The Effect of Repetition Simulation after Debrief Method on Learning Satisfaction and Learning Achievement in Midwifery Students at Universitas Airlangga, Indonesia

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Abstract

Background: Simulation and debrief are one kind of learning method used in midwifery education. Repetition of the simulation (redo) after debrief is expected to improve students' satisfaction and learning achievement. In Indonesia, the implementation of the simulation method has not been well structured and redo research is still limited.

Aims: This research examined the differences between students' satisfaction, learning achievement and implementation time when doing the first simulation and redo after debrief in the antenatal care subject.

Method: The study used a pre-experimental quantitative method that observes the level of satisfaction, learning achievement and time used when doing the first simulation and redo after the debriefing. The samples were 45 midwifery students using a total sampling technique. Data on students' satisfaction levels were obtained through the interview method with a questionnaire and the learning achievement and time were obtained through the observation method with a checklist graph. The data of the study were analyzed using the Wilcoxon signed ranks test.

Result: There were significant differences in the level of students' satisfaction and the learning achievement when doing the first simulation and redo after debrief, but there was no significant difference in the time allocated to finish the scenario when doing the first simulation and redo after debrief.

Conclusion: The Redo after debriefs simulation increases the level of students' satisfaction and learning achievement on midwifery students in the Faculty of Medicine, Universitas Airlangga, Indonesia.

Keywords: Repetition of the simulation, Debrief, Satisfaction, Learning Achievement, Midwifery student

Introduction

Midwifery is a profession that requires a lot of clinical expertise[1]. Health education requires a fundamental change in the method and process of learning so that students gain confidence and competence in playing their profession[2]. Self-confidence is one of the keys to clinical competence[3]. More than two decades of simulators and models have provided opportunities for students to learn both communication skills and procedure techniques and a safe environment, before being introduced to actual clinical learning[2]. Simulation activities can combine several types of elements in one activity and encourage students to reflect on their performance[2].

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Simulation and debrief are important learning methods in supporting the learning process, especially learning before students practice clinics directly to patients at the clinic so that they are expected to apply it when practicing clinics with the aim of improving patient safety[4]. The advantage of the simulation in the learning method is to increase knowledge and skills, besides that, simulation can also improve student performance, appearance and attitude because the learning process has been set to resemble the actual conditions of both playing roles and the environment. The simulation is carried out using a pre-prepared scenario[5].

Learning achievement is the main thing that must be determined in the scenario. Learning achievement is expected not only to focus on hard skills but also soft skills so that the student's attitude and performance after doing the simulation will be better[6]. Simulation-based education has increasingly become an important method in the clinical education and training of health students[7]. Learning satisfaction is the extent of satisfaction regarding the learning process and learning performance. Learning satisfaction as indicators of learning performance[8]. The previous research proves that there is a strong relationship between satisfaction with motivation and specialization in learning so that they will be more enthusiastic when studying, especially in terms of midwifery skills[1].

Repetition of the simulation (redo) after debrief is expected to improve students' satisfaction and learning achievement. The process of redo after debrief during the educational experience consists of more than reversing and avoiding making the same mistakes. Redo after the simulation gives students the opportunity to practice their skill in simulation much better. The lecturers that involved in the redo station can also focus more on students specifically to activate the simulation learning process[4,9]. This study aims to determine the effect of repetition simulation (redo) after debrief method on midwifery students' learning satisfaction and learning achievement in Universitas Airlangga.

Method

The study used a pre-experimental quantitative method that gives treatment in the form of debriefing to the research samples. The researchers analyzed the student's satisfaction level, learning achievement, and implementation time during the first simulation and redo after debrief. The sample size in this study was 45 midwifery students in the fourth semester using a sampling technique with total sampling.

Data on student satisfaction levels were obtained by interview method based on questionnaires while learning achievement and time implementation were obtained based on observations using the observation sheet or checklist. The level of student satisfaction was measured using a Linkert scale with five criteria namely not satisfied, less satisfied, partly satisfied, satisfied and very satisfied. Learning achievements are obtained from the results of observations based on learning adjectives that were predetermined in the simulation scenario. The execution time is obtained based on the results of observations using minute units. Data from the study were analyzed using the Wilcoxon signed ranks test. The ethical clearance of studies was taken from Faculty of Medicine, Universitas Airlangga No. 197/EC/KEPK/FKUA/2018.

Result

Level of Student Satisfaction

Based on table 1, the data shows that there is an increase in student satisfaction at a very satisfied level from the first simulation to the redo after debrief. The results of the analysis using the Wilcoxon Signed Ranks Test showed that there were significant differences in the level of student satisfaction in the first simulation with the redo after debrief with $p = 0.015$ at α: 5%

Table 1. Level of student satisfaction

Level of satisfaction	N (%)		X2
	First Simulation	**Redo after debrief**	
Not Satisfied	1 (2.22)	0 (0.00)	0.015*
Less Satisfied	0 (0.00)	0 (0.00)	
Partly Satisfied	10 (22.22)	4 (8.89)	
Satisfied	22 (48.89)	20 (44.44)	
Very satisfied	12 (26.67)	21 (46.67)	
Total	45 (100)	45 (100)	

Learning Achievement

Based on table 2, the data shows that the minimum learning achievement that can be achieved in the first simulation is less than at the time of redo. The results of the analysis using the Wilcoxon Signed Ranks Test showed that Learning achievement in the first simulation and redo after debrief showed significant differences with p = 0.014 at α: 5%.

Table 2. Learning achievement data during the first simulation with redo after the debrief

Description	First Simulation	Redo after debrief	X2
Mean	5.57	6.85	0.014*
Deviation standard	0.97	0.69	
Min Score	4	6	
Max Score	7	8	

Time Data

Based on table 3, the data shows that the time for implementing the redo after debrief is longer than the first simulation but the results of analysis using the Wilcoxon Signed Ranks Test show that there is no difference in the time needed for the first simulation and debrief simulation with p value 0.141 at α 5%.

Table 3. Time data during the first simulation with redo after the debrief (in minutes)

Description	First Simulation	Redo after debrief	X2
Mean	12.85	14.71	0.141*
Deviation standard	2.34	2.69	
Min Score	9	11	
Max Score	16	18	

Discussion

The simulation is an educational activity by utilizing simulation tools in order to create learning opportunities for participants[10]. Furthermore, debrief after simulation means to develop activities and processes that enable students to reflect on the experiences gained during learning. Simulations and debrief are important learning methods in supporting the learning process, especially learning before students practice clinics directly to patients at the clinic so that they are expected to apply it during clinical practice with the aim of improving patient safety[9,11]

Based on finding, there were significant differences in the level of student satisfaction when doing the first simulation and redo after debrief. Debrief help student to self-evaluation, critical thinking and to improve their knowledge and skill. The simulation repetition method after debrief (redo), proves that it will improve the ability of students to carry out the skills in accordance with the simulation scenario.

Redo after debrief gives students the opportunity to practice their skills in simulation. Redo help student to better doing so the student has experienced good better so the student did feel more satisfied when redo rather than in the first simulation because the student feels more confidence and good performance. The lecturers that involved in the redo station can also focus more on students specifically to activate the simulation learning process[4,12]. Learning satisfaction is the extent satisfaction regarding the learning process and learning performance. Learning satisfaction as indicators of learning performance[13].

Based on the study, there are significant differences in the achievement of learning outcomes after repetition. Students will do redo better and try to improve the simulation after debrief so that time doesn't make a difference[14]. Simulation helps students also get a gradual learning experience in which students learn from simple stages and then to more complex learning, namely clinical vehicles. Students can achieve better learning outcomes, as evidenced by increased attainment of minimum and maximum scores[15]. The advantage of simulation in learning methods is to improve knowledge and skills. In addition, simulations can also improve student performance/appearance and attitudes because the learning process has been arranged to resemble the actual conditions of both playing roles and the environment[3,16].

Debrief and feedback accounts for the reflective observation, abstract conceptualization and active experimentation components of the learning cycle by helping participants make sense of the simulation scenario and reflect on their practice to improve future performance[9,17]. Debrief helps students in evaluating during the first simulation so that when students do redo learning will get better and maximum learning achievement. The redo after debrief was perceived by students as a positive tool to enhance their own learning. The use of a staffed redo station may further enable student-focused learning. Future exploration of this learning and clinical reasoning in regards to deteriorating patients is warranted[4,18].

This study proved that by performing redo after debrief although there appears to be an increase in time to do redo after debrief there are no significant differences in the simulation implementation time in the first simulation with redo after debrief. Simulation is an educational activity by utilizing simulation tools in order to create learning opportunities for participants[1]. Debrief after simulation means to develop activities and processes that enable students to reflect on the experiences gained during learning a significant difference in the time because students doing redo better and try to improve simulation after debrief so time did not give a difference. During the debriefing, students discussed any emotions that they had about the simulation scenario as well as reflecting on and exploring their decision-making processes. Giving oral feedback to students enabled the faculty to be flexible with their questioning, allowed an immediate response from the student and permitted clarification of any misunderstandings[2,7].

The evaluation results when making a debrief will be a base for improvement when students were redone (repetition of the simulation) after debrief so that the time implementation for redo will be longer than during the first simulation but the students will feel more satisfied and better learning achievement so a redo becomes important to complete implementation for learning methods with simulation and debrief.

Conclusion

The Redo after debrief simulation increases the level of students' satisfaction and the learning achievement on midwifery student in Midwifery Study Program, Faculty of Medicine, Universitas Airlangga, Surabaya Indonesia.

Conflict of Interest: None

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