



The Effect of Peer Tutor Model on Antenatal Care Skill Competencies in Learning Laboratory Skills for Students of Langsa Midwifery Study Program

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Abstract

BACKGROUND: Peer-assisted learning is a student-centered learning method that involves discussions between friends or seniors as teachers and participants as being taught. Realize optimal education; it is necessary to choose the peer tutorial method to increase antenatal care (ANC) skills in laboratory skills.

AIM: This study aims to determine the effect of the learning peer tutor model for laboratory skills on the competence of ANC skills in the Langsa Midwifery Study Program's first-level students.

METHODS: This study used a pre-experimental approach with a one-group pretest-posttest design without a control group. The population used in this study were all Level I Midwifery Students of Langsa City who occupied the 2nd semester. This study's sample was taken by purposive sampling as many as 45 respondents – data analysis using bivariate analysis.

RESULTS: The results showed an effect of the peer tutor method on ANC skills' competence before and after learning laboratory skills as evidenced by a statistical test with a value ($p < 0.05$), namely, $0.047 < 0.05$. The results also showed differences in students' competence before and after the peer tutoring method was carried out in laboratory skills learning, as evidenced by the results of statistical tests with $p < 0.05$, namely, $0.000 < 0.05$. Peer tutor method learning effectively increases ANC skill competencies in learning laboratory skills for midwifery study students.

CONCLUSION: Peer tutor model effective in improving ANC skills competency in skill learning for midwifery study students.

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Keywords: Peer tutor model; Antenatal care; Skill competencies

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Introduction

Mortality and morbidity in pregnant and childbirth women are a big problem in Indonesia. As much as, 25–50% of deaths of women of childbearing age are related to pregnancy. Data from the Ministry of Health of the Republic of Indonesia (Kemenkes) in 2015 show that out of 100,000 live births in Indonesia, 305 of them ended in the mother's death [1]. The high maternal mortality rate (MMR) has prompted the government to carry out structural interventions. One of them is to include the target for MMR reduction in the 2014–2019 National Medium-Term Development Plan (RPJMN). In the 2014–2019 RPJMN, the government targets a reduction in MMR from 205/100,000 births to 276/100,000 live births. To reduce the MMR and infant mortality rate, the World Health Organization (WHO) launched the making pregnancy safer strategy and put safe mother hood (SMH) as the top priority.

One of the SMH programs is the ante natal care (ANC) service. ANC is a prenatal examination skill that begins with preventing pregnancy complications,

and if complications occur, they must be detected early. Pregnancy examination skills are skills that a general practitioner must possess and are learned from when students are at the academic or preclinical level. The WHO has identified that effective collaboration between health professionals plays an essential role in preparing and providing health workers with the ability to respond to local health needs and provide a strengthened health system [2]. Realize optimal education and learning applied, it is necessary to choose a better learning method. The implementation of health education learning activities can improve patient safety through increased skills, collaboration, and communication between health teams [3], [4]. ANC skills are currently one of the laboratory skills in the midwifery care course, which is used to evaluate the professional competence of health workers such as knowledge evaluation, communication skills, physical examination, diagnostics, and behavioral assessment, and interpersonal skills. ANC skills are expected to be realized with peer tutor learning models. The peer tutor learning model is an alternative that can be applied in the teaching and learning process. In the past few

decades, various health learning programs have implemented various peer-assisted learning (PAL) programs. PAL has many benefits for students (both those who teach and those who are taught), teachers, and educational institutions [5]. PAL is a student-centered learning method that involves discussions between friends or seniors as teachers and participants as being taught. There has been much written about the use of PAL and the cognitive, pedagogical, attitudinal, social, and economic benefits associated with peer tutors' use [6]. PAL has long been applied informally in medical education in the past 10 years [7], [8].

PAL can help position students as active learners by reducing reliance on educators, increasing roles in practice, and making evaluative judgments about the quality of practice [9]. The learning process with peers or what is known as PAL has been used for a long time in the learning process in health. This approach with the PAL technique allows friends or seniors to help friends or juniors in the learning process and improves clinical skills while studying in the medical world. For this, it is necessary to conduct a study related to peer tutoring model laboratory skills learning on the competence of ANC skills in first-level students of Langsa Midwifery Study Program.

Methods

This study used a pre-experimental design with a one-group pretest-posttest design without a control group. The research was conducted for 7 days, namely, 1 day in the classroom and 6 days in the Langsa Midwifery Study Program laboratory. The population used in this study were all students of Langsa City Midwifery Study Program Level I who occupied the second semester with 45 people. The sample in this study was taken by purposive sampling as many as 45 respondents. Data collection is carried out with a survey which begins with applying for a data collection permit. The implementation procedure is explaining to five prospective tutors to assess the ANC skill competency to 45 respondents. The following steps: Day 1, reexplaining the research objectives and respondent's consent to participate in the research and signing the informed consent. Day 2: Prepare tools and check the completeness of the ANC skills laboratory tools after asking permission from the laboratory staff. Provided training on ANC skills to tutors (five Levels II female students) for 120 min by the research team based on module and checklist guidelines. Third day: Assessing the results of tutor training for 2 min \times 60 min. If a tutor is found who is not yet skilled, then it is retrained until the speech is truly skilled. Day 4: TK I students enter the laboratory room to assess the respondent's skills in performing ANC skills by five tutors from Kindergarten II. The 5th to the 6th day

provides tutorials on ANC laboratory skills in rotation for each competency using a checklist, and the 7th day, assessing respondents' skills by peer tutors assisted by a team of researchers and laboratory staff. They are checking the completeness of the checklist, calculating the value, creating a code. Recap the value of skills and perform data analysis. Before the paired *t*-test, the normality test was conducted first. Data analysis using calculation and continued with bivariate analysis to determine the relationship between variables.

Results

Characteristics of student

The results showed that the respondents before the peer tutorial were conducted; based on pre-test, it was found that the ANC competency score was 33 (73.3%) did not pass, while only 12 (26.7%) passed the test. The results after peer-to-peer tutorials (post-test) found that only 1 (2.2%) of the respondents did not pass the ANC competency score, while 44 (97.8%) respondents passed the test. These results indicate that the peer tutor method on ANC competence in laboratory skills developed, then the paired *t*-test difference test is carried out (Table 1).

Table 1: The frequency distribution of student skills and competencies before and after the peer tutor learning method

Variable	Pre	Percentage (%)	Post	Percentage (%)
Skill 1 (pre)	33	73.3	12	26.7
Competency 1 (pre)	33	73.3	12	26.7
Skill 2 (post)	1	2.2	44	97.8
Competency 2 (post)	1	2.2	44	97.8

Bivariate analysis

Bivariate analysis aims to determine the relationship between the peer tutor method competences in laboratory skills learning. The following are the results of the bivariate analysis.

Based on Table 2, it shows that there is an influence of the peer tutor method on the competence of ANC skills before and after learning laboratory skills with a value ($p < 0.05$), which is $0.047 < 0.05$.

Table 2: The effect of peer tutor methods on and competency of student laboratory skills learning in midwifery study program

Variable	n	Correlation	Sig.
Skill and competency 1 - Skill and competency 2	45	0.298	0.047

Based on Table 3, it is known that there are differences in student competence before and after the

Table 3: Differences in peer tutor methods against and competency of student laboratory skill learning in midwifery study program

Variable	t	Sig. ($p < 0.05$)
Skill and competency 1-skill and competency 2	14.276	0.000

peer tutoring method is carried out in learning laboratory skills with $p < 0.05$, namely, $0.000 < 0.05$.

Discussion

The results of the study show that there the effect of peer tutor methods on the competency of ANC skills on learning laboratory skills. The analysis of the different peer tutoring learning methods on the pretest-posttest measurement has a significance level of 0.047 ($p < 0.05$), which indicates a significant effect before and after the peer tutor method on ANC skills competency in the laboratory skills learning. Respondents who received peer tutoring method learning experienced an increase in ANC competency skills in laboratory skills marked by an increase in the number of graduations or the number of scores above 70, which amounted to 44 (97.8%) respondents out of 12 (26.7%) respondents. The peer tutor learning method's provision has a very positive effect in increasing the competence of ANC skills on the respondent's laboratory skills. Several studies have shown that PAL can solve this dilemma if used in curricula [10]. Students and educators view that PAL can help position them as active learners through reducing dependence on clinical educators, increasing roles in observing practice, and making and communicating evaluative judgments about the quality of practice [9].

The results of the respondents' competency difference test analysis showed that there was a significant level of 0.000 ($p < 0.05$), which indicated that there was a significant difference between the respondents' competencies before and after learning the peer tutor method. Learning the peer tutor method can improve students' skills because peers can influence a positive attitude toward self-control to lead to calm in following the ANC skills learning. PAL benefits have a positive effect on test scores, student satisfaction, personal development, and professionalism in their field [11]. Besides, PAL can be a more interactive and informal way of teaching and professional development [12].

PAL can help institutions meet external expectations for graduates to achieve competency and experience in teaching, assessment, and instill a lifelong teaching culture [13]. PAL can also address specific gaps in the curriculum, providing additional student support in preparation for assessments [14].

Most of the students believe that PAL is useful for them [15]. Peer tutoring in its implementation can create an exciting and fun learning atmosphere when students learn skills because this model can dialogue, demonstrate repeatedly, and interact with fellow participants openly and interactively under the guidance and monitoring of lecturers. So that students are motivated to mastering and more skilled in demonstrating the skills given, which consequently lead to good abilities, competencies, and achievements.

Many evaluations of PAL programs are based on student satisfaction ratings and examining assessment results for evidence of learning [16], [17]. Similar approaches have been applied to PALs evaluation in clinical settings [18], [19]. These findings suggest that acting as a peer tutor can be an attractive and constructive educational opportunity to advance academic development [20], [21]. PAL is proven to improve clinical skills, where students who take PAL have higher scores than students who follow the learning process with conventional methods. The peer tutor model in its application is expected to increase learning achievement for the Langsa Midwifery Study Program students.

Conclusion

Peer tutor model effective in improving ANC skills competency in skill learning for midwifery study students. The study results found that there were differences in the competence of students before and after the peer tutoring method was carried out in learning laboratory skills.

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