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Effects of online teaching strategies on midwifery students' skills: A scoping review

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ABSTRACT

Online teaching has become increasingly significant in midwifery education due to its flexibility and accessibility. Midwifery education, which heavily relies on hands-on clinical training, faced limitations in delivering practical skills through online platforms. This study aims to investigate the impact of online teaching strategies on the academic performance and clinical skill development of midwifery students. The review was conducted to understand how such strategies influence student engagement, knowledge acquisition, and the ability to apply clinical competencies. A scoping review method was applied, sourcing data from PubMed, ScienceDirect, and Google Scholar. From a total of 781 articles screened, seven studies published between 2019 and 2024 met the inclusion criteria. The findings indicate that while online learning enhances theoretical understanding and offers flexibility, it often falls short in practical skill training due to the lack of in-person interaction, limited access to technology, and varying levels of digital literacy. Some innovations, such as virtual simulations, show promise in bridging this gap. However, blended learning remains the most effective approach in midwifery education. Further research is recommended to optimize online clinical training tools and address digital inequities among students.

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ABSTRAK

Pembelajaran daring semakin berperan penting dalam pendidikan kebidanan sebab fleksibilitas dan kemudahan aksesnya terhadap sumber belajar. Pendidikan kebidanan yang sangat bergantung pada pelatihan klinik secara langsung kerap mengalami keterbatasan dalam penyampaian keterampilan praktis melalui platform daring. Penelitian ini bertujuan untuk mengkaji dampak strategi pengajaran daring terhadap capaian akademik dan pengembangan keterampilan klinik mahasiswa kebidanan. Tinjauan ini dilakukan untuk memahami sejauh mana strategi tersebut memengaruhi keterlibatan mahasiswa, penguasaan materi, dan kemampuan penerapan keterampilan klinik. Metode yang digunakan adalah tinjauan skoping dengan menelusuri data dari PubMed, ScienceDirect, dan Google Scholar. Dari 781 artikel yang disaring, tujuh studi yang diterbitkan antara tahun 2019 hingga 2024 memenuhi kriteria inklusi. Hasil penelitian menunjukkan bahwa pembelajaran daring dapat meningkatkan pemahaman teori dan memberikan fleksibilitas, namun sering kali kurang optimal dalam pelatihan keterampilan praktik karena terbatasnya interaksi langsung, akses teknologi yang tidak merata, serta tingkat literasi digital yang bervariasi. Beberapa inovasi seperti simulasi virtual menunjukkan potensi dalam menjembatani kesenjangan tersebut. Akan tetapi, pembelajaran campuran (blended learning) tetap menjadi pendekatan yang paling efektif dalam pendidikan kebidanan. Penelitian lebih lanjut diperlukan untuk mengembangkan strategi daring yang efektif dalam pelatihan keterampilan klinik dan mengatasi ketimpangan digital di kalangan mahasiswa.

Kata Kunci: *keterampilan klinis; pembelajaran campuran; pembelajaran daring; pendidikan kebidanan*

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INTRODUCTION

Online education has become an increasingly popular option in midwifery education, offering greater flexibility and access to a wide range of learning resources. This development is essential for ensuring that graduates acquire the competencies necessary to provide optimal care, particularly within their communities (Downer et al., 2021; Isangula et al., 2021). In this context, enhancing digital competencies among midwives has been shown to significantly improve their knowledge and skills in managing postpartum hemorrhage and neonatal resuscitation. This highlights the vital role of digital tools in strengthening maternal and newborn care, particularly in low-income countries where access to conventional training is often limited (Nishimwe et al., 2021). Blended learning approaches, which combine face-to-face and e-learning methods, have emerged as a promising strategy to enhance the quality of midwifery education. These approaches offer flexibility, reduce training costs, and allow students to progress at their own pace (Fitriani, 2024; Ndayisenga et al., 2022). However, for online learning to achieve its full potential, student engagement and two-way communication are essential components (Downer et al., 2021). Additionally, clinical education in midwifery is shaped by various factors, including student characteristics, practice environments, guidance quality, and assessment methodologies (Habibah & Susanti, 2024).

Technological advancements, including virtual classrooms, unfolding case studies, and virtual reality simulation, provide a safe and immersive environment that fosters critical reflection and transformative learning, making them a powerful pedagogical tool to enhance midwives' practical competencies and critical thinking skills in complex clinical scenarios (Soilis et al., 2024). Despite the promise of these technologies, challenges remain. Adequate training and support for faculty and students are necessary, and a continued preference for in-person clinical practice presents an ongoing barrier (Downer et al., 2021). Interprofessional online learning has proven effective in improving healthcare professionals' knowledge and skills; however, evidence for its ability to induce sustained behavior change and alter organizational practices remains limited, suggesting the need for enhanced engagement strategies to achieve deeper impact (K. Zhang & Thompson, 2023).

Educational technology has the potential to enhance student performance; however, its effectiveness is contingent upon evidence-based implementation and alignment with pedagogical practices (Valverde-Berrocoso et al., 2022). The COVID-19 pandemic significantly accelerated the adoption of online learning across various educational sectors, including midwifery, demonstrating the capacity of technology to provide education while overcoming traditional constraints of time and location (Bdair, 2021; Lovrić et al., 2020). Despite its flexibility, online learning presents challenges in the instruction of clinical skills that require direct interaction. Some students express concerns that online education does not adequately equip them with the practical skills necessary in midwifery training (Olum et al., 2020), while others perceive flexibility in distance education as a significant advantage, allowing them to manage their learning pace and environment, which in turn fosters greater self-regulated effort and satisfaction with their educational experience (Turan et al., 2022).

Clinical learning remains a critical element of midwifery education. However, with the use of technology, such as virtual simulations and video-based teaching, some skills can be

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effectively taught online (Lovrić et al., 2020). Access to adequate technological tools, such as personal computers and stable internet connections, also influences students' attitudes towards online learning. However, technological barriers in developing countries, including poor internet connectivity, remain a challenge (Diab & Elgahsh, 2020; Khagi et al., 2021). Additionally, students' attitudes towards online learning have a significant impact on their learning outcomes (Olum et al., 2020). Therefore, the purpose of this scoping review is to explore and evaluate the influence of online teaching strategies on the academic and clinical skills of midwifery students. This scoping review aims to examine the impact of online teaching strategies on the academic performance and clinical skill development of midwifery students, with a focus on student engagement, skill acquisition, and overall learning outcomes.

LITERATURE REVIEW

Online Teaching Strategies in Midwifery Education

The integration of online teaching strategies into midwifery education has gained significant momentum, particularly in response to the challenges posed by the COVID-19 pandemic (Robinson et al., 2024). Online education using innovative technologies can increase the number of healthcare providers in midwifery. Integrating case-based learning with virtual reality simulations in midwifery education enhances students' critical thinking, self-directed learning abilities, and clinical competencies, offering an effective approach to prepare students for real-world clinical scenarios (Zhao et al., 2023). Blended learning, which combines traditional face-to-face instruction with online components, has been identified as an effective approach to enhance learning outcomes (Yustina et al., 2020). This method provides students with greater flexibility and access to educational resources, facilitating a more student-centered learning process (Ndayisenga et al., 2023). It allows students to engage with course materials at their own pace, which can support deeper understanding and retention of knowledge.

However, the successful implementation of blended learning relies on various factors, including the availability of infrastructure, the digital literacy of both students and educators, and curriculum adaptability. A qualitative study conducted in Rwanda highlighted that, although midwifery students appreciated the benefits of online learning, they also faced challenges such as limited internet access and insufficient technical support (Ndayisenga et al., 2022). These findings underscore the importance of addressing structural and contextual barriers to enhance the overall effectiveness of online teaching strategies. The role of educators is also critical in determining the success of online and blended learning initiatives. Continuous professional development (CPD) is crucial for enhancing educators' skills in digital pedagogy. In a study conducted across Kenya and Nigeria, midwifery educators who participated in a CPD program reported improved confidence and competence in online teaching (Shikuku et al., 2024).

Many educators lack the skills and confidence to deliver high-quality online education. Online educators need support through resources, education, and professional development to address their needs and improve their satisfaction and effectiveness (Biedermann & Ahern, 2023). Such initiatives help ensure that educators are not only proficient in clinical knowledge

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but are also equipped to deliver engaging and effective digital instruction. Furthermore, international collaborations have contributed positively to the evolution of online teaching practices in midwifery. One notable example is a project between Poltekkes Kemenkes Denpasar and the Université Catholique de Lille, as reported in the news, which involved students in developing simulation-based modules for managing postpartum hemorrhage. These efforts reflect the growing potential for global cooperation in enhancing digital and simulation-based learning environments in midwifery education (see: https://www.poltekkes-denpasar.ac.id/midwifery-simulation-preparation-collaboration-between-poltekkes-kemenkes-denpasar-students-and-university-catholique-de-lille-france/).

Clinical Skill Development through Digital Platforms

The development of clinical skills is a vital part of midwifery education and is traditionally fostered through direct, hands-on experiences in clinical settings. Due to the shift toward remote learning during the pandemic, educators were compelled to explore alternative solutions. Simulation-based education (SBE) has emerged as a promising strategy, offering students the opportunity to engage in realistic clinical scenarios within a virtual environment. A systematic review confirmed that simulation not only improves clinical competence but also boosts student confidence and decision-making abilities (Changuiti et al., 2023). However, implementing SBE in low-resource settings is not without its challenges. A study conducted in Malawi identified several critical elements for successful implementation, including sufficient infrastructure, training for simulation facilitators, and curriculum alignment (Mapulanga et al., 2024). These findings point to the importance of a systemic and context-aware approach in integrating simulation into midwifery education.

Further innovation in simulation tools has demonstrated that even low-cost solutions can significantly improve clinical education. A collaboration between institutions in Italy and Ethiopia has produced a high-fidelity placenta simulator to train students in the management of umbilical cords and placentas. The tool was not only accessible but also effective in helping students acquire essential clinical skills in maternal care (Ferrari et al., 2024). This example shows how affordable innovations can bridge training gaps in under-resourced environments. Virtual reality (VR) has also shown potential as a tool for immersive clinical training. A recent study found that the use of a VR simulation for neonatal resuscitation resulted in significant improvements in student engagement and skill retention. Participants reported that the immersive experience helped them better understand clinical procedures and increased their preparedness for real-world scenarios. These findings support the continued exploration of digital simulation as a supplement, not a replacement, for hands-on clinical practice.

METHODS

Study design

This study employed a scoping review methodology to outline, compile, summarize, and synthesize findings from prior studies on the impact of online teaching strategies on the academic and clinical skills of midwifery students. This study adopts a methodological framework that facilitates an in-depth analysis of recent research, identifies knowledge gaps,

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and provides direction for future studies on the integration of AI in midwifery. The scoping review process was conducted through five key stages: 1) identifying the research question; 2) identifying relevant studies; 3) selecting studies; 4) charting the data; and 5) collating, summarizing, and reporting the results.

Literature Search Strategy

A comprehensive search strategy was employed to acquire pertinent research exploring the influence of online teaching strategies on midwifery students' academic and clinical skills. The search strategy was executed on the indexed databases of PubMed, Google Scholar, and Science Direct, utilizing keywords and MeSH terms synonymous with ("online learning" OR "teaching strategies" AND "midwifery education" AND "clinical skills" AND "academic performance"). The search strategy was visualized using a PRISMA flow diagram (see **Figure 1**), which outlines the number of records identified, screened, and included in the review.

Eligibility Criteria

To ensure relevance and quality, this review applied explicit inclusion and exclusion criteria, as outlined in **Table 1**.

Table 1. Eligibility Criteria

Inclusion Criteria	Exclusion Criteria
Studies published between 2019 and 2024	Studies published before 2019
Written in English	Non-English articles
Full-text available	Full-text not available
Focused on midwifery education and online teaching strategies	Articles not centered on midwifery students or online strategies
Primary research: qualitative, quantitative, or mixed-methods studies	Systematic reviews, meta-analyses, editorials, or opinion pieces

Source: Research 2025

These criteria were designed to ensure the inclusion of contemporary, relevant, and high-quality primary studies. The time range (2019-2024) was selected to reflect recent educational adaptations, particularly in the post-COVID-19 context. Only articles written in English with full-text access were included to ensure consistent analysis and avoid language bias.

Identification and Selection

The identification and selection of articles involved a multi-stage screening process. A total of 781 records were retrieved from PubMed, ScienceDirect, and Google Scholar. After removing duplicates, titles and abstracts were screened for relevance to the research question. Full texts of potentially eligible articles were then assessed based on the predefined inclusion and exclusion criteria.

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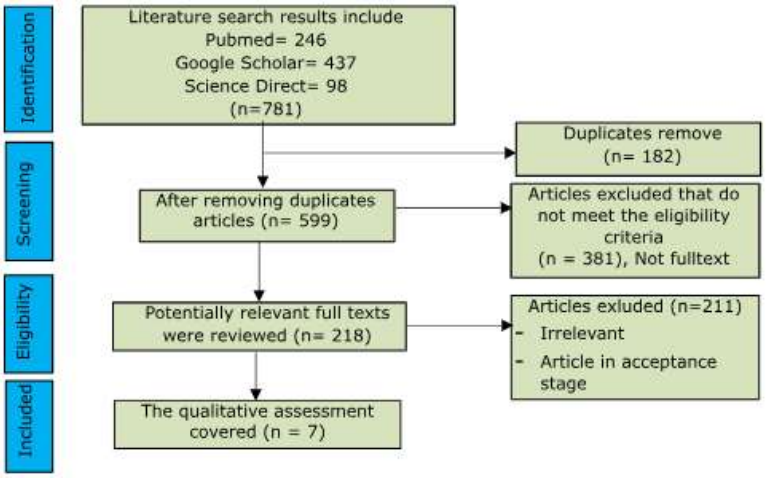

Figure 1. Diagram of the literature selection
Source: Research, 2025

Articles were excluded if they lacked relevance, were not written in English, did not provide full-text access, or were not primary research. The final selection resulted in seven studies being included. The complete screening process is outlined in the PRISMA flow diagram (**Figure 1**).

Data Extraction

The data extraction process was executed in multiple stages. The initial phase was summarizing the seven chosen studies, detailing the authors' names, years of publication, titles, participants, methodologies employed, results, and database sources. The summaries were organized in a synthetic matrix table. The subsequent step involved organizing questions pertinent to the issue to facilitate the author's identification of the discussion's subtitle, specifically by analyzing the findings of research summaries. The final step involved conferring and elucidating facts, theories, and opinions regarding the outcomes and their acquisition. The theoretical discussion presents an explanation of the research findings alongside the pertinent theory.

Data Analysis

Relevant scholarly articles about the investigated concerns were systematically reviewed and qualitatively assessed by identifying principal themes, patterns, and insights from the findings. Thematic analysis involves identifying and analyzing patterns of meaning (themes) across a dataset, enabling researchers to interpret various aspects of the research topic in depth. This involved a process of familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. The inclusion criteria for this study were meticulously crafted to optimize article selection, ensuring that only the most pertinent research was examined, thereby enhancing the focus and efficiency of the analytical process.

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RESULTS AND DISCUSSION

Seven articles satisfied the inclusion criteria. Of these, four were published in 2022, one in 2021, two in 2023, and three in 2024. In terms of database sources, four studies were retrieved from PubMed, four from Google Scholar, and two from ScienceDirect (see **Table 2**).

Table 2. Results of data extraction

Authors and year	Participant	Study Design	Results	Database
Çetinkaya et al (2022)	Purposive sampling of 20 third-year midwifery students as participants	Descriptive phenomenological qualitative study	• The transition to distance education during the COVID-19 pandemic negatively impacted the learning process for midwifery students, reducing their motivation and willingness to learn. • The lack of hands-on clinical training led midwifery students to feel inadequate in their professional skills and lacking in self-confidence. • Distance education disrupted the students' ability to work in multidisciplinary teams and develop a holistic approach to patient care.	Google Scholar
Sögüt et al (2022)	578 female midwifery students	A Cross-sectional study design	• eHealth literacy and self-efficacy levels were lower among younger, first-year, low-income students who spent less time online and were less satisfied with distance education. • There was a significant relationship between eHealth literacy and self-efficacy for online education. • Self-efficacy related to online technologies was lower among students with internet access issues and a preference for asynchronous courses.	PubMed
Mortazavi et al (2021)	52 nursing, midwifery, hygiene, and paramedical students from Sabzevar University of Medical Sciences	Qualitative descriptive study design	• Students expressed dissatisfaction with virtual education due to a lack of feedback, communication channel problems, unpreparedness of the message receiver, and weakness in educational content. • The most significant dissatisfaction was with the quality of the educational content provided in the virtual learning environment. • The study recommends that educational authorities improve the quality of educational content and strengthen the infrastructure for distance learning.	PubMed

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Authors and year	Participant	Study Design	Results	Database
Youngwanichsetha et al (2022)	Systematic random sampling of 80 nursing students (n=40) and control (n=40) groups	Quasi-experimental research design	• The online computer-assisted instruction group had significantly higher scores on knowledge and self-efficacy compared to the traditional lecture group. • The students were delighted (82.5%) with the online computer-assisted instruction.	PubMed
Naysanian et al (2024)	60 participants randomly assigned to intervention (n=30) and control (n=30) groups	Experimental study design with a control group	• Clinical virtual rounds significantly increased clinical self-efficacy in midwifery students compared to a control group. • The study recommends using clinical virtual rounds as a method to increase clinical self-efficacy among midwifery students.	Google Scholar
Bektaş et al (2024)	181 participants (99 first-year, 82 second-year)	Cross-sectional study design	• Distance education positively affected the quality and participation in the theoretical aspects of the courses, but negatively affected the quality and participation in the practical and laboratory components of midwifery education. • Approximately 30% of the students lacked the necessary living conditions, study environment, technology, and internet access required for effective distance learning. • The majority of students (60.8%) evaluated their distance education experience during the pandemic as negative, although over half (53.6%) believed a blended learning approach could be appropriate after the pandemic.	Science Direct
Jackson et al (2023)	The experiences of midwifery students in Aotearoa New Zealand during the COVID-19 lockdown in 2020	A qualitative descriptive study	• The COVID-19 pandemic caused significant uncertainty and disruption for midwifery students, including insecurity, loss of control, isolation, and constant worry. • Despite the challenges, the students were able to develop flexibility and resilience in response to the pandemic. • The pandemic provided unexpected opportunities for some students, such as increased continuity of placement and personal development.	Science Direct

Source: Research 2025

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This scoping review synthesizes the findings from seven studies that explore the influence of online teaching strategies on midwifery students' academic and clinical skills (see **Table 2**). The discussion is divided into key themes: the effectiveness of online learning strategies, challenges in clinical skills development, the impact of access to technology, student engagement, and identified research gaps.

Effectiveness of Online Learning Strategies

Online learning has emerged as a valuable tool in midwifery education, offering flexibility and broader access to learning resources. Blended learning approaches, which combine both face-to-face and online methods, have been shown to enhance midwifery education by providing students the ability to learn at their own pace and offering flexibility in scheduling (Jackson et al., 2023). The positive impact of blended learning, with students expressing a preference for a combination of online and in-person learning during the pandemic. This highlights the importance of maintaining a balance between flexibility and hands-on practice. Similarly, the effectiveness of online computer-assisted instruction was shown by the fact that students in this group scored significantly higher in knowledge and self-efficacy compared to those in traditional lecture-based instruction (Youngwanichsetha, 2022). Moreover, students reported high satisfaction with the online computer-assisted instruction, further supporting the advantages of digital learning environments for midwifery students.

However, challenges arise in terms of the practical application of clinical skills through online learning. While students felt comfortable with online communication, many reported concerns about the lack of opportunities for practical skill development in an online environment. Students felt that theoretical knowledge could be effectively delivered online, but practical and clinical learning required in-person interactions to ensure proficiency. This suggests that while online learning is effective for developing academic skills, it does not fully replace the need for hands-on clinical practice. A gap identified in the literature is the lack of prior research on the impact of distance education on the professional competence and academic motivation of midwifery students during the COVID-19 pandemic (Çetinkaya et al., 2022). Moreover, research gaps include improving the online learning environment, particularly regarding skill-based subjects.

Challenges in Clinical Skills Development

A significant limitation of online learning in midwifery education, as identified in several studies, is the difficulty in teaching clinical skills effectively without in-person interactions. Clinical education, which is critical for midwifery students, requires hands-on experience and direct patient contact (Bektaş et al., 2024). Studies emphasize that online learning fails to fully replicate real-world clinical environments, where midwifery students apply their theoretical knowledge in practice (Çetinkaya et al., 2022). Despite the availability of innovative technologies such as virtual simulations and video-based teaching, clinical learning cannot be fully substituted by online platforms (Lovrić et al., 2020). While virtual clinical rounds and online simulations showed positive results in increasing students' self-efficacy, these strategies are not sufficient to replace in-person clinical practice, which is vital for developing clinical competence in midwifery (Naysanian et al., 2024). Therefore, blended

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learning approaches that combine online theory with in-person clinical practice are crucial for ensuring comprehensive skill development. The gap here is the lack of research on how better to develop virtual learning methods for midwifery practice skills. Further studies should focus on creating more immersive and interactive tools for skill-based learning, including virtual reality, virtual demonstrations, and 3D simulations.

Impact of Technology Access on Learning Outcomes

Access to technology is a critical factor that influences the effectiveness of online learning. Students with limited access to technology, especially those from low-income backgrounds, experienced lower levels of eHealth literacy and self-efficacy in online learning (Sögüt et al., 2022). This lack of access negatively impacted their ability to fully engage with the course content, which in turn affected their academic performance and learning outcomes. The review also found that the availability of reliable internet was a key factor influencing students' satisfaction with online learning. Many students in developing regions faced difficulties in accessing the necessary technological tools to participate effectively in distance learning. These barriers further exacerbate educational inequalities, particularly for students from rural or underserved areas. Addressing these access disparities is essential for ensuring equitable learning opportunities for all students. A gap identified in the literature is the need for research on improving online assessments and evaluations to make them more secure and capable of evaluating higher-level skills (Bektaş et al., 2024).

Student Engagement and Communication

Engagement and communication are fundamental to the success of online learning. Active participation and effective communication between students and instructors were essential for creating a meaningful learning experience (Agbong et al., 2024). Students who had frequent interactions with instructors and peers through online platforms felt more connected to the learning process and were more likely to remain engaged in the course content. The use of interactive tools such as discussion forums and live video sessions was also cited as a critical factor in maintaining student engagement. However, the lack of face-to-face interactions during the pandemic led to feelings of isolation for some students, which affected their motivation and willingness to engage (Çetinkaya et al., 2022). The inability to work in multidisciplinary teams and the limited opportunities for collaboration hindered students' ability to develop a holistic approach to patient care (Çetinkaya et al., 2022; Jackson et al., 2023). A gap identified is the need to understand better how online learning environments can foster stronger connections, engagement, and reduce isolation, which could enhance student motivation (Jackson et al., 2023). Additionally, instructor training on the effective use of digital tools, such as educational apps, virtual reality, or other online platforms, could further improve the quality of teaching and practice experience in virtual settings. Equipping instructors with these skills may help create more interactive and supportive online learning environments.

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Discussion

The findings of this review emphasize the significant role that online learning has played in supporting midwifery education, especially during the COVID-19 pandemic. The flexibility and accessibility provided by online platforms allowed students to manage their learning independently, a benefit that became crucial during periods of restricted mobility and disrupted clinical placements. Blended learning models, which combine online and face-to-face methods, were found to be especially effective, offering the advantages of self-paced theoretical study while still preserving opportunities for hands-on clinical experience (Jackson et al., 2023). The effectiveness of computer-assisted online instruction was also noted, particularly in enhancing students' knowledge and self-confidence. Students who participated in this method showed significantly better outcomes compared to those in traditional classroom settings (Youngwanichsetha, 2022). This finding supports the potential of digital learning tools to enrich the educational experience of midwifery students.

However, while online learning is effective for delivering theoretical content, its limitations become evident when it comes to developing practical clinical skills. Numerous studies have highlighted this gap. Although online simulations and virtual clinical tools are promising, they cannot fully replace in-person interactions that are essential for building clinical competence (Çetinkaya et al., 2022; Bektaş et al., 2024). Students often report feeling underprepared for real-world practice when their clinical exposure is limited to virtual settings. Therefore, while digital strategies can complement traditional training, they are not sufficient as standalone solutions. This reinforces the need to maintain a blended learning approach where online theory is paired with direct clinical practice. Another critical issue is access to technology. Students from low-resource settings, particularly those in rural areas, face challenges such as limited internet connectivity and inadequate digital devices. These barriers directly affect learning engagement and academic performance (Sögüt et al., 2022; Bektaş et al., 2024).

In contrast, midwifery students in developed countries often benefit from reliable internet access, advanced digital learning platforms, and well-supported virtual simulation tools, which enhance their learning experience. For example, while students in some developing countries struggle with unstable connections during live classes, students in countries like the UK or Australia can access high-quality virtual simulations and learning management systems that support interactive and self-directed learning. This disparity in digital infrastructure and educational resources highlights the urgent need to ensure equitable access to technology if online learning is to be genuinely inclusive across diverse contexts. Engagement and communication also emerged as key factors influencing the success of online learning. Students who regularly interacted with lecturers and peers through virtual discussions and live sessions reported a stronger sense of connection to their studies (Agbong et al., 2024). However, many also reported feeling isolated due to the lack of face-to-face contact, which negatively impacted their motivation (Çetinkaya et al., 2022). This suggests that, beyond content delivery, online learning platforms must be designed to foster meaningful interaction and emotional support.

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CONCLUSION

This scoping review highlights the potential of online teaching strategies in enhancing midwifery education, particularly by offering flexibility and expanding access to learning materials. However, challenges remain in the effective delivery of clinical education, which requires more hands-on training and in-person interaction. The review suggests that a blended learning approach, supported by innovative technologies, may offer a solution to address these challenges. Ensuring adequate access to technological resources, fostering student engagement, and providing necessary support for both instructors and students are essential for improving the effectiveness of online learning in midwifery education. Future research should continue to explore the impact of online learning on clinical skills and develop strategies to overcome existing barriers, ensuring that midwifery students are adequately prepared for both academic and clinical practice.

AUTHOR'S NOTE

The author declares that there is no conflict of interest regarding the publication of this article.

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