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Job Shadowing Implementation to Improve the Work Skills of Midwifery Graduates

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Abstract*: This study aims to measure the effectiveness of the application of job shadowing to midwifery graduates who have been carrying out their work as midwives for 1 month. Aspects measured whether there is an increase in knowledge, task management skills, work environment skills, interpersonal skills, workplace learning skills in midwifery graduates. The research methodology is quasi-experiment with pretest and posttest with control group design. The sample of the experimental group was 15 people and the control group was 15 people. The sampling technique is purposive sampling. Data collection using questionnaires and observation sheets using performance tests. Data analysis used normality, homogeneity and N-Gain Score tests in the treatment and control groups to see the pretest and posttest scores. The results of the study found that job shadowing was effective in increasing aspects of knowledge, task management skills, work environment skills, interpersonal skills, workplace learning skills in midwifery graduates compared to the control group. Recommended application of job shadowing for midwifery graduates at the beginning of their work. Suggestions for midwifery institutions to use job shadowing during field practice learning.

Keywords* : *Job Shadowing, Work Skills, Midwifery Graduates

I. INTRODUCTION

Vocational education is a program that produces graduates according to the field of expertise pursued during education [1]. Midwifery education is a vocational education that prepares graduates to work professionally as a midwife [2]. The key to the success of vocational education according to Prosser (1950) is to accustom students to adapt to their work environment, accustomed to doing their work and accustomed themselves to critical thinking while doing their work [3]. The 21st Century Education Framework developed by the World Economic Forum (WEF) confirms that intense competition in the field of education, especially health education requires an increase in the quality of education [4], [5]. At present, the graduates of health education, especially midwives, still have competence and ability to practice in a laboratory so that the quality of competency when working is not optimal [6].

In Indonesia, midwifery graduates' competencies began to decline, as evidenced by the results of research that stated the competencies of newly graduated midwives had not been able to perform midwifery care in their first year of work [7]. Midwives who have just graduated are still not skilled in assisting childbirth because they are not accustomed to doing work according to their original conditions, while those who are studied while undergoing midwifery education are more in the laboratory using phantom [8], [9].

The conditions above illustrate that there is a gap between the competencies produced by educational institutions and the competencies expected by the world of work. According to Field (1990) learning in the classroom is only able to measure cognitive aspects and laboratory skills, so the skills needed by the world of work are not owned by graduates who do not learn through work [10], [11].

The efforts of health education institutions in creating quality human resources and able to compete continue to be done one of them with literacy in the education field [5]. One of the literations is in the form of developing work-based learning models with job shadowing approach [11].

Job shadowing is a work-based learning approach by following and observing how instructors work and doing the work again under the guidance of the instructor. Usually, students practice directly at work for 6 hours/day, one instructor should overshadow 3-5 students [12], [13].

Job shadowing should meet the following elements a) jobs that are willing to carry out job shadowing, b) field instructors who are willing to do job shadowing and c) students who do job shadowing. Each of these elements must prepare themselves before carrying out job shadowing so that the main objectives of learning can be achieved [14].

Several studies that have been conducted on the application of job shadowing prove that job shadowing is effective for improving cognitive and work skills. Research Jones, et al (2006) produce that job shadowing helps students establish effective communication with the work environment and increase knowledge about their work [15]. Job shadowing also increases students' confidence in doing their work [16]. Job shadowing research that has been done previously measures several aspects that can be measured by learning in class while the research that will be conducted now measures aspects of workability according to Field 1990. For more details, the following is described in the table:

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Table-I: Novelty Research on the Aspects measured

Aspect	Researcher		
	Reese, 2005	Jones et al, 2006	Marlina et al, 2019
Cogniitif	√	√	√
Task Management Skills	-	-	√
Work Environtment Skills	-	-	√
Interpersonal Skills	-	-	√
Workplace Learning Skills	-	-	√

Based on the description above, this study aims to measure the application of job shadowing to cognitive aspects, task management skills, work environment skills, interpersonal skills, workplace learning skills in midwifery graduates.

II. METHODOLOGY

This study uses a quasi-experiment that is to assess changes that occur after being given treatment to the group under study [17]. The design used is pretest and posttest with a control group that measures the value before and after the group that was given the job shadowing treatment and the control group with conventional treatment [18] as follows:

Table II: Design pretest and posttest with control group

Group	Pretest	Treatment	Posttest
Ekperiment (Job Shadowing)	X_1	Y_1	X_2
Control (Conventional)	X_1	Y_2	X_2

Information:
X1: Giving a pretest
Y1: Job Shadowing Treatment
Y2: Conventional treatment
X2: Posttest gift

Pretest is used to find out how cognitive aspects, task management skills, work environment skills, interpersonal skills, workplace learning skills in midwifery graduates before being given job shadowing. Posttest to assess whether there was an increase in the aspects measured after being given job shadowing. The sample consisted of 30 midwifery graduates who had worked for one month in a health facility as implementing midwives, each 15 people for the job shadowing group and 15 people for the control group. The sampling technique was purposive sampling.

Cognitive measurements were carried out through a questionnaire containing 30 questions about midwifery questions. Measurement of aspects of task management skills, work environment skills, interpersonal skills, workplace learning skills are measured using performance tests using observation sheets on the work of midwives who have passed validity and reliability tests.

The aspects of task management skills are measured by the following indicators: the ability to plan work as a midwife, the ability to manage the stages of work, the ability to work in accordance with the existing system, the ability to control work and the ability to evaluate work [11], [19].

The work environment skills aspect assesses the workability of work environment indicators such as workspace, working position, tools used, noise, dust, blood, time pressure, patient's family insistence [11], [20]. The interpersonal skill aspect of the indicator assesses the ability to build relationships and communication with people in the work environment such as superiors, colleagues, patients and patients' families [11], [21]. Aspects of workplace learning skills with indicators able to learn from work experience so that they can correct mistakes and not repeat them later [11], [22], [23].

Statistical analysis processes the results of the pretest and posttest and calculates the N-Gain score using the software with the formula [24] [25]:

$$N-Gain = \frac{S_{post} - S_{pre}}{S_{maks} - S_{pre}}$$

Note: S post: Posttest score; S pre: Pretest score;
S max: Ideal maximum score

The normality test uses Kolmogorov Smirnov, homogeneity test of variant data using Leven's test. Hypothesis testing using T-test [26].

III. RESULT AND DISCUSSION

After data collection, data analysis is performed according to the research methodology. Then the results of the data were normally distributed between the experimental group and the control group. N-Gain normality test at 5% confidence level ($\alpha = 0.05$) obtained Asymp value (2-tailed) for the job shadowing group was 0.634 while in the conventional group was 0.612. The decision if the Asymp value (2-tailed)> 0.05 means that the data in the job shadowing group and the conventional group are normally distributed.

The homogeneity test on the value of Levene's test of job shadowing group was 0.325 and the conventional group was 0.178. decision if the value of Levene's test> 0.05 data in the experimental group and the control group has homogeneous data variants. Comparison of the effectiveness of the treatment can be seen from the N-Gain Score of the experimental group and the control group at the pretest and posttest. In the N-Gain job shadowing group, the pretest scores were 40.23 in the cognitive aspect, 38.29 in the task management skills aspect, 40.22 in the work environment skills aspect, 43.09 in the interpersonal skills aspect and 29.01 for the workplace learning skills aspect. The N-Gain score in the job shadowing group posttest was 82.41 in the cognitive aspect, 85.54 in the task management skills aspect, 86.01 in the work environment skills aspect, 88.03 in the interpersonal skills aspect and 83.67 for the workplace learning skills aspect. This means that the application of job shadowing is effective in improving cognitive aspects, task management skills, work environment skills, interpersonal skills, workplace learning skills in midwifery graduates compared to conventional groups (see table III). T-test results for the N-Gain data of the experimental group and the control group obtained a P-value of 0.01. decision when P-value <0.05, it is significantly different, meaning that respondents in the job shadowing group and conventional groups have significant differences in the cognitive aspects of task management skills, work environment skills, interpersonal skills, workplace learning skills.

For more details, see Table III below:

Table-III: Statistical Data Analysis Results of the Job Shadowing and Conventional Groups

Aspect	N-Gain Score (%)				*Levene's Test*	N-Gain *Asymp-sig(2 tailed)*	P-value
	Job Shadowing group		*Conventional Group*				
	Pretest	*Post test*	*Pretest*	*Post test*			
Cognitif	40.23	82.41	41.16	54.97	*Job shadowing group* = 0.325 *Convensional Group* = 0.178	*Job Shadowing group* = 0.634 *Convensional group* = 0.612	0.01
Task management skills	38.29	85.54	38.11	56.45			
Work environment skills	40.22	86.01	40.14	59.34			
Interpersonal skills	43.09	88.03	42.96	58.25			
Workplace learning skills	39.01	83.67	38.98	55.29			

Information from respondents as supporting data said that when they had worked a full month without job shadowing their knowledge had increased but their ability to do the work was still low. After job shadowing, their work ability increases, because they feel confident doing work based on the way the instructor works that they are shadowing.

For example when doing childbirth assistance, when they are not yet job shadowing they are only limited to seeing or commonly called parturition so that they do not dare to try to do it right away. But when they finish the job shadowing, they feel confident to directly deliver labor because they have been guided before.

The results of this study are in line with research Mader et al (2017) states that job shadowing experience will teach a lot about soft skills and task skills that are not found in education in the classroom [27]. The application of job shadowing in medical education has proven an increase in work skills in prospective doctors so that after graduating medical education is ready to work [28].

Job shadowing also enhances the ability to work based on environmental aspects. Learning directly in the world of work provides an opportunity to adapt to an environment that is not conducive. The ability to overcome environmental conditions, panic, time insistence will only be found in learning in the workplace through the job shadowing approach. Learning through the work environment will not be learned in classroom learning or laboratory [29], [30].

Based on the results of this research, job shadowing has major implications on the work skills of a midwife, so job shadowing can be done on midwifery graduates who have just started working in the form of training through job shadowing. Job shadowing can also be used as an approach to learning that combines theoretical and practical learning to enhance students' work abilities after completing midwifery education.

Job shadowing can be one solution in overcoming the gap between the desires of the world of work for the quality of midwifery graduates and the quality of graduates produced by midwifery education institutions. Synchronizing the two is expected to reduce educated unemployment and increase competition in looking for work [31].

IV. CONCLUSION

This research is known job shadowing is effective to improve cognitive aspects, task management skills, work environment skills, interpersonal skills, workplace learning skills in midwifery graduates compared to conventional groups. It is expected that midwifery graduate users will conduct training with a job shadowing approach to midwifery graduates to improve their work skills as a midwife. Job shadowing can also be used in educational institutions in the midwifery practice learning model to improve the quality of midwifery graduates themselves.

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