



ENHANCING NURSING AND MIDWIFERY EDUCATION: A CRITICAL EXAMINATION OF THE COMPETENCY-BASED APPROACH

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ABSTRACT

Nurses and midwives play a vital role in patient care, serving as the backbone of the healthcare system. This review aims to examine critically the competency-based approach in the context of nursing and midwifery education. We conducted a literature review of studies published between 2010 and 2023, gathered from PubMed, Scopus, Web of Science and Google Scholar databases. Data from studies meeting our inclusion criteria were collected and summarized. The critical analysis of studies on Competency-Based Education in healthcare education reveals its effectiveness in enhancing nurses' and midwives' knowledge and practical skills. By emphasizing specific competencies, this approach ensures training directly relevant to real-world challenges, enabling students to apply their knowledge in diverse clinical scenarios. This approach strengthens practical skills, fosters self-confidence, and improves critical thinking and problem-solving abilities among nursing and midwifery students. Additionally, this approach has been proven effective in enhancing students' fundamental skills and clinical performance.

Despite its advantages in nursing and midwifery education, this approach faces notable challenges, including its feasibility in institutions with limited resources and its inconsistent adaptation to diverse learning environments and cultural settings. Additionally, it fails to recognize the crucial role of social learning in the development of interpersonal skills and collaborative abilities.

In summary, the competency-based approach in nursing and midwifery education shows promise in improving practical skills, self-confidence, and the quality of patient care, offering an effective alternative to conventional teaching methods. Despite its potential, addressing implementation challenges is crucial for its successful integration into nursing and midwifery education.

INTRODUCTION

Nurses and midwives play a vital role in patient care, serving as the backbone of the healthcare system. They are at the forefront of providing compassionate

and holistic care to patients, throughout their healthcare journey. From conducting health assessments and administering treatments to monitoring vital signs and offering emotional

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support, nurses and midwives ensure the well-being and comfort of patients (Aiken et al., 2014; Renfrew et al., 2014).

Their expertise extends beyond medical procedures; they also educate patients and their families about their conditions and treatment plans, empowering them to actively participate in their recovery process. With their dedication, knowledge, and interpersonal skills, nurses and midwives contribute significantly to improving patient outcomes and delivering high-quality healthcare services (Hernandez et al., 2013). The competency-based approach (CBA) in education, originating from the business world and later adapted to the healthcare field, emphasizes the mastery of specific skills. Instead of solely focusing on theoretical knowledge, the approach is based on a learner-centered model, where students are encouraged to demonstrate their competence in practical scenarios (Bajis et al., 2020).

The CBA in education and healthcare emerged in the mid-20th century as a response to the need for practical and job-oriented training. Benjamin Bloom's work on mastery learning laid the foundation for the CBA, which was later adopted in medical education and expanded to nursing and midwifery. Today, it remains a crucial part of healthcare education, focusing on specific skills and competencies essential for patient care. Ongoing research aims to refine and optimize its implementation (Book, 2014).

The CBA has emerged in nursing and midwifery education as a progressive and effective pedagogical model in response to the evolving demands of the healthcare industry. It is designed to align education with real-world practice, ensuring that nursing and midwifery students develop the necessary skills and knowledge required to excel in their future roles as healthcare professionals (Abouzaj, 2019). This approach places a strong emphasis on practical learning, hands-on experiences, and the demonstration of specific competencies. By tailoring education to meet the needs of the healthcare environment, the CBA prepares students to address diverse and complex patient care situations. Moreover, it fosters critical thinking, problem-

solving, and decision-making abilities, empowering nursing and midwifery graduates to provide safe and high-quality care. As the healthcare landscape continues to evolve, the CBA remains a relevant and indispensable framework for shaping competent, compassionate, and patient-centered nursing and midwifery professionals (Lewis et al., 2022). One of the main strengths of the CBA lies in its practical orientation. By emphasizing practical training, it enables nursing and midwifery students to gain confidence in their skills before entering the workforce (Hajiesmaello et al., 2022). Moreover, this approach promotes the development of critical thinking and problem-solving skills, as students are encouraged to analyze complex situations and effectively apply their knowledge. The focus on competencies also facilitates a more objective assessment of students' abilities, allowing trainers to identify areas for improvement and tailor individual learning pathways (Rivas et al., 2022).

Despite its advantages, the CBA approach is not without limits and challenges. One significant concern is the potential risk of oversimplifying complex healthcare scenarios, as competency frameworks tend to prioritize specific skills over a comprehensive understanding of patient care (Ramírez, 2020). Moreover, the emphasis on practical skills may overshadow the importance of ethical considerations, cultural competence, and interpersonal communication in nursing and midwifery practice. Additionally, implementing a competency-based curriculum demands substantial resources, including well-qualified trainers, adequate facilities, and continuous assessment tools, which may not be readily accessible to all educational institutions (Ji, 2017).

This study conducts a comprehensive analysis of the CBA in nursing and midwifery education. Despite its focus on practical skills and essential competencies, the CBA presents challenges such as oversimplifying complex healthcare situations, overlooking ethical and cultural dimensions, and necessitating substantial resources, including qualified trainers and assessment tools (Ramírez, 2020; Ji, 2017). Rooted in Benjamin Bloom's mastery learning

theory, the CBA emphasizes learner-centered education, encouraging students to demonstrate specific skills vital for nursing and midwifery practice (Book, 2014). While it enhances practical skills, critical thinking, and problem-solving abilities (Hajjesmaello et al., 2022), concerns persist, especially in nuanced areas like ethical considerations and interpersonal communication.

Despite the hurdles related to significant institutional resources required for widespread adoption (Ji, 2017), ongoing research aims to optimize the integration of the CBA. The objective is to ensure that nursing and midwifery graduates not only acquire technical skills but also navigate the intricacies of patient care scenarios. In the evolving healthcare landscape, the CBA remains pivotal, offering a framework to educate competent, empathetic, and patient-centered nursing and midwifery professionals, addressing the growing demands of the sector (Lewis et al., 2022).

A critical analysis of the CBA in nursing and midwifery education provides valuable insights into its impact on this crucial profession's evolution. By evaluating its pros and cons, identifying best practices, and integrating relevant aspects into future training programs, we can shape the training of nurses and midwives effectively (Bogren et al., 2019). This review aims to examine critically the CBA in the context of nursing and midwifery education, shedding light on its strengths, limitations, and implications for the future of practice.

1. METHOD

1.1. Study Selection

We conducted a literature review of studies published between 2008 and 2023, gathered from PubMed, Scopus, Web of Science and Google Scholar databases. Data from studies meeting our inclusion criteria were collected and summarized. The keywords used for the search included "nurses", "midwives", "education», "competency-based approach," and "competency-based curriculum." We restricted our search to articles published between 2010 and 2022 to include the most relevant and recent studies.

1.2. Inclusion and Exclusion Criteria

The articles included in this review had to meet specific inclusion criteria. First, the studies had to be original articles or reviews in peer-reviewed journals. Additionally, the articles had to be written in French, English, or Spanish. Studies that examined the CBA in nursing and midwifery education, focusing on its benefits, challenges, and impact on nursing and midwifery practice, were included. Articles discussing other professions or not specifically addressing the CBA in health education were excluded.

1.3. Data Analysis

Once the articles were selected, we conducted a qualitative and critical analysis of the data. We examined the objectives of each study, the research methods used, the study samples, the obtained results, and the authors' conclusions. Additionally, we identified similarities and differences between the studies to identify emerging trends and commonalities.

1.4. Analytical Framework

Our analysis was based on an analytical framework that focused on the strengths and limitations of the CBA in nursing and midwifery education. We evaluated the advantages of this approach in terms of enhancing students' practical skills, building their self-confidence, and developing their critical thinking and problem-solving abilities. We also identified the limitations and challenges, including issues related to the feasibility of implementation, required resources, and potential risks of oversimplifying complex clinical situations (Trujillo Segoviano, 2014; Sebastián & Callejas, 2015; Nyoni & Botma, 2019)

Finally, 15 articles were selected with sufficient relevance and scientific quality, whose results we synthesized to propose a comprehensive analysis of the CBA in nursing and midwifery education. We

also examined the implications of the findings for practice and education, and formulated recommendations to enhance the effectiveness and efficiency of this pedagogical approach. Additionally, we identified gaps in the existing literature and suggested avenues for future research in this field.

2. FINDINGS AND DISCUSSION

134 original articles and reviews published between 2010 and 2022 were identified from the databases. Among them, 56 were duplicates. The titles and abstracts of the remaining 78 studies were examined, and 64 were deemed ineligible. In total, 15 articles met the inclusion criteria (including 6 quasi-experimental studies, 1 randomized controlled trial, 2 descriptive studies, 2 qualitative studies and 4 reviews) and were selected based on the established criteria.

The selection diagram is illustrated in figure 1.

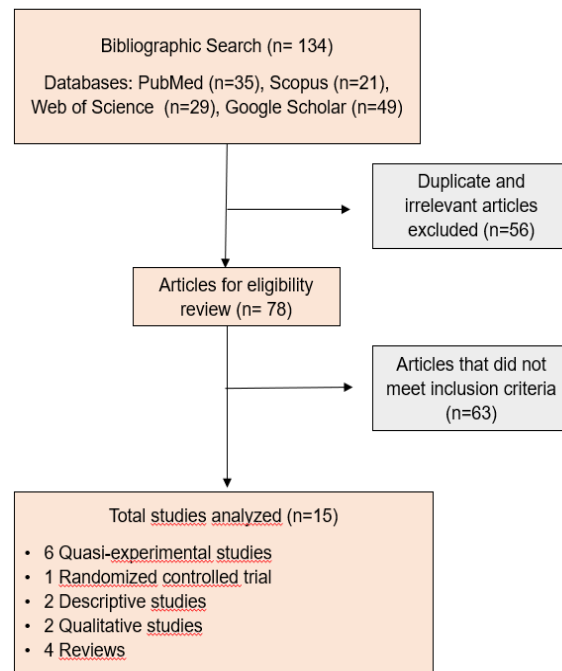


Figure 1. Flow diagram of literature search and selection process

A more detailed description of the selected articles is presented in Table 1.

Table 1. Characteristics of included studies

Author, year, country	Study design	Objective/ purpose	Sample	Significant/Major Finding
Abouzaj, (2019) Morocco	Review	To present the CBA in a simple way and to demystify the concept of competence	Published studies (n= 14)	Characteristics and tools of the teaching according to CBA and skills assessment
Arbia et al., (2019) Morocco	Descriptive Study	To approach the representation of teachers about the CBA in order to assess the level of its implementation in the Moroccan educational system	Secondary school teachers (n=300)	The study results a show a significant rate of application of CBA in several educational institutions
Bäck et al., (2020) Sweden	Qualitative Study	To describe the factors that increased and decreased confidence for midwifery students in clinical practice	Midwifery students (n=238)	Supervision during clinical training and the relationship with the midwives were most important factors for developing confidence.
Bingham et al., (2021) USA	Qualitative case study	To examine how teachers make sense of CBE, and what challenges they in implementing a CBE model.	2 teachers 2 principals 1 former district administrator (n= 5)	Teachers had to change their professional identity, structuring their classrooms to encourage students to take charge of their own learning. They face

				challenges around time, communication, and alignment.
Fan et al., (2015) Taiwan	Quasi-experimental Study	To examine the effects of CBE on the learning outcomes of undergraduate nursing students.	Nursing students (n=312) EG:163 CBE CG:149 CTM	The CBA have demonstrated to be effective for improving nursing students' core competencies and metacognitive abilities
Frank et al., (2010) Canada	Review	To describe the evolution of CBME from the outcome's movement in the 20th century to a renewed approach	Published studies (n=31)	CBME holds great promise along with many challenges for physician training worldwide, and has the potential to transform contemporary medical education
Gholamian et al., (2022) Iran	Quasi-experimental Study	To compare the effect of implementing the CBE model on the clinical skills among midwifery students.	Midwifery students (n=34) EG: CBE CG: CTM	CBE was effective to improve the clinical skills among midwifery students
Hakimi et al., (2019) Iran	RCT	To determine the effect of CBE on midwifery students based on Kirkpatrick evaluation model	Midwifery students (n=80) EG:40 CBA CG:40 no education	CBA is effective in increasing knowledge, skills, and self-confidence
Kabanga et al., (2018) Uganda	Descriptive Study	To explore the suitability of pedagogical practices utilized in the CBE training programs in Uganda	Nurses and midwives (n=193)	The study results support the CBE as an effective pedagogical approach
Muñoz et al., (2017) Chili	Review	A brief description and theoretical-conceptual analysis on the competences in the educational field	Published studies (n=42)	CBA assessments are balance between opportunities and challenges for the educational field
Ramírez, (2020) Costa Rica	Review	A theoretical review of the most important models of CBA	Published studies (n=30)	CBA explains the articulation between training processes and the work market
Mayeshiba et al., (2018) USA	Quasi-experimental Study	To assess students' ability to think critically in parallel versions of a course: one based on CBE and one based on a traditional online programme	Higher education students (n=39) EG: CBE CG: online CTM	CBE has proved to be effective in improving clinical thinking for higher education students
Nadery et al., (2012) Iran	Quasi-experimental Study	To investigated the effect of CBE and CTM on clinical and cognitive learning of nursing students.	Nursing students (n=28) EG:13 CBE CG:15	CBE have demonstrated to be effective for improving nursing students' clinical and cognitive skills

			CTM	
Soheili et al., (2015) Iran	Quasi- experimental Study	To determine the effect of implementing CBE model on nursing students' clinical performance in Coronary Care Unit	Nursing students (n=34) EG:18 CBA CG:16 CTM	The CBA improve the nursing students' clinical performance
Wu et al., (2014) China	Quasi- experimental Study	To evaluate the effectiveness of nursing core competency standard education in undergraduate nursing training	Nursing students (n=73) EG:31 CBE CG:42 CTM	The CBA is agreed to increase Nursing students' performance in the health information collection, physical assessment, scenario simulation and communication

Note. CBA: competency-based approach; CBE: Competency-based education; CBME: competency-based medical education; EG: experimental group; CG: control group; CTM: conventional teaching methods; RCT: randomized controlled trial.

The critical analysis of the selected studies has highlighted several key findings regarding the CBA in education. In Morocco, the adoption of the CBA by educators has become a subject of growing interest in the field of education (Arbia et al., 2019). This approach focuses on developing specific skills in students, going beyond mere memorization of knowledge. Educators are increasingly aware of the importance of this approach in preparing students to face real-world challenges.

In the health sciences, the CBA has proven to be highly effective in the training of nurses and midwives, as it strengthens knowledge and enhances practical skills. By focusing on specific competencies and skills required in the healthcare field, this approach ensures that the training is directly relevant to the real-world challenges they will face in their roles. CBA encourages a deeper understanding of theoretical concepts while emphasizing hands-on experiences and problem-solving abilities (WHO, 2016). It enables nurses and midwives to apply their knowledge in various clinical scenarios. A randomized controlled trial study conducted by Hakimi et al (2019) demonstrated that CBA is effective in increasing knowledge, skills, and self-confidence. Consistently,

studies have shown that the CBA contributes to the strengthening of practical skills among nursing and midwifery students. By emphasizing the demonstration of essential competencies, students engage in practical learning that better prepares them to handle real clinical situations. Studies such as the one conducted by Gholamian et al (2022) reported a significant improvement in clinical skills among midwifery students trained using the CBA compared to those trained using conventional teaching methods (CTM). Another important observation was the increased development of self-confidence among nursing and midwifery students trained using the CBA. Studies have highlighted that the opportunity to actively practice skills and receive constructive feedback from trainers has strengthened students' confidence in their clinical abilities. This increased confidence plays a crucial role in their preparation for professional practice. For instance, a longitudinal study conducted by Bäck & Karlström (2020) revealed that midwifery students trained using the CBA expressed greater confidence in their clinical skills throughout their training journey. The CBA has been widely acknowledged for its positive impact on nursing and midwifery students' performance in various essential areas. In health information collection, this approach ensures that

students are trained to effectively gather and document patient data, leading to more accurate diagnoses and treatment plans. The quasi-experimental study conducted by Wu et al (2014) provides compelling evidence supporting the effectiveness of the CBA in enhancing nursing students' performance in various critical areas. The study focused on evaluating the impact of the CBA on health information collection, physical assessment, scenario simulation, and communication skills among nursing students. The results demonstrated a significant improvement in the students' abilities to gather and document health information accurately, ensuring more precise diagnoses and appropriate care plans. Additionally, the CBA enhanced their proficiency in conducting comprehensive physical assessments, enabling them to identify and address patients' health needs more effectively. The CBA has also been associated with an improvement in critical thinking and problem-solving skills among students. By emphasizing evidence-based decision-making and problem-solving in complex situations, this educational approach encourages students to develop their critical thinking and quickly adapt to different clinical scenarios. A study conducted by Mayeshiba et al (2018) demonstrated that students trained using the CBA outperformed their peers trained using CTM in critical thinking assessment tasks. The study conducted by Fan et al (2015) yielded promising results, highlighting the effectiveness of the CBA in enhancing nursing students' core competencies and metacognitive abilities. The research focused on assessing the impact of the CBA on the overall skill set and cognitive processes of nursing students. The findings demonstrated a significant improvement in the students' core competencies, such as critical thinking, problem-solving, and clinical decision-making. Also, the study conducted by Soheili et al (2015) has provided compelling evidence for the positive impact of the CBA on nursing students' clinical performance. The research aimed to assess the effectiveness of this approach in enhancing students' practical abilities and their application of theoretical knowledge in real clinical settings. The

results demonstrated a significant improvement in nursing students' clinical performance, indicating that the CBA played a crucial role in preparing them for real-world patient care scenarios. The study conducted by Nadery et al (2012) presented compelling evidence supporting the effectiveness of the CBA in enhancing both clinical and cognitive skills among nursing students. The research sought to evaluate the impact of this approach on the students' practical abilities and their cognitive development in the nursing field. The results demonstrated that the CBA was highly successful in improving nursing students' clinical skills, such as patient assessment, medication administration, and nursing interventions. Through structured training and hands-on experiences, students were able to apply their theoretical knowledge to real-life clinical scenarios, honing their ability to provide safe and competent patient care.

Despite the acknowledged advantages of the CBA in nursing and midwifery education, there are several limitations and challenges that need careful consideration. One of the prominent concerns highlighted in studies revolves around the feasibility of implementing the CBA, particularly in educational institutions with limited resources. Instructors often express concerns about the increased workload associated with evaluating students' practical competencies, making the implementation of this approach challenging (Nyoni & Botma, 2019). Moreover, research underscores that the emphasis on practical skills might sometimes overshadow critical aspects of nursing and midwifery practice, such as interpersonal communication and addressing the psychosocial needs of patients, indicating a potential limitation of the CBA (Nyoni & Botma, 2019).

Another significant challenge is the uneven adaptation of the CBA to diverse learning environments. While the approach performs well in specific contexts, its effectiveness diminishes in others, sparking concerns about its widespread applicability and efficacy across varied educational

settings (Magnusson & Osborne, 1990). In certain fields where defining specific competencies or rapidly integrating new skills and knowledge poses a challenge, the CBA faces substantial limitations, hindering its effectiveness and implementation (Curry & Docherty, 2017).

Furthermore, the objectivist approach to learning employed by the CBA overlooks the importance of social learning, a fundamental element in developing interpersonal skills and collaborative abilities (Škrinjarić, 2022). This failure to incorporate social learning into the methodology may not resonate with the preferred learning styles of many students, leading to decreased engagement and motivation (García & Pérez, 2019). These challenges, along with those previously mentioned, must be carefully evaluated to gain a comprehensive understanding of the competency-based approach in various educational contexts.

In addition to the cited authors, several scholars have also delved into the limitations of the CBA. For instance, Bingham et al., (2021) conducted a qualitative descriptive case study examining the practice of CBA, with a focus how teachers understood CBE, and on the successes and challenges they experienced. Their findings echoed the concerns raised by Nyoni and Botma (2019) regarding the potential oversight of essential non-technical skills. Moreover, a study by Perilla Granados. (2018) explored the difficulties encountered in adapting the CBA to multicultural learning environments, shedding light on the cultural barriers that impede its effectiveness.

Considering the multifaceted nature of these challenges, educational institutions must take a nuanced approach, addressing not only the technical aspects of competency-based education but also its social and cultural dimensions. This comprehensive evaluation is crucial for refining the implementation of the CBA and maximizing its benefits in nursing and midwifery education. In summary, the results of this critical analysis highlight the advantages of the CBA in nursing and midwifery education, including

the enhancement of practical skills, the development of self-confidence, and the improvement of critical thinking. However, it is also important to consider the challenges and limitations of this approach to ensure an effective and balanced implementation. These findings underscore the significance of a thoughtful approach in the training of future nurses and midwives, integrating the best practices of the CBA to ensure a robust foundation for these vital careers.

CONCLUSION

The critical analysis of the CBA in nursing and midwifery education has highlighted its potential to enhance students' practical skills, build their self-confidence, and improve the quality of maternal care. This pedagogical approach offers a promising alternative to CTM by emphasizing practical learning and the application of knowledge in clinical contexts. These aspects are essential to prepare students to tackle real-world situations practice and to deliver the highest quality of care. However, this review has also emphasized the challenges and limitations of this approach, particularly concerning the feasibility of implementation and other aspects of nursing and midwifery practice. Collaboration and communication among students, educators, practicing nurses and midwives, health policy-makers, and professional organizations are crucial in addressing these challenges. By considering different perspectives and sharing best practices. Additional research on this subject is required to offer fresh insights for enhancing the education of healthcare professionals and guaranteeing high-quality care, patient safety and satisfaction.

RECOMMENDATIONS FOR THE FUTURE

Based on the results and discussions of this review, several recommendations can be formulated for the future of nursing and midwifery education:

a) Integrate best practices of the CBA: It is essential to incorporate the most effective elements of the CBA into existing training programs. This may include using standardized assessment tools,

implementing practical clinical placements, and promoting active and experiential learning.

b) Ensure adequate resources: For a successful implementation of the CBA, it is crucial to ensure adequate resources, both in terms of clinical infrastructure and qualified educators. Training institutions must be financially and logistically supported to provide an environment conducive to practical learning.

c) Evaluate long-term effectiveness: It is essential to conduct long-term studies to assess the effectiveness of the CBA on nursing and midwifery practice and patient outcomes.

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CONFLICTS OF INTEREST

The authors report no conflict of interest. The authors alone are responsible for the content and writing of this article.

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