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Practice and Utilization of Evidence-Based Practice Among Midwifery Students: A Cross-Sectional Study in Padang, West Sumatra

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Abstract

Evidence-based practice (EBP) is essential to ensure safe, effective, and woman-centred midwifery care, yet its implementation among midwifery students in Indonesia remains suboptimal. This study aimed to describe the level of knowledge, attitudes, and readiness to practice EBP among midwifery students in Padang, West Sumatra, Indonesia. This analytical survey used a cross-sectional design and was conducted from May to December 2023 in several midwifery institutions in Padang. Data were collected online using a Google Forms questionnaire consisting of student characteristics and the 21-item Student Evidence-Based Practice Questionnaire (S-EBPQ), which measures EBP practice, attitudes, and knowledge/skills in retrieving and applying evidence. A total of 83 students who had attended clinical clerkships participated in the study. Most respondents had previously studied research methods and statistics (95.2%) and had been introduced to EBP (98.8%). Overall, 69.9% of students showed a moderate level of EBP knowledge, 10.8% had good knowledge, and 19.3% had low knowledge. The majority (59.0%) demonstrated positive attitudes towards EBP, while 41.0% still showed less supportive attitudes. Regarding readiness, 72.3% were moderately ready, 16.9% were ready, and 10.8% were not ready to implement EBP in practice. These findings indicate that although most midwifery students have moderate knowledge and generally positive attitudes, their readiness to implement EBP remains limited, highlighting the need to strengthen EBP integration in midwifery curricula and clinical learning environments.

Keywords: evidence-based practice, midwifery students, knowledge, attitude, readiness.

1. INTRODUCTION

Evidence-Based Practice (EBP) is a structured approach that integrates the best available research evidence, clinical expertise, and women's values to guide decision-making and improve the quality and safety of midwifery care [1]. Internationally, EBP in midwifery has been associated with improved maternal and neonatal outcomes and is recognised as a key strategy for ensuring safe, woman-centred maternity services [1]. Global professional standards such as the International Confederation of Midwives (ICM) Essential Competencies emphasise that midwives must be able to search for, critically appraise, and apply research evidence as part of their core professional role from pre-service education onwards [2].

Several studies conducted outside Indonesia have explored EBP among midwifery students and generally report positive attitudes but persistent challenges in implementation [3]. For instance, a descriptive qualitative 2025 in Turkey examined 28 student midwives who had completed a course titled "Evidence-Based Practices in Midwifery." The study found that participants believed EBP

improves care quality but identified clear gaps between university teaching and clinical practice. Key themes included belief in EBP, discrepancies between education and practice, perceived barriers, and difficulties implementing evidence-based care during clinical placements [3]. The students particularly struggled with formulating clinical questions, conducting literature searches, and appraising evidence, despite formal exposure to EBP training. Broader educational analyses have also shown that midwifery and health-professional programmes worldwide often emphasise theoretical content over structured, hands-on opportunities to integrate research evidence into clinical decision-making [4].

In Indonesia, EBP has gained increasing recognition as a crucial component of midwifery education to support national efforts to reduce maternal and neonatal morbidity and mortality. A recent scoping review by Azzahra and Susanti (2025) on midwifery curricula across Indonesia concluded that systematic EBP integration is essential to strengthen professional practice and achieve national maternal health targets [5]. The review highlighted that, although EBP has begun to be introduced into Indonesian midwifery programmes, it is often embedded only as sub-topics within certain courses rather than as a longitudinal learning strand that links theory with clinical application. Structural barriers such as limited institutional support, inadequate access to updated scientific literature, and inconsistencies in clinical learning environments further hinder the development of EBP competencies among student midwives [5].

While these curriculum-level studies underscore the importance of EBP integration, empirical evidence that directly measures EBP-related competencies among midwifery students remains scarce in Indonesia [5]. Most available quantitative studies on EBP knowledge, attitudes, and readiness focus on nursing or mixed health-professional samples, providing little detail on the specific situation of midwifery students [6]. To date, no published study has been identified that describes, in a specific local context such as Padang in West Sumatra, how student midwives perceive their EBP knowledge, their attitudes toward evidence-based care, and their readiness to apply EBP during clinical placements.

This lack of context-specific data creates an important research gap, because curriculum reforms and educational strategies cannot be optimally tailored without a clear understanding of the current EBP profile of midwifery students at institutional and regional levels [5]. There is a need for studies that move beyond general curriculum descriptions to systematically assess midwifery students' EBP knowledge, attitudes, and readiness to practise in real clinical settings. Therefore, the present study aims to describe the levels of EBP knowledge, attitudes, and readiness to practise among midwifery students in Padang, West Sumatra, providing locally relevant evidence to inform the strengthening of EBP integration in Indonesian midwifery education and clinical training.

2. RESEARCH METHODOLOGY

This study used an analytical survey with a cross-sectional design to obtain a snapshot of midwifery students' knowledge, attitudes, and readiness to implement evidence-based practice (EBP) at one point in time. The research was carried out from May to December 2023 in several midwifery education institutions in Padang, West Sumatra, Indonesia. The target population was all midwifery students who had attended clinical clerkships in hospitals, primary

health centres, or private midwifery practices. Inclusion criteria were: (1) willing to participate, (2) having completed at least one clinical clerkship, and (3) being cooperative and able to communicate well; students who refused or were not cooperative were excluded. The minimum sample size was calculated using the Lemeshow formula with an assumed proportion of 50%, a 95% confidence level, and an additional 10% to anticipate non-response, resulting in a required sample of 81 students. A consecutive sampling technique was applied, and 83 eligible students who completed the questionnaire during the data collection period were included in the final sample.

Data were collected using a structured online questionnaire in Google Forms, distributed via institutional channels and student social media groups during the study period. All students received the same invitation, participation was voluntary, and anonymity and confidentiality of responses were ensured to reduce response bias. The questionnaire consisted of two sections: (1) student characteristics (age, education level, duration of clinical practice, previous exposure to research methods, statistics, and EBP topics) and (2) the 21-item Student Evidence-Based Practice Questionnaire (S-EBPQ) measuring EBP practice, attitudes, and knowledge/skills in searching, appraising, and applying evidence. A pilot test on 30 midwifery students was conducted to assess clarity and reliability; minor wording adjustments were made, and internal consistency of the main subscales was found to be acceptable. Each S-EBPQ item was scored on a Likert scale, and subscale and total scores were computed and then categorised into low, moderate, and high levels using predetermined cut-off points for knowledge, attitudes, and readiness/practice.

Descriptive statistics (frequencies, percentages, means, standard deviations) were used to summarise all variables, and t-tests were planned to examine differences in EBP practice scores by student characteristics, with multiple linear regression planned for variables showing significant associations. Ethical approval was obtained from the Research Ethics Committee of Universitas Andalas prior to data collection. Informed consent was obtained electronically; before accessing the questionnaire, students read an information sheet and indicated consent by agreeing online before completing the survey.

3. RESULT

A total of 83 midwifery students from six midwifery institutions in Padang City participated in this study. Most respondents were in the professional midwifery programme, aged mainly between 21 and 22 years, had between 1 and 12 months of clinical practice experience, and almost all reported that they had attended courses on research methods, statistics, and evidence-based practice.

Table 1. Distribution of students knowledge levels in the use of EBP.

Knowledge Level	Frequency	Percent (%)
Good	9	10.8
Moderate	58	69.9
Low	16	19.3
Total	**83**	**100.0**

Based on table 1, regarding knowledge of evidence-based practice, most students were classified as having a moderate level of knowledge based on the predefined cut-off points described in the methodology, while smaller proportions fell into the high and low knowledge categories. Specifically, 69.9% of respondents were in the moderate category, 10.8% in the high category, and

19.3% in the low category.

Table 2. Frequency Distribution of Student Attitudes.

Attitude	Frequency	Percent (%)
Positives	49	59.0
Negatives	34	41.0
Total	**83**	**100.0**

Based on table 2, in terms of attitudes towards evidence-based practice, just over half of the students were classified as having a positive attitude, whereas the remaining students were categorised as having a less supportive attitude according to the scoring criteria. In total, 49 students (59.0%) had a positive attitude and 34 students (41.0%) had a less supportive attitude towards the use of EBP in their practice.

Table 3. Frequency Distribution of Midwifery Student Practice Readiness

Practical Readiness	Frequency	Percent (%)
Ready	14	16.9
Moderately Ready	60	72.3
Less Prepared	9	10.8
Total	**83**	**100.0**

Based on table 3, with respect to readiness to implement evidence-based practice, the largest proportion of students was in the moderately ready category, followed by a smaller group classified as ready and a minority classified as not ready, based on the same cut-off system. Fourteen students (16.9%) were categorised as ready, 60 students (72.3%) as moderately ready, and 9 students (10.8%) as not ready to implement EBP.

4. DISCUSSION

This study showed that most midwifery students in Padang City had a moderate level of knowledge, predominantly positive attitudes, and moderate readiness to implement evidence-based practice (EBP), indicating that EBP has been introduced in the curriculum but has not yet resulted in uniformly high competence. The distribution of knowledge, attitudes, and readiness categories suggests that students are familiar with EBP in principle but still face challenges in fully understanding and applying it in clinical settings.

In terms of knowledge, the majority of students fell into the moderate category, with only a small proportion classified as having high knowledge and some still in the low category, which implies that exposure to EBP-related content and research methods has not consistently translated into advanced conceptual and practical understanding. This pattern is similar to findings from Turkey, where a qualitative study of midwifery students who had completed an “Evidence-Based Practices in Midwifery” course reported that, although students understood the definition and importance of EBP, they remained unsure about interpreting research results and using them in clinical decision making [3].

A study among midwives in Belgium likewise found that respondents recognised the value of EBP but still had limited knowledge of core EBP components, indicating that knowledge

gaps persist even in well-resourced settings [7]. This finding is in line with a study in Ethiopia which showed that practicing midwives also face limitations in knowledge, training, and organizational support in implementing EBP consistently [8]. In Indonesia, a recent scoping review of midwifery curricula concluded that EBP is often integrated as an additional topic within individual courses rather than through a structured, longitudinal sequence of learning experiences, which may contribute to the predominance of moderate rather than high knowledge observed in this study [5].

With respect to attitudes, 59% of respondents were categorised as having a positive attitude towards EBP, while 41% had less supportive attitudes, showing that EBP is generally valued but not uniformly embraced. International evidence similarly reports that midwifery students and practising midwives tend to agree that EBP is essential for high-quality, woman-centred care, but that positive attitudes do not automatically lead to consistent use of evidence in practice. The Turkish study 2025. described how student midwives strongly believed EBP should underpin midwifery care, yet felt tension between EBP principles taught at university and routine-based practices encountered in clinical placements, which sometimes reduced their confidence in applying evidence [3].

A Belgian study also found that midwives agreed that EBP is necessary and realistic in daily work, but only around half reported confidence in their ability to search for and use research literature, suggesting that supportive attitudes can coexist with doubts about practical capability [7]. The implementation of EBP is a very important competency for midwives because with EBP training it can increase the capacity of students in providing health services in the practical period [9]. In the Indonesian context, variability in clinical learning environments and limited modelling of EBP by clinical preceptors may similarly influence student attitudes, reinforcing theoretical support for EBP but making its application appear difficult or risky in real practice [5].

Regarding readiness, this study found that 72.3% of students were moderately ready, 16.9% were ready, and 10.8% were not ready to implement Evidence-Based Practice (EBP), indicating that most students feel only partially prepared for EBP-related tasks. Conceptual and empirical literature on EBP in midwifery and maternity care highlights that readiness is a multifactorial construct influenced by knowledge, attitudes, self-efficacy, access to evidence resources, and organisational support, rather than by knowledge alone. Research studies involving midwifery students in Europe have shown that, while students feel comfortable discussing research within academic contexts, they often lack confidence in applying evidence to modify clinical practice or question existing routines, particularly when supervisory support is limited [3], [7], [10],[11].

In Indonesia, a recent scoping review of midwifery curricula identified systemic barriers such as restricted access to research databases and journals, inconsistent quality of clinical

supervision, and limited opportunities to apply EBP principles during clinical placements. These contextual constraints may undermine students' readiness to implement EBP, even when they have been exposed to relevant theoretical content. Such findings help to explain why, in the present study, most students were classified as moderately ready rather than fully ready to use EBP in clinical care [5].

When compared with previous research, the findings of this study align with both international and national patterns. Globally, EBP is widely acknowledged as essential, yet its translation into advanced knowledge and full readiness remains incomplete. Studies from Turkey and Belgium demonstrate that both student and practising midwives value EBP but continue to face challenges in knowledge, skills, and confidence paralleling the combination of moderate knowledge, positive attitudes, and moderate readiness observed among midwifery students in Padang. In Indonesia, the gradual embedding of EBP into midwifery curricula, coupled with structural and contextual barriers in education and clinical practice, continues to limit the development of comprehensive EBP competencies [3], [7], [10].

A systematic review by Dos Santos et al. confirmed that educational interventions specifically designed for EBP significantly improved EBP skills, thus supporting the need to strengthen the EBP component in the Indonesian midwifery curriculum [12]. Leiviskä et al.'s study also emphasized the importance of educational models that integrate EBP research, teaching, and practice, which is relevant to the need to bridge the gap between theory and practice in midwifery students [13]. A multidimensional EBP educational program developed for nurses has been shown to improve EBP practice and critical thinking and can serve as a reference for designing similar interventions for midwifery students [14].

Therefore, the use of the EBP approach can be implemented through student research developed and directed by agencies and educators. This will help prepare future midwives with EBP knowledge and skills so as to contribute to better health outcomes [15]. By providing empirical data on EBP knowledge, attitudes, and readiness specifically among midwifery students in one Indonesian city, this study contributes locally relevant evidence to the growing body of literature on EBP education. The findings underscore that efforts to strengthen EBP integration in midwifery education must simultaneously address curriculum design and the quality of clinical learning environments, ensuring that students not only understand EBP principles but are also supported and empowered to apply them consistently in clinical practice.

5. CONCLUSIONS AND SUGGESTIONS

This study shows that midwifery students in Padang City generally demonstrate moderate levels of knowledge and readiness to implement evidence-based practice (EBP), accompanied by predominantly positive but not yet uniform attitudes towards EBP. These findings indicate that EBP has been introduced into midwifery

education but has not fully translated into strong conceptual understanding and confident, consistent application in clinical settings for all students. In comparison with recent international and Indonesian research, this pattern is aligned with broader evidence showing that midwifery students and midwives recognise the importance of EBP but often face gaps in research skills, confidence, and structural support that limit its practical implementation. This study therefore contributes context-specific data that can be used to guide the strengthening of EBP integration in midwifery curricula and clinical learning environments in Indonesia.

Based on these results, several recommendations can be proposed for midwifery education and future research. Midwifery schools are encouraged to organise EBP as a longitudinal learning thread across the curriculum, with progressive development of competencies in formulating clinical questions, searching for literature, and critically appraising evidence, supported by concrete learning strategies such as journal clubs, case-based discussions, and EBP assignments directly linked to clinical scenarios. Collaboration between academic lecturers and clinical preceptors should be strengthened so that students observe consistent modelling of EBP in both classroom and clinical settings, for example through joint EBP workshops, shared use of evidence-based guidelines, and structured supervision that explicitly discusses how research informs care decisions. Institutions are also advised to improve access to current, preferably open-access, research databases and midwifery resources so that students and educators can more easily incorporate evidence into learning and clinical practice.

For future research, more focused studies are needed to evaluate which educational strategies are most effective in improving midwifery students' EBP competencies in the Indonesian context. Longitudinal designs could be used to follow students across different years of study to examine how knowledge, attitudes, and readiness evolve over time and how specific curriculum changes influence these trajectories. In addition, intervention studies such as trials of simulation-based EBP learning, problem-based learning models, or structured EBP mentorship during clinical placements would be valuable to generate evidence on practical approaches that can strengthen EBP integration in midwifery education and, ultimately, support better maternal and neonatal outcomes.

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