

WORK-BASED LEARNING IN MIDWIFERY COMMUNITY PRACTICE AND ITS IMPACT ON STUDENT COMPETENCE

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ABSTRACT

Midwifery education requires curriculum transformation, as approximately 35% to 42% of new graduates face adaptation challenges in primary care. Community practice often faces barriers to achieving initial competency targets, amounting to 20% to 30%. This study aims to analyze the effect of implementing Work-Based Learning (WBL) in midwifery community practice on improving student competency, encompassing knowledge, attitudes, and skills. The study used a quasi-experimental design with a one-group pretest-posttest design. The study population was all 43 students of the Undergraduate Midwifery Study Program at Hang Tuah University, Pekanbaru, in the regular academic year of 2025/2026. The sampling technique used was total sampling. Bivariate data analysis used a Paired Sample T-Test. The results showed a significance value of $p = 0.000$ ($p < 0.05$) for all aspects, confirming a significant effect of WBL implementation on improving student competency. The average score for knowledge increased from 68.42 to 86.75 with mean difference is 18.33, for attitudes from 71.15 to 89.20 with mean difference is 18.05, and for skills from 64.80 to 85.10 with mean difference is 20.30. It can be concluded that the WBL model has proven effective in bridging theory and field practice and enhancing students' clinical independence and cultural sensitivity. Recommendations for future research include using a control group and measuring the long-term retention of graduate competencies in the workplace.

Keywords: Midwifery Competence, Midwifery Community Practice, Work-Based Learning

INTRODUCTION

Modern midwifery education demands a curriculum transformation that focuses not only on mastering classroom theory but also on real-world adaptability through hands-on experience [1]. Based on health education evaluation data, approximately 35% to 42% of new health worker graduates often face adaptation challenges when confronted with the complexity of public health issues at the grassroots level [2]. This gap indicates that conventional learning methods are not yet fully capable of optimally bridging the dynamics of primary care. Therefore, the Work-Based Learning (WBL) approach is presented as a work-based learning strategy that places students directly in real-world situations in the community [3].

Community midwifery practice is an essential stage that equips students with a holistic understanding of the social, cultural, and epidemiological landscape of maternal and child health in the community [4]. Empirical data show that mastery of essential community midwifery competencies—such as early detection of high risks, health education, and family empowerment management—often faces challenges in achieving the minimum skill target of 20% to 30% in the initial stage evaluation [5]. This situation is driven by limited

exposure to real-world cases and the lack of active student involvement in authentic community-based health problem-solving.

The urgency of this research is based on the pressing demands for quality primary healthcare services, which require future midwives to possess clinical independence, critical thinking, and mature cross-sector collaboration skills [1, 5]. Without a well-structured work-based learning design in the community, students are at risk of experiencing high anxiety, low self-confidence, and being unprepared to manage maternal emergencies outside of health facilities [2, 4]. Therefore, the implementation of Work-Based Learning is seen as a crucial catalyst for transforming field experience into measurable and applicable professional competencies.

On the other hand, a fundamental limitation of the conventional approaches implemented by Russell et al. [2] and Malakooti et al. [5] lies in the dominance of reductionist learning designs that merely measure quantitative outcomes without highlighting the cognitive depth of learners. These hospital-based approaches rely on highly structured clinical environments, thus failing to address the complexities of autonomy, contextual ambiguity, and socio-cultural variation essential to community midwifery practice [3, 5]. This lack of in-depth analysis of intervention dynamics outside of formal health facilities has led previous literature to overlook the essential psychosocial adaptation mechanisms experienced by students during fieldwork [1].

To address these methodological weaknesses, the integration of a Work-Based Learning framework into this study was designed through a self-assessment approach and reflection on real-life cases. From a midwifery theoretical perspective, this reflective design has proven far superior in facilitating transformative learning, where structured reflection cycles can reduce psychological distortions such as chronic anxiety and impostor syndrome resulting from culture shock in the community [1, 3]. Through periodic internalization of autonomous clinical experiences, students not only build strong emotional resilience and self-efficacy, but also transform theoretical knowledge into empirically validated adaptive clinical reasoning [6].

Through the application of this model, it is hoped that the process of transferring theoretical knowledge into practical action can be more effective, unhindered by the gap between educational institutions and practice settings [3, 2]. Active student involvement in the public health problem-solving cycle will have a significant positive impact on achieving graduate competency standards [1, 4]. Ultimately, improving the quality of the learning process not only leads to individual student readiness but also significantly contributes to reducing maternal and infant morbidity and mortality rates at the community level [2, 5].

Against this backdrop, an in-depth study of the causal relationship between the implementation of Work-Based Learning and student competency levels is crucial. This study aims to determine the effect of the implementation of Work-Based Learning in community midwifery practice on the competency of students in the Undergraduate Midwifery Study Program at Hang Tuah University, Pekanbaru. The results of this study are expected to provide strategic recommendations for midwifery higher education institutions in designing field-based curricula that are more adaptive, standardized, and responsive to future public health service needs [3, 4].

RESEARCH METHODS

This study used a quantitative approach with a quasi-experimental design through a one-group pretest-posttest design [7]. This design was carried out without a treatment group where measurements were taken twice: once before the intervention (pretest) and again after the intervention (posttest) [8]. The intervention provided was in the form of the application of the Work-Based Learning (WBL) model in community midwifery practice. This study was conducted at the Undergraduate Midwifery Study Program, Hang Tuah University, Pekanbaru. This location was chosen based on the consideration that the institution had implemented a community midwifery practice curriculum that allowed for integration with a work-based learning model.

Population: All students of the Undergraduate Midwifery Study Program, Hang Tuah University, Pekanbaru, regular pathway who took the Community Midwifery Practice course in the 2025/2026 Academic Year, with a total of 43 students [9]. **Sampling Technique:** Using a total sampling technique (census), where all members of the population who met the criteria were made the research subjects [10]. Thus, the sample size in this study was 43 students.

The independent variable in this study was the implementation of Work-Based Learning (WBL), while the dependent variable was student competency, which encompassed three main aspects during Community Midwifery Practice [11]: **Knowledge:** Measured using a written test instrument related to basic community midwifery concepts, maternal and child health management, and public health problem solving. **Attitude:** Assessed through observation sheets and self-assessment scales regarding empathy, cultural communication, and professionalism in community service. **Skills:** Evaluated using a checklist for achieving clinical and community competency (a logbook/target for midwifery care skills in the field). To ensure the quality of the measuring instrument, this test instrument was developed based on the national competency standard blueprints from the Association of Indonesian Midwifery Education Institutions and has undergone content validity testing by midwifery education experts, and has a Cronbach's Alpha reliability coefficient value of $r > 0.80$ which indicates a high level of reliability. Primary data collection was conducted using instruments in the form of a written test sheet for knowledge, an observation sheet for attitude, and a community clinical skills assessment rubric. The first stage of measurement (pretest) was conducted before students were deployed to the practice field using the WBL approach, while the second stage of measurement (posttest) was conducted after the entire WBL-based practice series was completed.

The collected data were analyzed using statistical software with the following stages: **Univariate Analysis:** Used to describe the frequency distribution and mean value of each competency aspect (knowledge, attitude, and skills) before and after the intervention [12]. **Normality Test:** Using the Shapiro-Wilk test (given the number of samples $n = 43 < 50$) to determine whether the data is normally distributed [12]. **Bivariate Analysis:** Using the Paired Sample T-Test statistical test (if the data is normally distributed) to determine the significant effect of the implementation of Work-Based Learning on improving student competency [13]. If the normality assumption is not met,

an alternative non-parametric test will be used, namely the Wilcoxon Signed-Rank Test. The significance limit (α) used is $\alpha = 0.05$.

RESULTS AND DISCUSSION

Univariate analysis described the frequency distribution of student competency achievement across three main aspects. Based on the categorization of competency levels (high and low/adequate), frequency data were obtained indicating significant improvement after the intervention.

Table 1. Frequency Distribution of Aspects of Knowledge, Attitudes, and Skills of Students Before (Pretest) and After (Posttest) WBL Intervention (n = 43).

Competency Aspects	Category	Frequency/Percentage Pretest	Frequency/Percentage Posttest
Knowledge	High	14 (32.6%)	38 (88.4%)
	Low	29 (67.4%)	5 (11.6%)
Attitude	High	17 (39.5%)	40 (93%)
	Low	26 (60.5%)	3 (7%)
Skills	High	11 (25.6%)	37 (86%)
	Low	32 (74.4%)	6 (14%)
Total		43 (100%)	43 (100%)

Based on Table 1, it can be seen that the proportion of students with high competency in the knowledge, attitude, and skills categories increased dramatically after the Work-Based Learning model was implemented.

Before conducting bivariate hypothesis testing using the Paired Sample T-Test, data normality was first tested using the Shapiro-Wilk test, given the sample size of $n = 43$ (<50).

Table 2. Results of the Pretest and Posttest Data Normality Test (Shapiro-Wilk)

Aspects	Statistical Value	p-value (Sig.)	Description
Gap in Knowledge (Post - Pre)	0.962	0.184	Normally Distributed
Gap in Attitude (Post - Pre)	0.955	0.112	Normally Distributed
Gap in Skills (Post - Pre)	0.968	0.275	Normally Distributed

Based on Table 2, the significance values (p-values) for all aspects are >0.05 . This indicates that the data are normally distributed, and therefore, the parametric Paired Sample T-Test is appropriate. To determine the effect of the Work-Based Learning implementation on improving student competency, a bivariate test was conducted using statistical software.

Table 3. Paired Sample T-Test Results: Differences in Competency Before and After the Intervention

Competency Aspects	Mean Pretest	Mean Posttest	Mean Difference	p-value (Sig. 2-tailed)
Knowledge	68.42	86.75	+18.33	0.000
Attitude	71.15	89.20	+18.05	0.000
Skills	64.80	85.10	+20.30	0.000

Based on Table 3, the p-value for all three aspects (knowledge, attitude, and skills) is 0.000 ($p < 0.05$). These results indicate a statistically significant effect of the implementation of Work-Based Learning on improving student competency in community midwifery practice.

Data analysis empirically demonstrates that the implementation of Work-Based Learning (WBL) significantly improved the competency of students in the Undergraduate Midwifery Program at Hang Tuah University, Pekanbaru [14]. The highest mean score improvement was seen in the skills aspect, which significantly increased from before to after the intervention. This aligns with the fundamental characteristics of WBL, which places the workplace and authentic community at the center of the primary learning experience (learner-managed learning), where students are required to consolidate theoretical knowledge directly into real-life procedural actions [15].

When compared with a similar study [5,16], which evaluated gaps in community-based training for midwifery graduates, it was found that conventional classroom learning methods often failed to equip students to face the complexities of real-world cases. However, previous studies generally focused on retrospective post-graduate user evaluations, while this study offers a proactive WBL-based intervention approach directly during the community internship.

Other similarities were also found in the study by Russell et al. [2], which states that a work-based learning model can increase the self-confidence (self-efficacy) and critical thinking skills (clinical reasoning) of health students. The difference lies in the focus of this study, which specifically integrates the empowerment of assisted families and the management of maternal and child health issues based on local wisdom in the community [17,18]. Through a cycle of case reflection in the field, students not only meet administrative logbook (midwifery register) targets, but also develop a comprehensive understanding of the social, cultural, and determinants of community health [19].

Based on initial observations in the community practice field, students' competencies often face initial adaptation barriers. Many students master theoretical concepts in the classroom but experience anxiety and confusion when faced with direct interactions with community leaders, employing cultural approaches, or managing maternal emergencies in resource-limited primary health care facilities. These obstacles often stem from a lack of exposure to real-world cases before students begin their own practice. However, after implementing the WBL approach, which emphasizes continuous reflective guidance, students demonstrated significant behavioral changes—becoming more proactive, possessing high social sensitivity, and skilled at mobilizing the potential of integrated service center cadres and assisting families.

The highest observed improvement in student skills was empirically demonstrated through specific intervention mechanisms within the Work-Based

Learning (WBL) model, particularly through standardized guided clinical reflection in the community. This activity requires students to collaboratively discuss real-life cases under the guidance of a facilitator, thus accelerating the transition from theoretical knowledge to adaptive procedural action. Further analysis revealed that the most significant competency acceleration occurred in the family empowerment component—such as the ability to negotiate cultural practices and advocate for public health independently—compared to the basic procedural clinical skills aspect of management alone [3]. Direct experience with family dynamics and autonomy in the field, combined with structured reflection cycles, proved to be key drivers that equipped students with decisive clinical decision-making and autonomous action in the community setting [1, 5].

Based on the limitations and findings of this study, it is recommended that future researchers conduct further research by adding a control group using a quasi-experimental non-equivalent control group design to more rigorously control confounding variables. Expand the scope of research variables by measuring the long-term retention of student competencies after they graduate and work independently in health care facilities. Involve samples from multiple midwifery educational institutions to increase the generalizability of research results regarding the effectiveness of the Work-Based Learning model at the regional and national levels.

CONCLUSION

Based on the results of data analysis and discussion regarding the application of Work-Based Learning in community midwifery practice for students of the Bachelor of Midwifery Study Program at Hang Tuah University, Pekanbaru, it can be concluded that: There is a statistically significant effect of the application of Work-Based Learning on improving students' overall competency, which includes aspects of knowledge, attitudes, and skills ($p < 0.05$). There was a drastic increase in the average score of all students after being given the intervention compared to before the intervention (pretest), where as happened in the Highest average as an impact of direct involvement in guided clinical reflection in the field. The application of the Work-Based Learning model has proven effective in overcoming specific adaptation barriers for Hang Tuah University students—especially in terms of anxiety in facing the complexity of field autonomy—thus being able to equip them with the accuracy of early detection of high-risk midwifery and cross-sector communication skills independently in the community.

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