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INCREASING COMPETENCE OF MIDWIFERY STUDENTS IN PERINEAL WOUND SUTURING USING LOW COST MODEL MADE FROM FLANNEL FABRIC

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ABSTRACT

Background: Competence of postpartum perineum wound suturing should be owned by midwives. However, students are limitedly trained on how to use cotton pads that are less representative in form and material. This results in a lack of student competence in perineum stitching practice.

Aims: This study goal is to know the effectiveness of perineum wound suturing model made from flannel in order to increase stitching competence on the students of Midwifery study program of Banten Health Polytechnic.

Methods: This research was designed using experimental design with post-test design method. The respondents consisted of 11 treatment group and 14 control group. The research implementation consisted of three stages. First, an introduction to the perineum wound sewing technique. Second, the model group practiced with flannel and cotton. Third, the respondents filled up the questionnaire on level of confidence and competence assessment of both groups of students. Data analysis used Mann Whitney test because the median difference of two independent groups if the dependent variable data scale is ordinal and ratio.

Results: The results showed that the mean of perineum wound suturing competence in the model group was higher (83) than in the non-model group (74). The statistical test results obtained $p = 0.002$ which means that there was a significant difference in the competency of both groups. At the self confidence level of the respondents in performing perineum wound suturing, both groups had the same mean (4) with $p = 0.651$. At the time of perineum wound suturing, it is known that the model group mean was slightly faster (20 minutes) than the non-model group (22 minutes) with $p = 0.978$. There were no significant differences between the two variables.

Conclusion: The study showed that the test model was better in improving the competence of the perineum wound suturing. Flannel model is also more affordable and can be sutured over and over so it is economical for students. Further study on efficient media is recommended so that duration and confidence would be better.

Keywords: Flannel model, suturing competence, perineum, midwifery student.

INTRODUCTION

Perineum wound suturing is one of the competencies that must be possessed by bachelor degree of midwifery graduates. In the bachelor degree of midwifery education curriculum, this skill is one of the competencies that must be achieved in the subject of Midwifery Care of Women in Childbirth [1-3]. Generally, bachelor degree of midwifery educational institutions use learning media for perineum suturing

skills in the form of cotton pads or chicken thighs. Those materials are chosen because they are easy to use, available in large quantities and can be provided by the students themselves. However, there are some obstacles perceived that the form of the model is much different from the shape and structure of the real perineum.

Neither cotton pads nor chicken thighs give a clear visualization of the wound shape and perineum structure. Meanwhile, visualization which is fit to the original one is very important to reach the ability and students' self-assurance in applying the competence to the patient later on. Phantom model of perineum wound suturing of the available synthetic material also cannot be done for perineum wound suturing practice because it will damage the material and it is also very expensive [3].

The limitations of the model used for the perineum wound suturing competence will result in the lack of students' competence in doing the practice. Models that can simply illustrate the perineum wound form it is quite necessary because students can obtain visualization of the shape of the perineum wound sutured. The technique learned by students for perineum wound suturing is one baste and sub-cuticular suture. To do both suturing techniques, students require a simple and cheap model, and can illustrate the shape of the perineum wound clearly. From Zainudin's previous study it was found that tissue suturing rates which used post mortem animals were higher than those used organic materials, although the test result was not statistically significant [4-6]. Therefore, this study aims to produce a low cost and representative model for the learning of perineum wound suturing technique for midwifery students [7].

MATERIAL AND METHODS

This study used experimental design with post-test design method. The study implementation consisted of three stages. First, an introduction to the perineum wound suturing technique was performed in both groups of students. Second, the model group practiced perineum wound suturing with a model made from flannel cloth, and non-model group used cotton pads. At this stage, the supervisors were doing skill assessment by using a checklist. Third, the respondents filled out the questionnaire on the level of self-confidence and competency assessment of the two student groups. The experimental results data were then tested statistically and assessed the significance level of the model used.

Skills assessment was conducted by the lecturers with blinded examination method, which means that the lecturer who give assessment did not know whether the assessed respondent is included in the model group or non-model group. Furthermore, the students' competency and self-confidence measurement were done with a questionnaire.

The populations of the study were students of Midwifery Study Program of Rangkasbitung who met the sample criteria and were willing to be the respondents stated in the approval letter. The inclusion criteria for the selection of study samples were students who were willing to be respondents and were competent in doing perineum wound suturing. The exclusion criteria was students who had been declared competent to conduct perineum wound stitches. Of the 30 respondents taken, five students resigned due to illness or other reasons, so that the study respondents were 25 people who were divided into two groups, 11 people in the treatment groups and 14 people in the control group. It is still in accordance with the number of samples of experimental research as proposed by Sugiyono that the number of sample members in experimental study which used experimental group and control group was 10-20 people each. This study used accidental sampling [8, 9]

RESULTS

In this section the results will be presented in the form of study variable values between model group and non-model group. The following is a table of the results of the effectiveness assessment of the use of perineum suturing model.

Table 1. Effectiveness Assessment Results on Perineum Suturing in the Model Group

Respondent No	suturing competence	Self confidence	Practice duration
R15	78	4	29
R16	84	3	25
R17	90	4	15
R18	77	4	23
R19	88	4	23
R20	86	4	12
R21	95	3	14
R22	70	4	14
R23	77	4	20
R24	84	3	26
R25	83	4	18
Total	912	41	219
Mean	83	4	20

From the table above, the means of effectiveness variables in the model group were the perineum wound suturing competence of 83, self-confidence of 4 and duration of 20 minutes.

Table 2. Effectiveness Assessment Results on Perineum suturing Non-Model Group

Respondent No	Suturing competence	Self confidence	Practice duration
R1	73	5	23
R2	75	4	10
R3	78	3	19
R4	74	4	23
R5	80	4	13
R6	81	4	42
R7	76	3	20
R8	76	4	11
R9	74	3	18
R10	72	4	10
R11	71	3	24
R12	73	5	22
R13	74	4	29
R14	59	4	46
Total	1036	54	310
Mean	74	4	22

From the table above, the means of effectiveness variables in the non-model group were the perineum wound suturing competence of 74, self-confidence of 4 and duration of 22 minutes. Next is a table of difference test results between the effectiveness of perineum wound suturing in the model group and non-model

Table 3. Effectiveness Assessment Results on Perineum Suturing in the Model Group

Variables	Group				p value
	Model group		Non model group		
	F	Percentage (%)	F	Percentage (%)	
suturing competence	912	83	1036	74	0.002
Self confidence	41	4	54	4	0.651
Practice duration	219	20	310	22	0.978

From the table, the average perineum suturing competence rate in the higher model group (83) is higher than the non-model group (74). From the statistical test results there is an abnormal data distribution so that the test is different using test Mann-Whitney. From the test results obtained a meaningful value between the competitiveness of perineum sewing in the model group with the non-model group ($p = 0.002$). In the level of confidence of respondents in doing tailoring perineum both in the model group and non-model groups have the same average (4). The result of statistic test (Mann-Whitney test) obtained a meaningless value (0.651). Furthermore, in the long variable of the tailing time, it is known that the model group average is slightly faster (20 minutes) than the average in the non-model group (22 minutes). Result of statistic test (Mann-Whitney test) got value which is not meaningful (0.978).

DISCUSSION

From the study results, it is known that the competence of perineum suturing in the model group was higher than the non-model group. Statistically these two groups had significant difference values. The researchers analyzed that the use of a flannel-based suturing model had a more similar shape to perineum shape, with clear wound images and clear layers of skin. With such visualization, respondents were more easily understand the step / technique of perineum suturing taught. While in the non-model group only used cotton pads which were flat and no visualization of the layers that must be stitched.[10-13]

The above analysis is in accordance with the theory that the learning media that has a high level of reality (high fidelity) makes students have more interest in the learning process. In this case, the flannel model had a higher reality level than the cotton pad[14, 15]

The results are also supported on the duration of the respondents in suturing process. In the model group needed, the respondents needed 20 minutes for perineum stitching, which was slightly faster than the non-model group with 22 minutes. The researchers' analysis showed that the use of flannel model made respondents more quickly understand the competence of suturing so that the time used was also less. This is because the sensory model in flannel fabric showed a visual form similar to the perineum form, so that it was more easily accepted by the respondents although there was no statistically significant difference in the two groups. In the human body there was a sensory media: eyes to see, ears to hear, and humans also do touches. There was a supportive relationship between the uses of one or more sensory channels in the process of receiving messages [16-19]

In the variable of self confidence level in doing suturing both in the model and non-model showed the same value. There was no statistically significant difference. This may be because the model and non-model groups had high confidence in the competence of perineum suturing practice using any media showed that the respondents remained confident to do the perineum suturing. The high value of self confidence in both model and non-model groups was also supported by the characteristics background of the students who

were willing to be respondents. The respondents were students who had high self-concepts that were active in learning activities, confident, and had high learning desire. For those with high self-concept, the information given would be developed on their own, so that self-confidence would be high as the amount of information obtained.[20]

CONCLUSION AND RECOMMENDATION

The competence of perineum suturing in the flannel model group was better than the cotton pad group with significant difference value. The length of suturing duration in the flannel model group was better than the cotton pad group but there was no statistically significant difference. The level of self confidence in performing suturing in the flannel model group was the same as the cotton pad group and there was no statistically significant difference. Based on the results of this study it is recommended to conduct further study on efficient suturing medium so that the duration and confidence of the students can be better. Moreover, for students there is a need to prepare suturing medium that provides similar visualization to perineum at an affordable price.

Based on the results of this study, further research on efficient sewing medium is necessary, so that the time and confidence can be better. Consequently for students, there is a need to have a sewing medium that provides visuals that are similar to the perineum at an affordable and affordable price.

CONFLICT OF INTEREST

There is no conflict of interest.

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