

The Effectiveness of Using Substitute Mannequin in the Implementation of Medical Skills of the Samara Family Block

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ABSTRACT

Background: The Covid-19 pandemic has caused students to be unable to learn medical skills directly using standard mannequins. This study intends to determine the effectiveness of using a substitute mannequin in implementing medical skills of the Samara Family elective block and other aspects that need to improve in the future.

Methods: This study was observational research with a cross-sectional study design. The study has received approval from the ethics commission. The subjects were 40 out of 59 students who took part in the Samara Family block at the Faculty of Medicine of Islamic University of Indonesia in 2020. The inclusion criteria were students who were willing to take part in the research by signing informed consent. This research was conducted by filling out questionnaires and in-depth interviews for selected students. The analysis is conducted using the Spearman SPSS correlation test.

Results: In-depth interviews showed that students could carry out the learning of the Samara Family medical skills well and the medical activities did not need to be postponed because of the uncertainty of the pandemic end. Respondents stated that instructors were very helpful in the process of implementing medical skills. Although some respondents had to spend money to provide their own substitute mannequins, they said that they were satisfied with the results of the Samara Family medical skills test they obtained. However, the results of the analysis were not statistically significant ($p > 0.05$).

Conclusion: The use of substitute mannequins is quite effective. The examination can be held in shift so that students do not wait for too long.

Keywords: *Substitute mannequin, Medical skills, Samara.*

1. INTRODUCTION

Medical skills are one of the mainstay activities in the Problem-Based Learning (PBL) process. With medical skills activities, students have been introduced to and explained early on new materials that will be encountered during Co-ass (young doctor) periods. What distinguishes the learning is that a young doctor/co-ass meet patients in person while an undergraduate student deals with simulated patients or mannequin. In medical education, human patient simulators, or mannequins are a well-established method of teaching medical skills [1]. Thus, the mannequins required during the learning process are extremely vital. The Faculty of Medicine of Universitas Islam Indonesia has made efforts to provide adequate

standard mannequins from the first semester to the final semester. Both the quality and quantity of mannequins are well prepared, including for elective blocks.

However, currently the world is experiencing the Covid 19 pandemic, as a result, students of all grades were forced to study at home, including medical students [2]. For medical students in the pre-clinical months of training, the COVID-19 pandemic has had a gentler impact on the day-to-day routine. Adherence to social distancing has eliminated in-person small group sessions [3]. During the Covid-19 pandemic, the medical skills activities have been quite disrupted since students cannot have face-to-face meetings or offline/direct learning, making all the learning process take place online. In online learning, there are a number of obstacles related to the learning

process for medical skills. The learning process cannot be carried out in a standard manner because the standard means it has to be face-to-face meetings using the standard mannequins having been provided at the Faculty of Medicine of Universitas Islam Indonesia, and the meetings should take place in the Faculty of Medicine of Universitas Islam Indonesia while students join the meeting from their respective locations. In order for the learning process to continue as it should and not be delayed, the team of Samara Family elective block took the initiative to implement medical skills learning using substitute mannequins provided by each participant according to their ability. All the program plans were well implemented from the beginning to the final-exam days. However, it is necessary to evaluate the effectiveness of substitute mannequins for learning in order to create a model for similar activities in the future. The purpose of this study was to determine the effectiveness of using substitute mannequins for medical skills activities in the Samara Family elective block and to identify the needs for improvement to reach the ideal.

2. METHODS

This study was observational research with a cross-sectional study design. The research subjects were students who took part in the elective block of Samara Family in 2020. The independent variable was the use of substitute mannequins, and the dependent variable was the effectiveness of learning. The Samara Family Block is an elective block organized by the Faculty of Medicine of Universitas Islam Indonesia to prepare students for an improved level of future households. The substitute mannequins are adjusted to what each participant has or is able to provide. The effectiveness in question is the efficiency (whether the activity is efficient), and the subjects in this study were students who participated in the Samara Family elective block in 2020.

The inclusion criterion was both male and female students in the Samara Family elective block, whereas the exclusion criterion was the unwillingness to participate or not sign the informed consent. This research was conducted from December 2020 to January 2021, while the research location was each student’s residence through WhatsApp platform. The research was divided into 2 stages. In the first stage, the students filled out a questionnaire after signing informed consent. Then, the second stage was accomplished with in-depth interviews to further strengthen the results. The data were analyzed using the SPSS program in the Spearman correlation.

3. RESULTS AND DISCUSSION

There are 59 students taking the Samara Family block in 2020, but those willing to take part in the research and fill out the informed consent were 40 students consisting of 36 women and 4 men. The students filled out a questionnaire via Google Form, and then the students who were selected based on the lottery were given in-

depth interviews related to how they felt about using and providing substitute mannequins. In essence, the Samara block uses 2 mannequins, including a newborn-model mannequin with a weight of approximately 3 kg and a length of approximately 50-51 cm as well as a breastfeeding-model mannequin (breast model). In other place maybe used supplemental methods which involve online web-based clinical case demonstration of practical skills on virtual mannequins [4]. In the implementation Samara block, the students used various simple mannequins that they could provide, such as any dolls at home or kitchen utensils for the breast model by utilizing a glass or jar lid. Some of the participants borrowed or bought substituted mannequins. The mannequin comparison is shown in Figure 1 and Figure 2.



Figure 1. Standard baby mannequin





Figure 2. Substitute baby mannequin

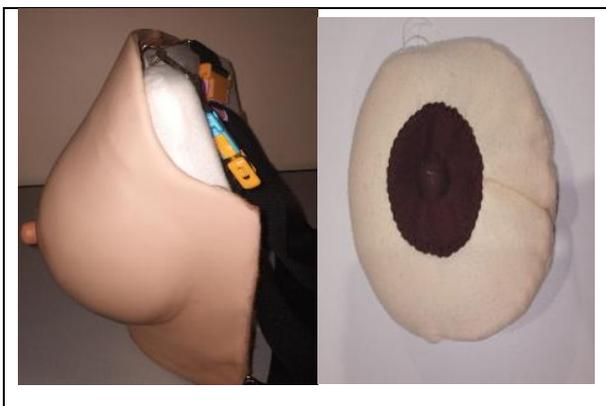


Figure 3. Standard breast mannequin



Figure 4. Example of substitute breast mannequin

The results obtained from this study show that students can use substitute mannequins without affecting the results of the scores or skills acquired. As many as 29 students (72.5%) said they enjoyed using the substitute mannequin, 7 students were hesitant (17.5%), while 4 students (10%) expressed their disagreement. However, in general, the scores that the subjects received remained good even though they did not agree. Based on statistical calculations, the relationship was not significant ($p > 0.05$)

because even if the subjects comment negatively or respond poorly, the results and skills obtained are still good. It was evident from the current study that the students' valued mannequin-based simulation as an effective means for learning procedural techniques. These findings are in congruence with other studies conducted on mannequin-based simulation models [5]. From the in-depth interviews, the subjects actually had no problem and did not want to postpone activities to use standard mannequins because of the uncertainty about when the pandemic would end. However, some subjects felt that their "feeling" reduced. On the other hand, some also had to buy a mannequin and its equipment even though it was actually less than IDR 100,000. The respondents also stated that the instructors were very helpful in the process of implementing medical skills.

4. DISCUSSION

It is undeniable that during this pandemic period, teaching and learning activities were disrupted, thus demanding teachers and learners to be creative and innovate. Thus students do not lose momentum and time. Online learning with learners located far apart, requires each student to provide mannequins independently. However, it is very unwise when institutions ask to provide standard mannequins which are expensive in the midst of economic downturns. The results of this study are an alternative solution to the problem. Research that has been carried out with substitution mannequin at the Faculty of Medicine, Universitas Islam Indonesia can run well, so there is no need to delay the implementation of learning. Students can use / borrow replacement mannequins in the neighborhood (household environment) or buy at an affordable price.

The respondents said they were satisfied with the results of the Samara Family medical skills test they obtained. Thus, the use of substitute mannequins basically can be well implemented and students can feel the benefits, so the use of substitute mannequins can be an alternative in this pandemic condition or in similar conditions.

The results of this study are in accordance with previous studies using mannequins at low prices [6]. In that study, even though the mannequin used was cheap, it turned out that the medical skills activities could be carried out well.

5. CONCLUSION

The use of substitute mannequins in the Samara block is quite effective although it is not statistically proven. The exams can be done in turns to prevent students from waiting for too long.

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