

Application of Case-Based Method in Postpartum Pre-Profession Courses to Improve Student Learning Outcomes

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ABSTRACT

A case-Based Method is a flexible form of learning that includes problem-based learning and encourages reasoning skills development. It enables students' high-order thinking skills to follow Bloom's taxonomy of cognitive learning by exposing knowledge in the form of narration with questions and activities that foster group debate and problem-solving. This study aims to find out the effect of applying case-based learning methods on student learning outcomes. This research is Quasi-Experimental Design with a posttest-only control group design approach. The sample was 88 people, consisting of 44 intervention groups and 44 control groups. The sampling technique is purposive sampling. The results showed the positive effect of applying case-based methods to student learning outcomes in postpartum pre-profession courses.

Keywords: Case-Based Method, Learning Method, Learning Outcomes.

1. INTRODUCTION

The quality of learning in college learning needs to constantly be developed and get great attention to achieve the learning goals that students must obtain. Learning with student-centered learning encourages and motivates students to develop creativity and learning skills independently. Student-centered learning can develop creativity, motivation, and student knowledge ability in problem solving, especially for patients, by implementing a case-based method [1].

A case-based method or case-based learning involves students being active and creative in discussing cases or events experienced by patients in actual circumstances. In case-based methods, scenarios or cases are used to develop reasoning knowledge and skills of students in solving problems faced by patients [2,3].

Learning outcomes are activities to measure the change in behavior in students. Student learning outcomes are influenced by the environment, family, lack of learning planning, and learning process, including lecturers' methods and learning media.

1.1. Position of Courses On Curriculum Structure

Postpartum pre-profession course is a course that is held in the seventh semester in the Midwifery Bachelor Program of the Faculty of Medicine, Andalas University. This course is mandatory before students enter the professional stage. This course belongs to the core group of midwifery science [5].

This course provides students with the opportunity to understand the concept, changes in the postpartum period, an adaptation of postpartum period, family response and support for postpartum mothers, lactation management and the role of midwives in lactation management, problems in breastfeeding, the needs of mothers in the postpartum period, management of maternal midwifery care in the postpartum period, follow-up of in postpartum care, care on bleeding during the postpartum, infection and sepsis of the postpartum period, and pathology of lactation and documenting of obstetric care at the time of postpartum period. Understanding the concept is expected that students can do upbringing management in midwifery regarding the current period to the maximum level. Thus, mastery of material in this course is essential because it will

provide learners with midwifery care in the community later [5].

1.2. Achievements Of Courses

After all learning activities in this course are carried out, students are expected to be able to understand the concept and the changes in the postpartum period, adaptation of postpartum period, family response and support for postpartum mothers, lactation management, and the role of midwives in lactation management, problems in breastfeeding, the needs of mothers in the postpartum period, management of maternal midwifery care in the postpartum period, follow-up of in postpartum care, care on bleeding during the postpartum, infection and sepsis of the postpartum period, and pathology of lactation and documenting of obstetric care at the time of postpartum period [5].

2. RESEARCH METHODS AND LEARNING MODEL

This research is a quasi-experimental study using a simple experimental design (Posttest Only Control Group Design) [6]. Analysis data in this study used Mann Whitney Test. The sample in this study is students in the Midwifery Bachelor Program of the Faculty of Medicine, Andalas University semester VII of the academic year 2021/2022 as an intervention group and students of semester VII academic year 2020/2021 as a control group.

| Group | Treatment | Posttes |
|------------|-----------|---------|
| Experiment | X | Or |
| Control | - | Or |

Figure 1. Skema Post-test Only Control Group Design

2.1. Application of Learning Methods

The application of the learning model is carried out by dividing students into groups. Each group then carries out a discussion to discuss the case scenario that has been provided in the learning module to discover the learning objectives of each module.

Planning :

- 1) Lecturers determine the learning goals that must be achieved by students based on the learning achievements of courses
- 2) The lecturer creates a scenario case displayed on each learning module, containing trigger

cases to motivate students to find learning goals.

- 3) The lecturer divide students into groups to be able to carry out small group discussions
- 4) Lecturers prepare a learning evaluation that will be given to students to assess the process and student learning outcomes from several modules that have been implemented.

Implementation:

In the control group, learning has been carried out by question-and-answer lectures and discussions. Learning is not fully implemented with the student-centered learning model, and students still receive material from lecturers in the learning process. Some meetings were also held with small group discussion sessions. In the case or intervention group, learning is carried out by discussion method using semi tutorial methods, i.e., students apply several seven jump steps and find learning goals. Students are divided into several small groups and then given the cases discussed in each group.

2.2 Assessment of learning outcomes

Student learning outcomes are assessed using multiple-choice questions to measure outcomes after an intervention.

3. RESULT AND DISCUSSION

The value of student learning outcomes in Postpartum pre-profession course in the intervention group and control group after implementing the learning method is as follows:

Table 1. Comparison Of Knowledge Value Between Students in 2020 and 2021

| Value Range | Year 2020 | | Year 2021 | |
|-------------|-----------|------|-----------|------|
| | f | % | f | % |
| 80 -100 | 5 | 11,4 | 16 | 36,4 |
| 75 - 79 | 3 | 6,8 | 6 | 13,6 |
| 70 - 74 | 9 | 20,5 | 5 | 11,4 |
| 65 – 69 | 11 | 25,0 | 4 | 9,1 |
| 60 - 64 | 8 | 18,2 | 8 | 18,2 |
| 55 – 59 | 8 | 18,2 | 5 | 11,4 |

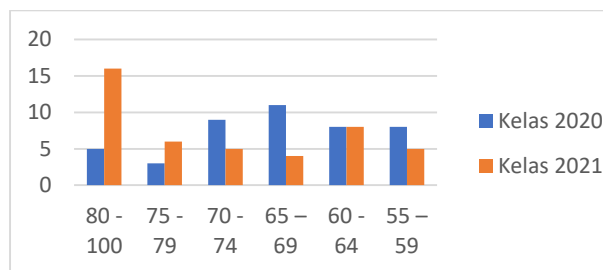


Figure 2. Comparison Of Grades In Control Classes And Intervention Classes

Table 1 demonstrates the value of student learning outcomes in 2020 as a control group and in 2021 as an intervention group. The intervention group obtained 3.6.4% of students in grades 80-100 categorized as very brilliant. In the control group, 11.4% of students have a value range of 80-100 (very brilliant).

The student assessment results in the intervention group showed that the acquisition of the most dominant range of grades was at very bright grades, followed by a range of grades 60-64 of 18,2% are categorized as close to good. Meanwhile, in the control group, the most dominant range of values is in the range of 65-69 by 25% with a good category.

The normality test results in this study showed that the data in the control and intervention groups had an abnormality in data distribution. Data testing was then conducted using Mann Whitney, where a signification value of 0.01 was obtained. The value of this significance is less than 0.05, which means that there is an influence on the provision of case-based learning methods on student learning outcomes.

In this study, the intervention group was facilitated with learning modules that have implemented case-based methods equipped with case scenarios and lecture implementation using adult learning models. Students play an active role in learning activities by finding learning goals through formulating problems and discovering hypotheses and learning goals. Students equipped with modules that have applied the case-based method will be more motivated to learn and better prepare themselves individually to participate in discussions in the group. Appropriate learning methods in students can develop learning motivation from students [7].

A case-based method is a learning method that is included in the context of student-centered learning oriented to problem-solving approach, and effective as a method used in courses that will prepare students to jump to serve their patients in the world of work later. The case-based method or

case-based learning by using case studies is very effective. It attracts student motivation in learning, developing knowledge for critical thinking, and the ability to solve problems faced by patients, and improves learning outcomes compared to lecture methods [8].

Students achieve learning outcomes not only fixated on the final grades obtained during the learning process but also on the achievement of each module's learning goals of each module. Students learn it at every meeting. Students discuss cases given together in groups, which then ends with discovering several learning objectives based on the cases discussed. According to (Kulak and Newton, 2015), students who study with case-based learning methods will be more motivated to learn and show more positive learning outcomes [9].

Students need to change the way they learn from individual to group learning to gain new opportunities and experiences in learning knowledge through discussions with other members. Group discussion in learning with case methods is very good for students because it is one of the extrinsic factors that encourage or motivate students to interact, communicate, cooperate, and learn more actively in group discussions to foster interest in learning to achieve good results. In accordance with (Gholami, 2016), it concludes that in achieving good learning outcomes, students need to find the right and effective ways of learning, including group learning and being active in the learning methods given by lecturers [10].

4. CONCLUSION

There is an increase in learning outcomes in students who learn with case-based methods. The application of case-based methods has a more positive influence in improving student learning outcomes in Postpartum pre-profession course.

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