j.nepr.2021.102986>
- Mhango, L. (2021). *Assessing the preceptorship model in clinical teaching of undergraduate nursing and midwifery students in Malawi* (Doctoral dissertation, University of Malawi, Kamuzu College of Nursing).
- Minton, C., & Birks, M. (2019). "You can't escape it": Bullying experiences of New Zealand nursing students on clinical placement. *Nurse Education Today*, 77, 12-17. <https://doi.org/10.1016/j.nedt.2019.03.002>
- Monareng, L. V., Jooste, K., & Dube, A. (2009). Preceptors' and preceptees' views on student nurses' clinical accompaniment in Botswana. *Africa Journal of Nursing and Midwifery*, 11(2), 113-127. <https://doi.org/10520/EJC19323>
- Nachinab, G. T.-E., & Armstrong, S. J. (2022). Unveiling how clinical nursing education can be improved in Northern Ghana: The perspectives of key informants. *Sage Open Nursing*, 8. <https://doi.org/10.1177/23779608221097162>
- Nielsen, K., Finderup, J., Brahe, L., Elgaard, R., Elsborg, A. M., Engell-Soerensen, V., ... & Sommer, I. (2017). The art of preceptorship. A qualitative study. *Nurse Education in Practice*, 26, 39-45. <https://doi.org/https://doi.org/10.1016/j.nepr.2017.06.009>
- Nyaga, E. M., & Kyololo, O. M. (2017). Preceptor knowledge on preceptorship in an academic hospital in Kenya. *Journal of Continuing Education in Nursing*, 48(11), 496-500. <https://doi.org/10.3928/00220124-20171017-06>
- Omer, T. Y., & Moola, S. M. (2019). The Importance of the preceptor-preceptee relationship in creating well prepared professionals: A make or break experience. *Global Journal of Health Science*, 11(1), 1-14. <https://doi.org/10.5539/gjhs.v11n1p1>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *British Medical Journal*, 372.
- Panda, S., Dash, M., John, J., Rath, K., Debata, A., Swain, D., ... & Eustace-Cook, J. (2021). Challenges faced by student nurses and midwives in clinical learning environment—A systematic review and meta-synthesis. *Nurse Education Today*, 101, 104875. <https://doi.org/https://doi.org/10.1016/j.nedt.2021.104875>
- Paul, R., & Stephanas, L. (2023). The perceptions and challenges of nursing students related to online learning during COVID-19 in Guyana. A mixed method study. *Investigación en Enfermería*, 25, 1-16. <https://doi.org/10.11144/Javeriana.ie25.pens>
- Pleshkan, V., & Boykins, A. D. (2022). Cognitive preceptorship: an emerging nurse practitioner role transition to practice model. *Journal of Professional Nursing*, 39, 194-205. <https://doi.org/10.1016/j.profnurs.2022.02.002>
- Quek, G. J., & Shorey, S. (2018). Perceptions, experiences, and needs of nursing preceptors and their preceptees on preceptorship: An integrative review. *Journal of Professional Nursing*, 34(5), 417-428. <https://doi.org/https://doi.org/10.1016/j.profnurs.2018.05.003>
- Rebeiro, G., Foster, K., Hercelinskyj, G. J., & Evans, A. (2021). Enablers of the interpersonal relationship between

- registered nurses and students on clinical placement: A phenomenological study. *Nurse Education in Practice*, 57, 103253. <https://doi.org/10.1016/j.nepr.2021.103253>
- Regaira-Martínez, E., Ferraz-Torres, M., Mateo-Cervera, A. M., & Vázquez-Calatayud, M. (2023). Nurses' perceptions of preceptorship of undergraduate students in clinical context. *Journal of Professional Nursing*, 48, 15-21. <https://doi.org/10.1016/j.profnurs.2023.05.008>
- Rooke, S., Thevenard, G., Suthendran, S., Jung, S. S., Tolentino, N., Annandale, J. F., & Ward, K. (2022, March 28). *What makes a great preceptor? Nursing students have their say*. Kaitiaki: Nursing New Zealand. <https://kaitiaki.org.nz/article/what-makes-a-great-preceptor-nursing-students-have-their-say/>
- Rosli, N. A., Choo, T. Y., & Idris, D. R. (2022). Impact of preceptorship models for undergraduate nursing students and its implementation: Systematic review. *International Journal of Nursing Education*, 14(1), 111-118. <https://doi.org/10.37506/ijone.v14i1.17764>
- Ryan, C. L., Cant, R., Hughes, L., Ahchay, D., & Strickland, K. (2024). Core competencies for registered nurse preceptors: A mapping review of quantitative studies. *Nursing Open*, 11(2), e2076. <https://doi.org/https://doi.org/10.1002/nop2.2076>
- Sackey, I. E. (2022). Preceptorship practice in healthcare institutions in Ghana: A situational analysis (Doctoral Dissertation). Antioch University, United States of America.
- Schaubhut, R. M., & Gentry, J. A. (2010). Nursing preceptor workshops: Partnership and collaboration between academia and practice. *The Journal of Continuing Education in Nursing*, 41(4), 155-160. <https://doi.org/https://doi.org/10.3928/00220124-20100326-01>
- Sedgwick, M., Harris, S. (2012). A critique of the undergraduate nursing preceptorship model. *Nursing Research and Practice*, 2012(1), <https://doi.org/10.1155/2012/248356>
- Shepard, L. H., & Allen, G. (2014). Building collaborative partnerships between academia and hospitals to enhance preceptorship experiences. *Imanagers Journal of Nursing*, 4(2), 1-6. <https://doi.org/10.26634/jnur.4.2.2769>
- Smit, E., & Tremethick, M. (2014). Preceptorship in international setting: Honduran nurses and American nursing working together. *Nurse Educator*, 39, 91-95. <https://doi.org/10.1097/NNE.0000000000000024>
- Smith, J. H., & Sweet, L. (2019). Becoming a nurse preceptor, the challenges and rewards of novice registered nurses in high acuity hospital environments. *Nurse Education in Practice*, 36, 101-107.
- Smith, L. C., Watson, H., Fair, L., Carter, G., Mackay, P., Lykens, K., Bradstock, J., Arnold, K., & Whalen, M. (2022). Evidence-based practices in developing and maintaining clinical nurse preceptors: An integrative review. *Nurse Education Today*, 117, 105468. <https://doi.org/10.1016/j.nedt.2022.105468>
- Solombela, P. W., & Ehlers, V. J. (2002). Student nurses' perceptions of the development of interpersonal relationships. *Curationis*, 25(4), 48-59. <https://doi.org/https://doi.org/10.4102/curationis.v25i4.803/>
- Stewart, B. M., & Krueger, L. E. (1996). An evolutionary concept analysis in nursing. *Journal of Professional Nursing*, 12(5), 311-321. [https://doi.org/10.1016/S8755-7223\(96\)80011-1](https://doi.org/10.1016/S8755-7223(96)80011-1)
- Tofade, T., Kim, J., Lebovitz, L., Leadon, K., Maynor, L., Culhane, N., ... & Abate, M. (2015). Introduction of a continuing professional development tool for preceptors: Lessons learned. *Journal of Pharmacy Practice*, 28(2), 212-219. <https://doi.org/https://doi.org/10.1177/0897190014544813>
- Valizadeh, S., Borimnejad, L., Rahmani, A., Gholizadeh, L., & Shahbazi, S. (2016). Challenges of the preceptors working with new nurses: A phenomenological research study. *Nurse Education Today*, 44, 92-97. <https://doi.org/10.1016/j.nedt.2016.05.021>
- Vosoughi, M. N., Zamanzadeh, V., Valizadeh, L., Ghahramanian, A., Lotfi, M., Bagheriyeh, F., & Pourmollamirza, A. (2022). An introduction to the TPSN model: a comprehensive approach to reducing the theory-practice gap in nursing. *BMC nursing*, 21(1), 261. <https://doi.org/10.1186/s12912-022-01030-w>
- Windey, M., Lawrence, C., Guthrie, K., Weeks, D., Sullo, E., & Chapa, D. W. (2015). A systematic review on interventions supporting preceptor development. *Journal for Nurses in Professional Development*, 31(6), 312-323. <https://doi.org/10.1097/NND.0000000000000195>
- World Bank. (2022). LMICs classification. Retrieved from <https://ephconference.eu/repository/conference/2022/LMICs%20classification%20World%20Bank%202022.pdf>
- World Health Organization [WHO]. (2020). State of the World's Nursing 2020: Investing in education, jobs and

leadership. Retrieved from <https://www.who.int/publications/i/item/9789240003279>

Wu, X. V., Selvam, U. P., Wang, W., Ang, E. N. K., Devi, K. M., Chan, Y. S., ... & Chi, Y. (2022). A web-based clinical pedagogy program to promote professional development for nurse preceptors: A quasi-experimental study. *Nurse Education in Practice*, 59, 103288. <https://doi.org/10.1016/j.nepr.2022.103288>

Zawaduk, C., Healey-Ogden, M., Farrell, S., Lyall, C., & Taylor, M. (2014). Educator informed practice within a triadic preceptorship model. *Nurse Education in Practice*, 14(2), 214-219. <https://doi.org/10.1016/j.nepr.2013.08.008>

Zhou, F., Yuan, T., Li, Z., Mu, X., & Lv, Y. (2024). The evidence-based practice teaching competence of clinical preceptors at different stages of innovation-decision process: A cross-sectional survey in traditional Chinese medicine hospitals. *Nurse Education Today*, 132, 106027. <https://doi.org/https://doi.org/10.1016/j.nedt.2023.106027>

Appendix

Search Strategy

Concept 1

“Preceptorship” OR “clinical teaching” OR “clinical mentorship” OR “clinical learning” OR “clinical tutor*” or “clinical instruction” OR “clinical education” OR “clinical learning”

Concept 2

“Baccalaureate Nursing Programs” OR “Undergraduate nursing education” OR “Basic nursing education” OR “Degree nursing” OR “Bachelor of Nursing” OR “Diploma nursing” OR “entry to practice nursing education”

Concept 3

Implementation Strategies OR Interventions OR Programs OR Project

Concept 4

“Low and middle-income countries” OR “LMICs” OR “Sub-Sahara Africa” OR “Latin America” OR “East Asia” OR “South East Asia” OR “Middle - income Countries”, and OR “Low-income Countries” OR angola/ or benin/ or burkina faso/ or burundi/ or cameroon/ or cape verde/ or central african republic/ or chad/ or comoros/ or congo/ or cote d’ivoire/ or democratic republic congo/ or djibouti/ or equatorial guinea/ or eritrea/ or ethiopia/ or gabon/ or gambia/ or ghana/ or guinea/ or guinea-bissau/ or kenya/ or lesotho/ or liberia/ or madagascar/ or malawi/ or mali/ or mozambique/ or namibia/ or niger/ or nigeria/ or rwanda/ or senegal/ or sierra leone/ or exp somalia/ or south sudan/ or sudan/ or swaziland/ or tanzania/ or togo/ or uganda/ or zimbabwe/ or algeria/ or egypt/ or mauritania/ or morocco/ or tunisia/ or el salvador/ or honduras/ or nicaragua/ or bolivia/ OR syrian arab republic/ or yemen/ OR haiti/ OR exp "georgia (republic)"/ or kosovo/ or moldova/ or Mongolia/ or "sao tome and principe"/ OR exp ukraine/ OR afghanistan/ or bangladesh/ or bhutan/ or exp india/ or nepal/ or exp pakistan/ or sri lanka/ or kyrgyzstan/ or tajikistan/ or uzbekistan/ or cambodia/ or laos/ or myanmar/ or papua new guinea/ or timor-leste/ or viet nam/ OR "federated states of micronesia"/ or kiribati/ or philippines/ or solomon islands/ or vanuatu/ or North Korea/ OR "sao tome and principe"/ OR(Afghanistan OR Afghani or Afghan OR Angola* OR Bangladesh* OR Benin or Beninese OR Bhutan OR Bolivia* OR Burkina Faso OR Burkinabe or Burundi* OR Cabo Verde OR Cape Verde OR Cambodia* OR Cameroon* OR "Central African Republic" OR Chad or Chadian or Tchad OR Comoros OR Comoran OR Congo or Congolese OR "Cote d’ivoire" OR Ivorian OR Djibouti OR Egypt OR Egyptian OR "El Salvador" OR Salvadoran OR Eritrea* OR Ethiopia* OR Gambia OR Gambian OR (Georgia NOT United States) OR Ghana* OR Guinea OR "Guinea Bissau*" OR Haiti Or Haitian OR Hondura* OR India or (Indian not American) OR Indonesia* OR Kazakhstan OR Kenya* OR Kiribati OR North Korea* OR DPRK OR Kosovo OR Kosovar or Kosovan OR Kyrgyz* OR Laos OR Laotian OR Lesotho OR Mosotho or Basotho OR Liberia* OR Madagascar OR Malagasy OR Malawi* OR Mali OR Malian OR Mauritania* OR Micronesia* OR Moldova* OR Mongolia* OR Morocco OR Moroccan OR Mozambique Or Mozambican OR Myanmar OR Burmese or Myanmarese OR Nepal OR Nepalese OR Nicaragua* OR Niger OR Nigerien OR Nigeria OR Pakistan* OR "Papua New Guinea*" OR Philippines OR Filipino* OR Rwanda* OR "Sao Tome and Principe" OR "San Tomean" OR Senegal* OR "Sierra Leone*" OR "Solomon Island*" OR Somalia* OR Sri Lanka* OR Sudan or Sudanese OR Swaziland OR Swazi OR Syria or Syrian OR Tajikistan OR Tajik or Tadjhik OR Tanzania* OR "Timor Leste" OR Timorese OR Togo OR Togolese OR Tunisia* OR Uganda* OR Ukraine or Ukrainian OR Uzbekistan* or Uzbeki OR Vanuatu OR Vietnam* OR "West Bank" OR Gaza OR Yemen* OR Zambia* OR

Zimbabwe*).ti,ab,cp

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).