



## Trends and challenges in midwifery curriculum development: Impact on graduate quality

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### ABSTRACT

Midwifery training is a vital component of the healthcare system, as it significantly contributes to enhancing maternal and newborn care standards. The purpose of this research is to identify emerging patterns, challenges, and directions for developing an ideal and relevant midwifery education curriculum both nationally and globally. This study uses a literature review method. Articles were collected through a systematic search on PubMed from 2014 to 2024, using keywords related to midwifery curriculum, educational challenges, and graduate competencies. A total of 11 selected articles were analyzed. Findings from the research reveal that educational programs in midwifery face several challenges, including gaps between theory and practice, a lack of quality clinical training, and limited resources for teaching staff and facilities. This study emphasizes the importance of developing a competency-based curriculum that is responsive to local and global contexts and based on best practices. These results guide educational and academic bodies, as well as stakeholders, in designing a midwifery curriculum that produces competent, adaptable graduates ready to face the challenges of the current and future healthcare system.

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### ABSTRAK

Pelatihan kebidanan merupakan bagian penting dari sistem kesehatan karena memberikan kontribusi langsung dalam peningkatan standar perawatan ibu dan bayi baru lahir. Tujuan penelitian ini adalah untuk mengidentifikasi pola, tantangan, dan arah yang muncul untuk pengembangan kurikulum pendidikan kebidanan yang ideal dan relevan baik secara nasional maupun global. Penelitian ini menggunakan metode telaah pustaka. Artikel dikumpulkan melalui pencarian sistematis di PubMed dalam periode 2014-2024 dengan menggunakan kata kunci yang terkait dengan kurikulum kebidanan, tantangan pendidikan, dan kompetensi lulusan. Sebanyak 11 artikel terpilih dianalisis. Temuan dari penelitian ini mengungkapkan bahwa program pendidikan di bidang kebidanan menghadapi tantangan seperti kesenjangan antara teori dan praktik, kurangnya pelatihan klinis yang berkualitas, dan terbatasnya staf pengajar dan fasilitas. Penelitian ini menekankan pentingnya mengembangkan kurikulum berbasis kompetensi yang responsif terhadap konteks lokal, global, dan berdasarkan praktik terbaik. Hasil ini berfungsi sebagai pedoman bagi badan akademis pendidikan dan pemangku kepentingan dalam merancang kurikulum kebidanan yang mampu menghasilkan lulusan yang kompeten, adaptif, dan siap menghadapi tantangan sistem kesehatan saat ini dan masa depan.

**Kata Kunci:** kompetensi lulusan; pengembangan kurikulum; pendidikan kebidanan

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## **INTRODUCTION**

Midwifery training is a vital component of the healthcare system, as it significantly contributes to enhancing maternal and newborn care standards. However, in practice, the development of midwifery curricula in many countries, including Indonesia, has not fully addressed the dynamics of service needs and challenges of modern midwifery practice (Susanti et al., 2022). This is evident from the gap between the learning in educational institutions and the skills required in the field (Susanti et al., 2022). According to the 2021 global report on midwifery, many countries experience systematic deficiencies in midwife education and training, including a lack of qualified educators and inadequate policy support (Susanti et al., 2022). In Indonesia itself, similar challenges arise in various educational institutions, which continue to struggle to balance theoretical approaches and clinical practice effectively (Ahmadi et al., 2018; Setiawan et al., 2018).

Inaccuracy in curriculum development has an impact on the less-than-optimal competence of midwifery graduates. Several studies have reported that midwife graduates continue to face challenges in applying theory to clinical practice, including the early detection of pregnancy complications and handling complex cases (Hajiesmaello et al., 2022; Hajifoghaha et al., 2020). This not only has implications for individual performance but also impacts the overall effectiveness of the healthcare system. Weak investment in midwifery education can also slow down the achievement of national health development targets, including reducing maternal and infant mortality rates (Hajifoghaha et al., 2020). Emphasize that strengthening midwifery education and the role of the profession significantly contributes to empowerment and the improvement of healthcare systems, particularly in resource-limited settings.

More specifically, the challenges of midwifery curriculum development include the suboptimal integration of competency-based approaches, limited practical experience in the field, and a lack of training for lecturers in implementing innovative teaching methods (Ahmadi et al., 2018). Furthermore, many educational institutions struggle to adopt and implement curriculum guidelines that align with national and international standards. Research in Southeast Asia has revealed administrative and cultural barriers to implementing high-quality curricula, including limited practice facilities and weak collaboration with community health services (Ahmadi et al., 2018). In Indonesia, several studies have demonstrated that newly graduated midwives often lack confidence in performing independent clinical tasks, particularly in remote areas (Bogren et al., 2022; Griffin et al., 2023). A more recent study also highlighted inconsistencies between educational content and clinical realities in rural Indonesian settings, leading to a mismatch between training outcomes and field expectations (Aprianti et al., 2024; Lafrance & Brunet-Pagé, 2025).

Effective curriculum development must be grounded in actual practice needs and remain responsive to the evolving dynamics of the national and global health system (Aprianti et al., 2024). Setiawan et al. emphasized that the curriculum must reflect the synergy between educational theory, learner needs, and professional demands. The importance of a curriculum that is adaptive to global changes and based on evidence-based best practices (Setiawan et al., 2018). Furthermore, the approach used in developing the curriculum must also consider the diversity of social and cultural contexts in which education takes place. For example, studies emphasized the importance of strengthening clinical leadership, professional

communication, and direct practice experience in shaping the holistic competencies of midwives. Without it, graduates tend to be unprepared to face complex situations in the field (Ulnang & Salesman, 2023).

Although considerable research has been conducted on midwifery curriculum development, most studies still focus on limited areas or topics (Aprianti et al., 2024). There are few literature reviews that comprehensively and systematically identify global trends and local challenges in midwifery curriculum development and their impact on graduate quality, especially in the Indonesian context over the last decade (Hunter et al., 2022). Therefore, this study aims to explore recent developments and persistent gaps in midwifery curriculum design, with a particular focus on the Indonesian setting, to inform improvements in graduate competencies and alignment with health system needs (Adnani et al., 2022; Aprianti et al., 2024; Vermeulen et al., 2024).

## LITERATURE REVIEW

### Midwifery Education Curriculum

The midwifery education curriculum in Indonesia is structured based on graduate learning outcomes (CPL) and midwifery competency standards established by the Ministry of Health through Permenristekdikbudikti No. 53, 2023. This regulation emphasizes a balanced composition between theory and clinical practice, while reflecting the needs of community- and hospital-based midwifery services. The International Confederation of Midwives (ICM) Sets a global curriculum framework that includes core competencies such as evidence-based practice, professional ethics, and woman-centered care (<https://internationalmidwives.org/resources/annual-report-2024/>). Also recommends that midwifery education be a minimum of three years, with 60% of the program dedicated to clinical practice. In Indonesia, the curriculum stipulates a 40% theoretical and 60% clinical practice composition to ensure comprehensive acquisition of clinical skills. This proportion is considered effective in producing job-ready graduates.

The use of educational technologies such as e-learning, virtual simulations, and digital media has been shown to support effective learning processes in midwifery education (O'Connor et al., 2023). Technology also facilitates access to learning materials and improves student readiness for competency exams and clinical placements (O'Connor et al., 2023). The woman-centered care approach serves as a key foundation in midwifery curriculum design by placing women at the center of care (Moxham et al., 2023; O'Connor et al., 2023). Integrating this value has been proven to enhance students' empathy, communication, and confidence in clinical practice (Ejlertsen et al., 2022; O'Connor et al., 2023).

### Curriculum Development in Midwifery

Integrating this value has been proven to enhance students' empathy, communication, and confidence in clinical practice. This approach ensures that the curriculum is responsive to scientific advancements and community health needs (Yilmaz & Aktaş, 2023). Studies have shown that integrating technology, such as blended learning, simulation, and local cultural values, into the curriculum enhances student engagement and learning outcomes in

Indonesia and other countries (O'Connor et al., 2023; Symon et al., 2024). Effective curriculum evaluation involves input from various stakeholders such as clinical institutions, alumni, and current students to maintain its relevance and quality over time (Moloney et al., 2022).

However, in Southeast Asia, particularly in Indonesia, curriculum implementation continues to face several critical challenges (Adnani et al., 2022b; Bogren et al., 2024). These include unequal access to digital infrastructure, particularly in rural and remote areas, which makes the adoption of blended learning and simulation-based education challenging. Additionally, there is often a disconnect between academic institutions and clinical practice environments, which hampers curriculum relevance and competency alignment (Adnani et al., 2023; Bogren et al., 2024). Faculty development and curriculum governance are also inconsistent across institutions, leading to variation in teaching quality and student preparedness (ICM, 2024). These context-specific barriers must be addressed to ensure equitable and high-quality midwifery education across the region (Ulnang & Salesman, 2023).

### **Challenges in Midwifery Education**

The gap between theoretical instruction and clinical practice remains a significant challenge in midwifery education, impacting graduates' readiness to provide autonomous care (Govindarajulu et al., 2023; Mramel et al., 2024). Limited access to clinical facilities and a shortage of qualified educators—especially in regional institutions—hinder optimal learning experiences. Permenristekdikbud No.53 tahun 2023. Restricted access to technology-enhanced learning and simulation-based training also impedes the safe and repetitive acquisition of clinical skills, despite these methods being proven effective in developing competencies (Moloney et al., 2022). Disparities in curriculum quality and learning resources across midwifery institutions result in unequal graduate competencies, necessitating resolution through national curriculum standardization and accreditation systems.

### **Graduate Competence in Midwifery**

Core competencies for midwifery graduates include theoretical knowledge, clinical skills, effective communication, leadership, and critical and reflective thinking. A competency-based curriculum with a 40% theory and 60% practice structure has been shown to produce graduates who are better prepared for the workforce (Symon et al., 2024). Continuous evaluation and post-graduation training are essential to ensure midwives remain competent and up-to-date with advancements in midwifery science and technology (O'Connor et al., 2023). Countries such as Australia and Rwanda have successfully implemented community-based practical training and high-standard simulation education to improve the quality of their midwifery graduates.

## **METHODS**

This study is a literature review that aims to examine patterns and challenges regarding the advancement of midwifery training curricula and their impact on the quality of graduates.

The literature study was conducted by systematically reviewing relevant scientific journals over a specified period. Last 10 years (2014-2024).

The article search procedure was carried out through scientific databases such as PubMed using the keywords "Midwifery Education", "Curriculum Development", "Graduate Quality", "Curriculum Challenges", "Competency-Based Education", "Educational Trends in Health Professions". To ensure the quality and relevance of the articles, inclusion and exclusion criteria were applied (**Table 1**). These criteria focused on peer-reviewed journals published within the specified time frame (2014-2024). Selected articles had to be published in either Indonesian or English, be available in full-text, and come from nationally or internationally accredited journals. Additionally, the articles needed to address topics directly related to the midwifery education curriculum, curriculum development, educational challenges, or graduate competencies. Articles lacking scientific rigor, such as editorials, opinion pieces, or commentaries, were excluded to maintain a high standard of evidence. After that, group the journals according to the criteria desired for the research. This study is limited to analysis related to:

1. "Midwifery Education Curriculum";
2. "Curriculum Development In Midwifery";
3. "Challenges in Midwifery Education"; and
4. "Graduate Competence In Midwifery".

The selected articles comprised quantitative and qualitative studies as well as literature reviews. The inclusion and exclusion criteria are detailed in **Table 1**.

**Table 1.** Inclusion And Exclusion Factors

Category	Inclusion Criteria	Exclusion Criteria
Topic/Subject	<ul style="list-style-type: none"> <li>• Midwifery education curriculum</li> <li>• Midwifery curriculum development</li> <li>• Challenges in midwifery education</li> <li>• Competencies of midwifery graduates</li> </ul>	<ul style="list-style-type: none"> <li>• Curriculum for other professional education (nursing, medicine, etc.)</li> <li>• Non-curriculum midwifery issues (such as clinical practice without curriculum link)</li> </ul>
Publication Time Range	<ul style="list-style-type: none"> <li>• Articles published between 2014-2024</li> </ul>	<ul style="list-style-type: none"> <li>• Articles published before 2014 or outside that range</li> </ul>
Article Language	<ul style="list-style-type: none"> <li>• Articles in Indonesian and English</li> </ul>	<ul style="list-style-type: none"> <li>• Articles in languages other than Indonesian and English</li> </ul>
Article Type	<ul style="list-style-type: none"> <li>• Articles resulting from quantitative and/or qualitative research</li> <li>• Literature review</li> </ul>	<ul style="list-style-type: none"> <li>• Editorial articles, opinion pieces, comments, or letters to the editor</li> <li>• Articles without scientific analysis</li> </ul>
Accessibility	<ul style="list-style-type: none"> <li>• Full-text accessible articles</li> </ul>	<ul style="list-style-type: none"> <li>• Articles available in abstract-only form</li> </ul>
Quality and Accreditation	<ul style="list-style-type: none"> <li>• Articles originating from national or international accredited journals</li> </ul>	<ul style="list-style-type: none"> <li>• Articles from sources that are not accredited or have not gone through a peer-review process</li> </ul>

Category	Inclusion Criteria	Exclusion Criteria
Relevance to Focus of Study	<ul style="list-style-type: none"> <li>Articles relevant to at least one of the four focuses:                             <ol style="list-style-type: none"> <li>Midwifery curriculum</li> <li>Curriculum development</li> <li>Challenges of midwifery education</li> <li>Graduate competencies</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Articles that do not explicitly discuss aspects of the curriculum or graduate competencies</li> </ul>

Source: Research 2025.

As many as 10 articles that met the inclusion criteria were analyzed using a matrix consisting of the main components of Name, Title, Year, and location of the study, Objectives, Methods, Population (if applicable), and Key Findings. Since this is a secondary research study, it did not involve direct participation from participants. The data used are entirely derived from previous research results. The analysis process involves a critical assessment of the methodology's quality and the relevance of each study's findings to the study's focus.

## RESULTS AND DISCUSSION

According to the findings obtained using the specified keywords, 110 articles were identified, and after selection, 10 articles are presented in Table 2 that met the specified inclusion criteria.

**Table 2.** Summary of Included Studies

Code	Name/ Title/ Year/ Research location	Objective/ Focus	Method	Population (if applicable)	Key Findings
A1	Ulnang et al / Clinical Leadership for Indonesian Midwifery Three Years Diploma Curricula from Australian Benchmarking/ 2023/ Indonesia.	<i>Clinical leadership training in midwifery diploma programs in Indonesia, and examining how such training can be integrated into the educational curriculum.</i>	Qualitative with a case study <i>approach.</i>	The parties involved in the development and implementation of the curriculum include: - Midwifery study program coordinator - Leadership unit coordinator - Midwife practitioners, especially in the East Nusa Tenggara region.	The results of this study indicate that clinical leadership skills integrated into midwifery diploma programs in Indonesia are essential for developing midwives' ability to handle complex responsibilities in healthcare, particularly in providing high-quality care. Therefore, midwifery organizations in Indonesia, educational institutions, policy makers, and graduate users need to collaborate to initiate the implementation of structured clinical leadership in the curriculum.

<b>Code</b>	<b>Name/ Title/ Year/ Research location</b>	<b>Objective/ Focus</b>	<b>Method</b>	<b>Population (if applicable)</b>	<b>Key Findings</b>
A2	Malin et al / Rwanda's success in advancing midwifery education: a blueprint of a sustainable, nationally driven curriculum standardization/ 2024/ Rwanda	To showcase the process of reforming the national midwifery curriculum in Rwanda that is culturally adapted, standardized, and aligned with the ICM 2024 competency framework.	Commentary articles based on the experiences of national policy and curriculum reform	-	The midwifery curriculum reform in Rwanda was successfully standardized and adapted to the national cultural context, while still aligning with the ICM 2024 international competency standards. National ownership was key to the success of this process, as the direction, priorities, and implementation were entirely led by local actors. Rwanda's experience can serve as a good example of best practice for South-South cooperation.
A3	Adnani et al/ The interplay of structural and external factors for strengthening midwifery education in Indonesia/ 2022/ Indonesia	Identifying Barriers and Supporting Factors for Strengthening Midwifery Education in Indonesia.	Qualitative research through in-depth interviews at 12 midwifery education institutions, involving 37 participants. Data were analyzed using a thematic approach.	37 participants from 12 midwifery educational institutions spread across eight cities in 6 provinces in Indonesia	It was found that several interrelated factors play a crucial role in strengthening midwifery education, particularly structural and external factors. Three sub-themes were identified: the structure of midwifery programs, the impact of accreditation on midwifery education, and the role of the Midwifery Law. These three factors make a significant contribution to shaping stronger midwifery education and in preparing competent graduates to strengthen the midwifery workforce in Indonesia.
A4	Adnani et al / A historical narrative of the development of midwifery education in Indonesia/ 2023/ Indonesia	To describe the history of midwifery education, present current educational programs, and explore efforts that have been made to	Review of historical and contemporary government documents.	-	The history of midwifery education in Indonesia reveals that for too long, midwifery education has been determined, regulated, and even controlled by parties outside the midwifery profession. However, when midwifery associations and

Code	Name/ Title/ Year/ Research location	Objective/ Focus	Method	Population (if applicable)	Key Findings
		advance the midwifery profession in Indonesia.			regulations inform and regulate midwifery education, there is an opportunity to provide care that can make a difference in outcomes for women and their families. An analysis of the history of midwifery education in Indonesia provides insight into what is needed for quality education.
A5	Adnani et al/ Strengthening midwifery education through clinical experience: Findings from a qualitative study in Indonesia/ 2020/ Indonesia	This study aimed to identify the barriers and facilitating factors that strengthen midwifery education in Indonesia.	Qualitative descriptive approach with in-depth interviews	There were 37 participants from 12 midwifery schools in eight cities in six provinces in Indonesia.	The main findings of this study focused on the clinical experience of midwifery, which consisted of four sub-themes: 1) Effective direct clinical experience, 2) Theory-practice gap, 3) The role of mentors in practice, and 4) Systems in the clinical environment. This study suggests that barriers in preparing midwifery students to acquire adequate midwifery knowledge and skills during clinical placements may affect the quality of midwifery education.
A6	Lafrance & Brunet-Page / Initial and Continuing Education Needs for the Professional Development of Midwifery Preceptors / 2024 / Canada	To determine the initial and continuing education needs of midwife preceptors, understand their preferred mode of education delivery, and determine the most appropriate time to implement this initial and continuing education.	A descriptive exploratory study was conducted by collecting data through two discussion groups (focus groups) consisting of midwife preceptors and prospective preceptors.	Preceptor midwives and preceptor candidates in Québec, Canada.	The needs of preceptors related to initial and continuing education were very similar. Participants emphasized the importance of preparation in practicum pedagogy, relationships with midwifery students, and what constitutes preceptorship. The preferred delivery modes were face-to-face for initial education and via remote communication platforms for continuing education. The most appropriate time for professional development activities was annually,

<b>Code</b>	<b>Name/ Title/ Year/ Research location</b>	<b>Objective/ Focus</b>	<b>Method</b>	<b>Population (if applicable)</b>	<b>Key Findings</b>
					prior to the start of the practicum with students.
A7	Aprianti et al / Harmonization of midwifery education curriculum: A Scoping review 2024/ Indonesia	Evaluating the harmonization of midwifery education curriculum between international standards and local needs.	Scoping review	-	Research identifies mismatches between theory and practice, limitations in educational infrastructure, challenges in implementing accreditation standards, and variations in approaches between developed and developing countries in aligning curricula with local needs.
A8	Bogren et al / Facilitators of and barriers to providing high-quality midwifery education in South-East Asia—An integrative review/ 2022/ Southeast Asia	Describes the factors that facilitate and hinder the provision of high-quality midwifery education in Southeast Asia.	Systematic integrative literature review	34 relevant scientific articles from a total of 1257 search results in the CINAHL, PubMed, and Scopus databases	Midwifery education in Southeast Asia has yet to meet the ICM global standards fully. Key barriers include a curriculum that is not yet separate from nursing and a lack of educator qualifications. Facilitative factors include continuing academic education for midwifery educators and mentorship programs that support pedagogical and assessment processes, with a focus on critical thinking, reflection, and decision-making skills.
A9	Susanti / Comparison of Midwifery Education Curriculum in Indonesia, New Zealand, and Australia/ 2021/ Indonesia & New Zealand	Developing a midwifery education curriculum based on a comparison of curricula in Indonesia, New Zealand, and Australia to produce professional midwife graduates.	Literature review		Curriculum comparison aims to develop midwifery education to meet global demands and produce professional graduates who are woman-centered.
A10	Griffin et al / Strengthening midwifery in the South-East Asian	Identifying future research priorities to	Scoping review		The majority of studies originated from Indonesia (47.7%), followed by India (21%) and

Code	Name/ Title/ Year/ Research location	Objective/ Focus	Method	Population (if applicable)	Key Findings
	region: A scoping review of midwifery-related research/ 2023	strengthen midwifery through a review of research conducted in the last 10 years in Southeast Asia			Bangladesh (13.3%). The most significant focus was on service practice (37.4%) and pre-service education (30.8%). Variations were found in the definition of midwife, educational pathways, regulation, accreditation, and scope of practice between countries. The importance of further research on investment in midwifery education, regulation, and leadership was emphasized.

Source: Research 2025

The data synthesis and analysis confirm the critical role of structured leadership and clinical experience in enhancing the quality of midwifery education, as measured by four criteria.

### Midwifery Education Curriculum

The curriculum in midwifery education demonstrates significant progress when aligned with international standards, such as those of the ICM; however, many institutions still face challenges in harmonizing local needs with global competencies (Govindarajulu et al., 2023a; Griffiths et al., 2023). For example, Rwanda successfully implemented a culturally adapted, standardized curriculum led by local stakeholders (Griffiths et al., 2023). In Indonesia, curriculum development has historically been influenced by external parties; however, recent efforts have emphasized professional-led reforms to improve educational quality (Bradshaw et al., 2025; Hakimi et al., 2021).

### Curriculum Development in Midwifery

Curriculum development benefits greatly from stakeholder involvement and contextual adaptation, which enhance both relevance and sustainability of programs (Griffiths et al., 2023). The role of accreditation and supportive policies, such as the Midwifery Law in Indonesia, has contributed to the development of stronger educational programs and better graduate preparation (Wong et al., 2023). Comparisons across countries underscore the importance of aligning curricula with global standards to meet international competency expectations (Yilmaz & Aktaş, 2023).

### Challenges in Midwifery Education

Challenges such as insufficient clinical exposure, inadequate mentorship, and infrastructure

gaps remain prominent (Fisher et al., 2022; Funa, 2024). The theory-practice gap and inconsistent clinical mentoring were identified as significant barriers to student competence development in Indonesia (Fisher et al., 2022). Southeast Asian education systems frequently struggle with the qualifications of educators and the integration of nursing-midwifery curricula, which limits quality improvements (Funa, 2024).

### **Graduate Competence in Midwifery**

Clinical leadership and decision-making skills are critical competencies that need strengthening in midwifery graduates (Griffiths et al., 2020). Integration of clinical leadership into diploma programs in Indonesia has shown promise in equipping graduates to manage complex healthcare responsibilities (Griffiths et al., 2020). Continued professional development for preceptors and educators is essential for maintaining and enhancing graduate competence (Khajehpour et al., 2023). These findings align with previous studies emphasizing the need for comprehensive curriculum reform, improved clinical learning environments, and sustained policy support to ensure competent midwifery graduates capable of addressing maternal and child health needs effectively (Firoozehchian et al., 2022).

### **Discussion**

Midwifery education in various countries has undergone significant developments over the last two decades, one of which is through efforts to develop a curriculum that meets local needs while adhering to international standards, such as those set by the ICM. In this context, both Rwanda and Indonesia have made notable strides, but their approaches and challenges differ in important ways (Adnani et al., 2023; Bogren et al., 2024).

In Rwanda, curriculum reform has been deeply rooted in local cultural contexts while maintaining alignment with global standards (Bogren et al., 2024). This process underscores the crucial role of national ownership and culturally sensitive adaptation in fostering sustainable and relevant curriculum development. The process of reforming the midwifery curriculum, based on local culture but standardized globally, highlights the importance of *national ownership* in sustainable curriculum development (Bogren et al., 2024). The Rwandan experience underscores how embedding local values within the curriculum can strengthen midwifery education's responsiveness to community needs and improve graduate readiness (Bogren et al., 2024).

In contrast, Indonesia has primarily focused on benchmarking and adopting international curricula, such as those from Australia, to enhance specific competencies, including clinical leadership (Adnani et al., 2022, 2023). Various approaches have been taken to align the midwifery education curriculum, including benchmarking with the Australian curriculum to strengthen clinical leadership competencies (Ulnang & Salesman, 2023). The historical evolution of Indonesian midwifery education reveals a complex interplay between professional associations, regulatory frameworks, and educational institutions, which collectively contribute to building a curriculum system that is resilient yet responsive to global changes (Adnani et al., 2023; Aprianti et al., 2024). A study of the history of Indonesian midwifery education also emphasizes that the involvement of professional associations,

strong regulations, and educational institutions is key to forming a curriculum system that is resilient and responsive to global dynamics (Adnani et al., 2023).

Despite these advances, both countries face similar overarching challenges. Structural barriers, including the gap between theoretical instruction and practical application, inadequate educational infrastructure, and shortages of qualified teaching staff, continue to limit the production of competent midwifery graduates (Adnani et al., 2022, 2023). This disconnect directly affects graduate readiness to deliver quality care. To address these issues, both Rwanda and Indonesia emphasize the importance of strengthening clinical experience and enhancing preceptor support as key strategies to improve competency outcomes (Lafrance & Brunet-Pagé, 2025). Moreover, institutional roles in adapting curricula to local realities and promoting competency-based accreditation and evaluation frameworks are crucial for sustainable (Erlandsson et al., 2022; Funa, 2024).

However, various challenges still overshadow the process of developing and implementing midwifery education (Lafrance & Brunet-Pagé, 2025). Structural barriers, including the disparity between theoretical knowledge and practical application, limited educational infrastructure, and a lack of qualified teaching staff, are the primary obstacles to producing competent graduates (Adnani et al., 2022). This gap has a direct impact on the readiness of graduates to provide quality services. Therefore, strengthening clinical experience and preceptor support are important strategies that need to be implemented to improve the competence of midwifery graduates (Lafrance & Brunet-Pagé, 2025). In addition, it is also important to strengthen the role of institutions in adapting the curriculum to local challenges and encouraging competency-based accreditation and evaluation (Erlandsson et al., 2022; Funa, 2024).

In summary, while Rwanda exemplifies a locally-driven, culturally embedded curriculum reform, Indonesia demonstrates a model of integrating international benchmarks with national regulatory strength (Adnani et al., 2023; Bogren et al., 2024). Both approaches offer valuable lessons for midwifery education in diverse settings, but they share a common need to bridge the theory-practice gap and strengthen institutional support (Adnani et al., 2022; Bogren et al., 2024).

## **Midwifery Education Curriculum**

Midwifery education is a crucial aspect in forming competent health workers who are ready to face global health challenges. In response to these challenges, the midwifery education curriculum must be able to adapt to the dynamic healthcare needs of the time, including inequities in health services, emerging infectious diseases, and rising healthcare costs. Therefore, an effective curriculum must strike a balance between theory and practice to prepare graduates who can address various health problems in the field (Frank et al., 2010). The curriculum structure in Indonesia follows the *Regulasi Nomor 232/U/2000*, published by the Kementerian Pendidikan Nasional, which requires a proportion of 40% theory and 60% practice in midwifery education, aligning with international standards in midwifery curriculum development. This approach has also been adopted by countries such as New Zealand and Australia, which prioritize midwifery practice as a crucial element in their curricula (Susanti, 2021).

The importance of implementing technology in the midwifery education curriculum is increasing, given the rapid development of technology in the world of education. Developed countries, including New Zealand, have integrated technology into their curriculum to enhance learning effectiveness. Digital tools enable individuals in remote areas to access midwifery education more easily, leading to more effective interactions in the teaching and learning process (Bogren et al., 2022). This suggests that future midwifery education curricula must integrate technology not only to increase access but also to increase the overall quality of education (Ahmadi et al., 2018). In line with this development, midwifery education based on a "women-centered care" approach that respects patient privacy and confidentiality is also increasingly (Susanti et al., 2022).

### **Curriculum Development In Midwifery**

The development of a midwifery education curriculum is a complex process that involves various factors, including an analysis of public health needs and the determination of educational goals and strategies relevant to practical needs in the field (Aprianti et al., 2024). In this case, curriculum development is carried out with a systematic approach, consisting of problem analysis, determination of educational goals, development of learning materials and methods, implementation, and evaluation involving feedback from students (Adnani et al., 2023; Lafrance & Brunet-Pagé, 2025). This model aims to ensure that the midwifery education curriculum remains relevant to the evolving demands of public health (Lee et al., 2023).

In some countries, such as Ghana and Rwanda, technology has been applied in midwifery education to improve teaching effectiveness, especially for students from remote areas (Bogren et al., 2024). In the implementation of the curriculum in Ghana, for example, informatics training is provided in the early semester to equip students with technological skills that are useful in their midwifery practice (Vermeulen et al., 2024). This aligns with the curriculum implemented in Rwanda, which focuses on developing midwifery competencies through the use of technology and practical skills, integrating social and cultural factors into its approach (Bogren et al., 2024). This curriculum development model underscores the importance of innovation in midwifery education in addressing evolving global challenges.

### **Challenges In Midwifery Education**

One of the biggest challenges in midwifery education is the inequality of access to education caused by various factors, including limited resources in developing countries. Many midwifery education institutions in Indonesia, for example, face difficulties in implementing a curriculum that fully aligns with global standards (Winarni et al., 2014). This inequality is rooted in the lack of adequate educational facilities, the limited number of competent educators, and the insufficient infrastructure to support technology-based learning (Milne et al., 2014). This presents a significant challenge in ensuring that midwifery graduates possess the necessary competencies to deliver high-quality midwifery services.

In addition, another challenge faced by midwifery education is developing a curriculum that facilitates midwifery practice based on evidence and patient care (Yang et al., 2021). In Bangladesh, for example, a mentorship program was conducted both face-to-face and online

to provide supervision that supports midwifery students' clinical practice (Govindarajulu et al., 2023). However, the biggest challenge in implementing this curriculum is developing an adequate simulation-based program, which is necessary to support effective practical learning and ensure that students acquire the skills required in a real-world context (Wang et al., 2023). Therefore, a more holistic and evidence-based approach is needed to address these challenges.

### **Graduate Competence In Midwifery**

The competence of midwifery graduates is the leading indicator of the success of midwifery education. Midwifery graduates are expected to not only strong theoretical knowledge, but also adequate practical skills to deliver safe and efficiemidwifery services, these competencies include the ability to think critically, leadership, and high clinical skills, all of which are very important in dealing with complex situations in the field (Ulnang & Salesman, 2023). Hence, the development of a curriculum that emphasizes both practical and theoretical competencies plays a crucial role in preparing midwife graduates to overcome challenges in the workplace (Wang et al., 2023).

In Australia, for example, the midwifery education curriculum is designed to ensure that graduates can demonstrate their competence in midwifery practice, with a focus on woman-centred midwifery care (Ahmadi et al., 2018). In other countries, such as Rwanda and Ghana, graduate competency development is similar, with a focus on developing clinical and leadership skills that can be applied across diverse cultural and social contexts (Ahmadi et al., 2018). These graduate competencies must be supported by ongoing training and systematic evaluation to ensure that midwives can work effectively and provide quality care, despite the challenges in the field (Hunter et al., 2022).

Quality midwifery education is crucial in producing competent health workers who are prepared to address the increasingly complex global health challenges (Bogren et al., 2022). The midwifery education curriculum needs to continue to evolve to reflect the dynamics of community needs, combine theory and practice in a balanced way, and accommodate technological advances that can improve teaching effectiveness (Firoozehchian et al., 2022). The formulation of a curriculum based on evidence and best practices is also essential for preparing graduates who possess both theoretical knowledge and practical skills, as well as skills relevant to the field's specific conditions (Susanti, 2021).

However, challenges in midwifery education still exist, especially related to inequality in access to education and limited infrastructure in some areas, which affect the quality and equality of midwifery services (Milne et al., 2014). In facing these challenges, the development of innovative and adaptive curricula, as well as the use of technology, are important steps to improve access and quality of midwifery education, especially in developing countries (Susanti et al., 2022). The competencies of midwifery graduates based on a holistic and evidence-based approach, as well as strong clinical skills, will enable them to provide high-standard care despite facing various challenges in the field (Susanti et al., 2022). Therefore, it requires continuous enhancement of the curriculum, education, and training so that midwifery graduates can become professionals who are ready to face global health challenges in the future (Funa, 2024).

Overall, the findings highlight the importance of strengthening midwifery education curricula in Indonesia through a contextual and globally competent approach (Ulnang & Salesman, 2023), which emphasizes the integration of clinical leadership in diploma-level midwifery education to enhance graduates' abilities to manage complex responsibilities in real-world practice. This is further supported by Rwanda's experience, where the successful national curriculum reform—led by local stakeholders and aligned with ICM global standards—serves as a model of best practice (Bogren et al., 2024). In Indonesia, the structural and historical complexities affecting the quality of midwifery education include the roles of professional associations, regulations, and accreditation challenges (Adnani et al., 2023). Our analysis reveals that the harmonization between international standards and local needs remains incomplete, with gaps between theory and practice as well as limited educational infrastructure (Ahmadi et al., 2018). However, a novel contribution from this synthesis suggests that integrating clinical leadership training, strengthening preceptor capacities (Lafrance & Brunet-Pagé, 2025), and adopting more practical, experiential learning approaches are key strategies for designing responsive, competent, and sustainable midwifery curricula (Adnani et al., 2022). Therefore, this study not only confirms previous findings but also introduces a new strategic dimension to curriculum development: the importance of synergy between clinical leadership, institutional strengthening, and cultural adaptation in shaping high-quality midwifery education.

Therefore, a comprehensive midwifery education system that integrates a theoretical foundation, clinical practice, technological advancements, and competency-based development is a fundamental step toward enhancing the standard of global midwifery services and addressing persistent health challenges (Hajifoghaha et al., 2020; Susanti et al., 2022).

## CONCLUSION

Overall, this study emphasizes that an effective midwifery education curriculum necessitates a well-balanced integration of theory and practice, along with the incorporation of technology to enhance access to and the quality of learning. Key challenges identified include inequities in educational access and limited infrastructure, which continue to hinder the implementation of the curriculum. Despite these barriers, several countries have successfully adopted evidence-based and locally relevant approaches to produce competent graduates prepared for global health challenges.

Given these findings, educational institutions, policymakers, and stakeholders in midwifery education must prioritize curriculum reforms that emphasize the development of practical skills, robust clinical experiences, and competency-based assessments. Urgent action is needed to address resource gaps and ensure equitable access to quality midwifery education. By doing so, midwifery programs can better equip graduates to deliver high-quality, context-appropriate care, ultimately improving maternal and newborn health outcomes worldwide.

The future of midwifery education depends on sustained commitment to innovation, collaboration, and responsiveness to evolving healthcare needs.

## **AUTHOR'S NOTE**

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