

Development and Implementation of Case Based Methods in Block 3A. Midwife Care on Pregnancy at the Undergraduate of Midwifery Program Faculty of Medicine Andalas University in 2021

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ABSTRACT

Achievement of the learning objectives of a student with the method of learning problem based learning (PBL), can be influenced by the results of extracting their peer information in small groups because the information obtained by students will be discussed to perfect the knowledge gained. This study applied to one of part of block learning system called Topic Discuccion. This part involve small group who will discuss a topik adn the group will guide by a lecturer directly. The results of the study, there was an increase in the value of students before and after treatment with a value of $p = 0.000$, and there was a difference in grades of students in 2020 and 2019, where the grades of students in 2020 were better than in 2019, with $p = 0.001$. The case-based method applied to Block 3A learning (Midwifery Care in Childbirth) has a significant influence on the level of knowledge of third semester students of class 2020. In comparison with the previous batch, it has a significant effect, which can be seen from the increase in student scores on the block exam. The results of the comparison of the level of knowledge before and after the intervention also showed a significant increase.

The results of interviews with students showed that students preferred and could better understand the discussion material with the small group discussion method which was applied to topic discussions.

Keywords: *Learning Methods, Problem Based Learning.*

1. INTRODUCTION

Learning in the Midwifery Undergraduate Study program has been using the block system since several years ago, in which the block system is an application of the problem based learning method. Block 3A Midwifery Care in Pregnancy, is a block that must be studied by third semester students in the Midwifery Study Program, Faculty of Medicine, Andalas University. Students who take part in learning in this course block give students the opportunity to understand concepts, changes in pregnancy, factors that affect pregnancy, assessment of pregnant women and documentation of midwifery care in pregnancy. Thus mastery of the material in Block 3.A is important, because it will provide students with high quality midwifery care for pregnant women.

Learning is prepared in the form of lectures by experts in the appropriate field, tutorial discussions and

skills training in the laboratory. This block runs for 5 weeks, each week 1 module will be discussed, so this block will cover 5 modules. In addition to expert lectures, students will carry out clinical skills training. Every week a plenary discussion will be held with topics adapted to lectures and tutorial materials. At the end of the block, there will be an evaluation of block 3.A theory learning in the form of a CBT exam.

The contribution of this block to the competency/learning achievement in the curriculum of the study program is that students are able to master 29 main competencies, 9 supporting competencies and 1 special competency as a midwife spread over 7 (Seven) Midwife competency areas. Innovative learning methods developed to support learning outcomes are in the form of topic discussions based on real cases in the field to improve learning outcomes in introductory lectures,

tutorials, small group discussions, Skills lab, expert lectures, practicum, plenary discussions, independent study so that learning outcomes are good attitudes, general skills, specific skills and knowledge listed in the RPS in each learning objective can be achieved.

In improving the quality of students, education requires evolution or changes in student-centered learning (Jordan et al., 2014; Lemos et al., 2014). Student Centered Learning (SCL) encourages, motivates students to develop creativity and independent learning abilities (Aliusta and zer, 2016). SCL learning that can be used to develop students' creativity, motivation and knowledge skills in solving patient problems is the Case Based Method (CBM) method.

Case BasedThe method is an effective and interesting learning approach. CBM can involve students to be active and creative in discussions about real life events. In CBM learning scenarios or case studies are used to develop students' reasoning knowledge and skills in solving problems faced by patients.

According to (Kantar and Massouh, 2015 ; Raurell et al., 2015 ; Mclean, 2016 ; GholamI et al., 2016 ; Bansal and Goyal, 2017), explained that the CBM method is very effective and has a positive impact on motivating students to improve their knowledge and skills in identifying problems faced by patients. The application of the CBM method in group discussion lectures is more effective in increasing student creativity and developing positive attitudes in learning to achieve better learning outcomes, (Hong and Yu, 2016; am and Geban, 2016).

Learning motivation is the basic attitude needed by students in the teaching and learning process (Yardimci, Bekta, and zkütük, 2017). Elements that influence learning motivation are students, lecturers, learning methods or processes and the environment (Huang et al., 2016). Lack of learning motivation can cause a decrease in student learning achievement so it is necessary for lecturers to increase student learning motivation by using appropriate learning techniques or methods to arouse student interest in learning (Walker et al, 2016).

Learning outcomes are activities to measure changes in behavior that have occurred in students. Student learning outcomes are influenced by the environment, family, lack of learning planning and the learning process including learning methods and media used by lecturers (Abdulghani et al., 2014). Student learning outcomes will be good, if the learning process takes place very effectively and is supported by collaborative and cooperative motivation and learning used by students. The purpose of this study was to see the effect of the implementation of the Case Based Method on the lecture block 3A Midwifery Care in Pregnancy.

Formulation of the problem

The problem formulation of this research is how the effect of the case based method on block 3A Midwifery care in pregnancy.

Research purposes

The purpose of this study is to see the effect of the implementation of the case-based method of Topic Discussion lectures in block 3A of Midwifery Care in Pregnancy, third semester students of the 2021/2022 academic year.

Benefits of research

The benefit of this research is to encourage lecturers to develop more interesting and effective learning methods to increase student interest in conducting discussions based on the cases discussed. For study programs, it is hoped that they can add references related to learning methods which will later be outlined in the form of block learning plans (RPB).

2. RESEARCH METHOD

This research is research and development, namely research that aims to produce output in the form of case-based teaching materials which are described in various components. The method used in this development research refers to the model development method as proposed by Borg & Gall (1983) which includes the following stages: 1) Research and data collection (research and information collecting); 2) Planning (planning); 3) Development of initial product draft (develop preliminary form of product); 4) Initial field testing (preliminary field testing); 5) Revising the test results (main product revision); 6) Field testing (main field testing); 7) Completion of the resulting product from field trials (operating product revision); 8) Field testing (operating field testing); 9) Final product revision;

As stated earlier, this development research used the Borg & Gall (1983) model, but for this purpose it was modified by doing 8 steps. The procedure for developing teaching materials is designed in the form of the following activities: 1) studying the syllabus of block 3A to formulate the special competencies that students must master; 2) conduct learning analysis to determine the competency structure; 3) compiling case-based teaching materials; 4) evaluation and validation of teaching materials by subject matter experts; 5) revision I of teaching materials; 6) Trial of teaching materials; 7) Revision II of teaching materials; and 8) dissemination and implementation. The difference lies in the pilot step, where the Borg & Gall (1983) model uses three trials, namely initial trials, main trials, and field trials.

The research population is all students of the Midwifery Study Program, Faculty of Medicine, Andalas University Class Year 2020 semester III. The sample is part or representative of the population studied. Based on the statistical approach, the sample size is determined by the statistical model that will be used to test the hypothesis. Includes strategies for achieving outcomes regarding the development of learning methods and/or student assessment systems, including population size or number of students and observation parameters and data analysis.

The research sample was all students of the Midwifery S1 Study Program, Faculty of Medicine, Andalas University, Class of 2020, semester III (total population). The implementation time is July to November 2021. The research site is in the Midwifery S1 Study Program, Faculty of Medicine, Andalas University. The procedures/steps of the research carried out are starting from the stages of data collection, data processing, data analysis and data presentation.

Stages / Research Flow

The first research stage is to determine the respondents to be sampled, namely all third semester students who are studying the subject. The next step is to assess the respondent's ability based on the prior knowledge that the respondent has previously. After that, do the right approach method using a case based learning method, then a reassessment (post test) is carried out. Next, do a comparison of the respondents' scores before and after the approach.

The approach process carried out by the researcher will determine the results of this study. This is because it will affect the results or answers of respondents at the time of doing the posttest. The learning method with the case based method approach is likely to have a great influence in increasing the knowledge of the respondents. The data that has been collected (pre-test and post-test results) will then be analyzed and tested for hypotheses using the appropriate instrument.

The data that has been collected will then be checked for integrity and coded to avoid errors. Then the data was processed and analyzed using the Statistical Package for Social Science (SPSS) for Windows version 19.0 computer application. Processing of data using statistical methods, so it is hoped that the data obtained will be complete, clear, consistent and in accordance with the question.

3. RESULT AND DISCUSSION

The results of this study can be seen in the following table:

The block system learning process in the Midwifery Undergraduate Study Program is a manifestation of the implementation of the case based method which has been running since 2013. One of the forms is the Topic Discussion which is run by students every week in each block. According to Samani (2012), discussion is an exchange of thoughts (sharing of opinion) between two or more people with the aim of obtaining a common view on a problem that is felt together. Thus, discussion is a learning method in which there are conversations between individuals and other individuals who are formed into containers or groups that are faced with a problem so that they can exchange ideas to get the correct problem solving through mutual agreement.

The benefit of discussion is that it can encourage critical thinking. Effective forum topics are open-ended and designed to encourage students to take a position on an issue. To respond to these topics students need organized thinking from the concepts that have been explained. If a student's views are challenged, he or she usually adds carefully considered reasons to support the previous comments. Another benefit is that it allows students to learn about content from other perspectives. Students experience a professional communication process. Discussions can also lead students not to get stuck in their own way of thinking which is sometimes wrong, full of prejudice and narrow. If carried out carefully, discussion is a fun way of learning and stimulating experience.

The results of this study can be seen in the following table:

Table 1. Comparison of knowledge of 2019 and 2020 students

Value Range	Class of 2019		Class of 2020		P value
	F	%	F	%	
85 – 100	0	0	0	0	0.001
80 – 84	0	0	0	0	
75 – 79	2	4.1	15	45.45	
70 – 74	23	46.9	8	24.24	
65 – 69	10	20.4	10	30.30	
60 – 64	9	18.4	0	0.0	
55 – 59	3	6.1	0	0.0	
50 – 54	2	4.1	0	0.0	

Table 1 shows the results of the comparison of block test scores from two different batches who took the same

block lectures but in different years, namely the 2019 batch and 2020 students. The Midwifery Undergraduate study program has been using the Problem Based learning method since 2013, which where the learning method uses a block system. In Block learning, student lectures are divided into 5 weeks of lectures, where each week students will discuss 1 learning topic and conduct tutorial discussion activities, group topic discussions, plenary discussions and introductory lectures with different lecturers according to their respective expertise on the topic. relevant.

In this study, the researcher made modifications to the topic discussion section that students carried out every week. Topic discussions were previously carried out in groups and discussed together in 1 large class and guided by only 1 lecturer. However, this time the researcher made a modification in which the topic discussion activities were carried out in groups and each group was guided directly by one lecturer. with a method that we call Small Group Discussion (SGD). So it is hoped that discussion topics can be more meaningful and make students more understanding and more active in discussions.

Class of 2019 students with a total of 49 students using the cased based method lecture method that has not been modified. Meanwhile, the class of 2020 students applied a case-based method that had been modified in the topic discussion section. After the block is completed in the sixth week, a block test is carried out. The results of the calculation show that in the 2019 class, most of the students have a score range between 70-74, which is 46.9%. In the class of 2020 students, the results showed that the majority of students had a score range of 75-70, namely 45.45%. Based on the results of the block exam obtained, there was an increase in scores for the class of 2020. After statistical tests were carried out with the Mann Whitney test, there was a significant difference with P value = 0.001,

Table 2. Comparison of knowledge of students of class 2020 between before and after the action

Value Range	Before		After		P value
	F	%	F	%	
85 – 100	0	0	0	0	0.000
80 – 84	1	0.03	9	27.27	
75 – 79	1	0.03	10	30.30	
70 – 74	6	18.18	11	33.33	
65 – 69	8	24.24	3	0.09	
60 – 64	8	24.25	0	0	
55 – 59	9	27.27	0	0	
50 – 54	0	0	0	0	

In addition to making comparisons on the results of the block exam, the researchers also conducted a comparison of student knowledge assessments before and after the Small group discussion method was conducted on topic discussions for class 2020 students. The pretest was carried out in week 1 and the posttest was conducted in week 5 by testing students' understanding of the topic. has been discussed.

The results of the calculation showed that the student scores before the modified topic discussion method was more varied with the most values in the range of values from 55 to 59, namely 27.27%. Meanwhile, in the results of the assessment after the modified topic discussion method was carried out, there was an increase in value, namely the highest value in the range of 70-74, namely 33.33%.

In addition to quantitatively testing student knowledge, the researcher also conducted in-depth interviews with several students of the 2020 batch who had completed block 3A. Based on the results of interviews, students said they preferred the small group discussion method to large class discussions, where students felt they understood the material discussed better, students were more active and dared to give their own opinions according to the theory from the books or journals they had studied. Students also said that they received greater attention from lecturers, so students were very enthusiastic in studying the material and discussing.

According to (Kantar and Massouh, 2015 explaining that the case-based method is very effective and has a positive impact on motivating students to improve their knowledge and skills in identifying problems faced by patients. The application of the CBM method in group discussion lectures is more effective in increasing student creativity and developing a positive attitude in learning to achieve better learning outcomes. Learning motivation is the basic attitude needed by students in the teaching and learning process (Yardimci, Bekta, and zkütük, 2017). Elements that influence learning motivation are students, lecturers, learning methods or processes and the environment (Huang et al., 2016). Lack of learning motivation can cause a decrease in student learning achievement, so it is necessary for lecturers to increase student learning motivation by using appropriate learning techniques or methods to arouse their passion for learning (Walker et al., 2016).

Xiaowi Hou said in his article the case-based teaching method is a method of organizing students to study, research and practice according to the needs of the objectives and content of teaching under the guidance of the lecturer. The teaching method mainly uses student-oriented group discussions, role playing, live simulations or debates. The case teaching method focuses on giving full play to student learning autonomy. The focus of traditional teaching is on mastering theoretical

knowledge, whereas the focus of practical teaching is on letting students know how to act. The case teaching method formally combines the two, paying more attention to the cultivation of students' abilities.

The results of statistical tests show that there is a significant value or significant difference between knowledge before and after the intervention, where the level of knowledge of students after the intervention has increased for the better. The learning outcomes of the intervention group improved better, because before the learning process students were facilitated with a case based learning learning module which contained the main points of material according to the learning objectives achieved, so that students could study and better prepare themselves individually to face the post test exam after the process. discussion or learning is carried out.

Good learning outcomes are goals that every student wants to achieve. Good learning outcomes achieved by students are the result of interactions between various factors that influence them both from within (internal factors) such as interests, motivation, attitudes, intellectual and physical as well as from outside themselves (external factors) such as environment, friends, lecturers, facilities and appropriate learning methods. Students who have better learning outcomes are satisfied with what they do during learning activities, especially the preparation and use of appropriate learning methods to motivate learning.

Communication and interaction between each member or participant in small group discussions is fundamental in obtaining information. Every student has the same opportunity to ask questions and comment. It is hoped that with the implementation of the small group discussion method, the lecturer can find out the extent of students' understanding and mastery of the subject matter discussed. Small group discussions can train students' ability and courage in communicating and can create a more interesting learning atmosphere because students are directly involved in discussing and analyzing cases according to their understanding. Students in learning activities will feel motivated and excited in smaller groups and are guided by their supervisor directly.

The results of Annamalai et al.'s exploration show that 70 of scholars suppose that small group conversations are interactive, friendly, innovative, the relations that are erected between preceptors and scholars. Small group conversations ameliorate their study processes and help them in better communication.

Exploration by Sood R & Adkoli BV and Medical Council of India, out of 40 feedback forms attained from scholars, 90 said that they understood the content veritably well. Seventy percent of scholars suppose that small group conversations are interactive, friendly, innovative, erecting commerce between preceptors and scholars. They also felt that small group conversations

bettered their study processes and helped them in better communication. Thirty percent said that case scripts should be given over the coming week. Some scholars want these sessions to be frequent and for delicate motifs.

Active Literacy is demanded by scholars to get a further optimal understanding. When scholars are unresistant or only admit from the school teacher there's a tendency to snappily forget what they got. Using the Small Group Discussion literacy strategy can bring about changes in knowledge and understanding of assignments. It means that the Small Group Discussion literacy strategy is effective to ameliorate scholars' understanding.

This study shows that small group discussions provide opportunities for students to speak in front of others and to receive feedback from lecturers and peers. Sharmila SR et al, reported that small groups can be an effective learning situation where students learn from their teachers and interact with one another.

Small group discussions make students more active in learning which is very necessary for students to get a more optimal understanding. When students are passive or only receive from the lecturer there will be a tendency to quickly forget the material that has been obtained. Using the Small Group Discussion learning strategy can bring about changes in knowledge and understanding of lessons. It means that the Small Group Discussion learning strategy is effective to improve students' understanding.

4. CONCLUSION

The case-based method applied to Block 3A learning (Midwifery Care in Childbirth) has a significant influence on the level of knowledge of third semester students of class 2020. In comparison with the previous batch, it has a significant effect, which can be seen from the increase in student scores on the block exam. The results of the comparison of the level of knowledge before and after the intervention also showed a significant increase.

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