

## **Development of work based learning models in education of vocational midwifery: Part of need analysis**

**Hastuti Marlina<sup>1</sup>, Nizwardi Jalinus<sup>2</sup> and Fahmi Rizal<sup>3</sup>**

<sup>1</sup> STIKES Hang Tuah Pekanbaru, **INDONESIA**

<sup>2</sup> Department of Mechanical Engineering, Faculty of Engineering, Universitas Negeri Padang, **INDONESIA**

<sup>3</sup> Department of Civil Engineering, Faculty of Engineering, Universitas Negeri Padang, **INDONESIA**

\*Corresponding author: [hastutimarlina56@gmail.com](mailto:hastutimarlina56@gmail.com)

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**Abstract**—Skills in the world of work become demands that must be fulfilled by every education practitioner. Vocational education graduates produced by tertiary institutions do not have maximum competencies that are ready to be used for work, so there is often a gap between the competencies desired by graduates and the competencies produced by the education world. Educational literacy is needed to overcome this gap, one of them is by developing work-based learning models in midwifery vocational education. This study aims to analyze the needs of midwifery graduates, midwifery graduates 'recognition and midwifery lecturers' views on the general competency aspects of midwife graduates and work skills. This study involved five obstetricians from various institutions, five graduates working in various health institutions and five lecturers from various midwifery institutions. The results of the needs analysis showed that the low evaluation of midwifery users regarding the aspects of general competence and work skills of midwives in one year of work, so that the development of work-based learning models in midwifery education is very necessary to equate the desires of graduate users with the graduates produced. Furthermore, the resulting model will be tested effectively, valid and practical so that graduates can compete in the world of work.

**Keywords:** *Work Based Learning, Midwifery, Needs Analysis*

### **I. INTRODUCTION**

Since 2015, health services have been a key frontier for members of the Association of Southeast Asian Nations (ASEAN) and a priority under the ASEAN Framework Agreement on Services (AFAS)/General Agreement on Trade in Services (GATS). The mobility of health professionals such as specialists, midwives, general practitioners, nurses and medical records and laboratory personnel is included in the World Trade Organisation (WTO) category of professionals who play a role in the international services market. However, at the national level, the preparation of these professionals to enter the world of work, especially midwives, has not been done comprehensively (Hutapea, 2011). This means that midwifery graduates are not absorbed by the world of work to the fullest extent, because the

competencies required by the world of work do not match the competencies of the graduates produced (Putriana, 2013). While the real conditions in the world of work require a midwife to be multi-talented, especially the ability to work in a team at work (Arbayah, et al. 2012).

Midwives are among the health workers who play an important role in improving maternal and child health. The maternal mortality rate is used internationally as a measure of a country's level of health and well-being. If the maternal mortality rate in a country is high, the level of health and well-being of the country can be said to be low (WHO, 2011). Some ASEAN countries, such as Vietnam, recorded a maternal mortality rate of 95/100,000 live births (LBG) in 2003, Singapore 9/100,000 LBG, Malaysia 30/100,000 LBG. In Indonesia, the maternal mortality rate was 425/100,000 live births in 1992, 390/100,000

live births in 1994, 334/100,000 live births in 1997, 307/100,000 live births in 2002 and 228/100,000 live births in 2007. The maternal mortality rate increased again in 2012 to 359/100,000 KH (MOH RI, 2008). The high maternal mortality rate in Indonesia puts Indonesia behind other poor countries in Asia in its efforts to reduce maternal mortality. Therefore, there is a need for midwives who have the competence to perform their strategic roles in efforts to reduce the Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) (Mardalena, 2009).

One way to improve the competence of midwifery graduates is to iterate on midwifery education by evaluating the implementation of existing midwifery education to determine whether midwifery graduates are ready to perform midwifery tasks independently in the workplace. The synergy between the midwifery workplace and midwifery graduates needs to be reviewed. Research by Billett, et al, (2013) suggests that there are 3 specific areas of competence required for midwives working in the field, namely 1) conceptual knowledge - 'knowing that') in relation to concepts, facts and learning propositions, 2) procedural knowledge - 'knowing how') in relation to specific and strategic procedures that need to be mastered in learning midwifery practice, 3) dispositional knowledge - 'knowing for') in relation to values and attitudes involved in practical learning.

The learning model for midwifery education that is still widely used around the world is a simulation learning model with phantoms in the laboratory. However, it has been shown that learning with this model has not been effective in improving the clinical skills of midwifery students. The assessment of clinical skills in the learning that has taken place is not enough to make midwifery students globally competitive, so integration of education with the world of work is needed. Assessment of this simulation learning requires an innovative teaching and learning strategy to improve the clinical skills of midwifery students (Brady, et al. 2013) (Thackrah, et al. 2014).

The work-based learning model is the right choice to create learning that is directly related to the world of work because the work-based learning model can replicate the atmosphere of classroom learning in the world of work. Work-based learning is a structured educational programme designed to use work experience in industry or companies and communities to help learners achieve specific learning objectives. By providing opportunities for learners to see the connection between classroom content and potential careers in industry. Work-based learning helps learners make decisions about their life

goals so that they are ready for work and careers after completing their studies (Wise, et al. 2017).

This research is a preliminary research aimed at analyzing the needs of the world of work and the world of education towards the development of Work-based learning models in midwifery vocational education.

## II. METHODS

This research uses mixed methods (quantitative and qualitative) to obtain data that can be represented and measured for validity. The sample in this study were 5 people as users of midwifery graduates from different backgrounds such as Regional General Hospitals, Mother and Child Hospitals, Maternity Homes, Puskesmas and Independent Clinics, 5 graduates who have worked for 1 year in Regional General Hospitals, Mother and Child Hospitals, Maternity Homes, Puskesmas and Independent Clinics, 5 midwifery lecturers from different institutions. Data was collected using questionnaires and in-depth interviews, so the data and information obtained is expected to be more representative. Of course, the data collection has passed ethical documents according to existing procedures such as explaining the purpose of the research and confidentiality of personal data and information.

## III. RESULTS AND DISCUSSION

The needs analysis carried out as a whole has answered the objectives of this study, namely to analyse the needs of the world of work and the world of education for the development of a work-based learning model in midwifery education. Overall, it can be concluded from the results of the analysis that the need for a work-based learning model is in the high category.

### A. Aspects of the general competence of midwifery graduates from the point of view of graduate users, graduate recognition and midwifery educators

Based on Table 1, it is known that the percentage of assessment of general competency aspects by graduate users from various agencies, namely Regional General Hospitals, Mother and Child Hospitals, Maternity Homes, Health Centers and Independent Clinics with an average number of 5 participants is 39.40%, meaning that graduate users assess the competence of graduates is not good in doing work in the first 1 year they work.

Table 1. Aspects of general midwifery competence

No.	Aspects	Employer	Average Graduate recognition	Lecturer
1	Students are able to understand physiological and psychological changes	2.2	2.0	5.0
2	Students are able to explain the factors that influence childbirth	2.2	2.0	4.6
3	Students are able to identify the basic needs of labouring women according to the time of delivery	2.0	2.0	5.0
4	Students are able to observe the course of opening in the labour process (opening 1-10)	2.0	2.0	4.8
5	Students are able to observe signs and symptoms II	2.4	2.0	3.6
6	Students are able to prepare equipment, materials and medicines used for normal labor (partus set preparation)	1.6	2.0	4.2
7	Students are able to prepare 5% chlorine solution	2.6	2.0	5.0
8	Students are able to check the fetal heart rate condition	2.2	2.0	3.8
9	Students are able to help laboring mothers to be in a comfortable position according to their wishes.	1.6	2.0	4.0
10	Students are able to provide support to laboring mothers and families and lead the process of receiving a baby	1.6	2.0	4.4
11	Students are able to perform labor monitoring properly (assess contractions)	1.6	2.0	5.0
12	Students are able to assist the birth of babies independently in each process (birth of head, shoulders, body and legs)	1.8	2.0	2.6
13	Students are able to cut the baby's umbilical cord	1.2	2.0	4.8
14	Students are able to provide treatment for newborns (oxytocin administration)	1.8	2.0	4.8
15	Students are able to provide assessment of newborns (oxytocin administration)	1.0	2.0	3.6
16	Students are able to remove the placenta perfectly	2.0	2.0	4.2
17	Students are able to remove uterine masese after the placenta comes out	2.0	2.0	2.8
18	Students are able to assess bleeding	1.6	2.0	4.2
19	Students are able to perform postpartum procedures (contraction value)	1.4	2.0	3.6
20	Students encourage laboring mothers to breastfeed immediately	1.0	2.0	3.4
21	Students are able to dispose of labor waste materials to the appropriate place	1.6	2.0	3.4
22	Students are able to wash their hands properly after performing labor assistance	1.0	2.0	3.4
23	Students are able to document labor in a partograph	1.0	2.0	4.6
<b>Percentage (%)</b>		<b>39.4</b>	<b>46</b>	<b>94.8</b>

Users of graduates assess that graduates who are working need time and adjustments in their working time to relearn working practices that meet the needs of the workplace, so that the time that should be used for work is actually used for relearning. On average, 46% of midwifery graduates who are also working in different agencies assess aspects of their competence, which means that graduates admit that they are less competent at work, because the learning time for work practice is greater than the learning time for clinical practice. Meanwhile, lecturers as producers of midwifery graduates assessed the general competence aspects of midwifery graduates as 94.8% good and ready to work, this is because lecturers do not directly see the conditions in the work field that graduates still stutter in performing midwifery actions. The gap in the average assessment of the competence aspects by the participants in this study illustrates that there are different views between the users of graduates, the producers of graduates and the

midwifery graduates themselves, so that the work-based learning model in midwifery education needs to be developed to overcome these problems.

#### **B. Task competence aspects of midwifery graduates from the perspective of graduate user assessment, graduate recognition and midwifery educators**

From the table 2, it can be seen that the task skills of midwifery graduates according to graduate users are still 50% have the expected ability to work, according to recognition of midwifery graduates themselves 55% and according to lecturers 95%. Graduate users rate midwifery graduates' work skills in terms of how they prepare for their work as midwives, how they work in a midwifery environment, how they interact at work and how they learn directly from the workplace. Midwifery graduates admit that their work skills are still low in

the first year because they have a lot to learn about the midwifery skills they will need when they enter the workforce. Meanwhile, lecturers provide assessments based on observations of students' laboratory practice during the training period, so lecturers expect students to be able to work directly on completion of midwifery courses. This is the point of analysis where the need for work-based learning in midwifery education is very high.

Table 2. Results of the assessment of the task skill aspect

Aspects of task skills of midwifery graduates	Percentage (%)		
	Employer	Graduate recognition	Lecturer
Task management skill	30	20	20
Work environment skill	5	10	20
Interpersonal skill	10	15	30
Workplace learning skill	5	10	25
<b>Total</b>	<b>50</b>	<b>55</b>	<b>95</b>

This finding is in line with research Thackrah (2014) which indicates that work-based learning is necessary to develop skills that are relevant to the demands of the world of work so that VET graduates are able to compete professionally in the labour market. A needs analysis of the work-based learning model in midwifery education needs to be carried out based on data and facts from the field so that further research can be conducted to prove the effectiveness, validity and practicality of a learning model to be developed.

#### IV. CONCLUSION

Based on the needs analysis conducted, there is a strong need for the development of a work-based learning model in midwifery education so that further studies can prove whether the developed model is valid, effective and practical. It is hoped that the developed work-based learning model can bridge the gap between the competencies and task skills required by the users of midwifery graduates and those produced by the education world.

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