



## Effect of providing basic life support for improving skills in first aid on cardiac arrest for student of senior high school in Kediri<sup>☆</sup>



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### KEYWORDS

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First aid;  
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### Abstract

**Basic:** Life support is an emergency measure to make the airway, breathing without obstruction and helps maintain blood circulation without using tools. Student nurses perform nursing profession must have the skills to perform basic life support basic life support. Help in improving basic life skills student nursing profession in the implementation of basic life support in RSU Karsa Husada Batu.

The study design was quasi (quasi-experimental designs) to design one group pre test and post test. Data collection tools with observation sheet with a sample of 30 respondents using random sampling techniques. The independent variable in this study is the simulation simulated basic life support and the dependent variable in this study is the student skills in performing simulated basic life support. Data were analyzed using the Wilcoxon statistical test-signed rank test with  $\alpha = 0.05$ .

**Results:** showed before getting simulated basic life support skills of the respondents have enough skill as much as 46.7% (14 respondents) and after getting simulated basic life support skills of respondents, 76.73% (23 respondents).

Based on Wilcoxon test signed rank test (Asym.p Sig. 2 tailed) earned value 0.000. Because the value of 0.000 is less than  $<0.05$ . It can be concluded that there effect simulation help in improving basic life skills nursing profession student assistance in implementing the basic life in RSU Karsa Husada Batu.

Students of the nursing profession who have obtained basic aid simulation have good skills increases due to learning their simulations to the knowledge and practice in performing basic life support.

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## Introduction

Emergency events usually take place quickly and suddenly so it is difficult to predict when they will occur. The best step for this situation is to be vigilant and make concrete efforts to anticipate it. It must be considered a form of assistance mechanism to victims from the beginning of the scene, during the trip to health facilities, health facilities assistance until after the injury event.<sup>1</sup> As a 24-h rescue service provider, nurses are required to provide fast, precise and accurate services with the aim of getting healing without disability. Therefore, nurses need to equip themselves with knowledge and need to improve specific skills related to emergency cases.<sup>2</sup>

Basic life support knowledge (BHD) is considered a basic skill for nurses.<sup>3</sup> Basic life support skills (BHD) are important because they are taught about the basic techniques of rescuing victims from various accidents or everyday calamities that are commonly encountered.<sup>4</sup>

Basic life support is an emergency measure to free the airway, help breathing and maintain blood circulation without using assistive devices.<sup>5</sup> The purpose of basic life assistance is to effectively oxygenate emergencies to vital organs such as the brain and heart through artificial ventilation and artificial circulation until the lungs and heart can provide oxygen with their own strength normally.<sup>6</sup>

Accredited hospitals are obliged to provide education and training in basic life support (BHD) for both medical personnel and non-medical personnel. The ability to do basic life assistance must be owned by every employee in the hospital, both medical personnel include doctors, nurses and midwives, but also non-medical workers such as parking attendants, cleaning services and kitchen employees and other elements in the hospital, including students who conduct clinical practice at RSU Karsa Husada Batu. So that it can implement the Code Blue System, which is a strategy to prevent the occurrence of cardiac arrest, emergency activation and emergency resuscitation. In emergency hospitals it is not only experienced by patients, but also can occur in the families of patients, visitors and Hospital employees.

From the results of the study by Chandrasekaran<sup>7</sup> in 2010 in India showed that 31% of the medical community, nursing students, dental students and medical students did not know the abbreviation of BLS which was a basic life support, 51% failed to make a rescue effort as a starting point in basic life assistance, and 74% do not know the exact location for chest compression in basic life support measures.

Nurse education is divided into two stages: the academic education stage and the professional education stage. At the academic stage students get theories and concepts in this stage divided into groups that are general in nature, supporting subjects such as medical courses that indirectly support nursing courses and expertise courses in nursing courses. While at the profession stage students apply the theories and concepts that have been gained during academic. Professional education is sometimes referred to as a clinical learning process. This term appears related to the implementation of professions that are fully implemented in practice lands such as hospitals, health centres, maternity clinics, nursing homes, and families and communities or communities. During clinical practice, students can

experiment by using concepts and theories to practice, solve problems, and develop new forms of care.<sup>8</sup>

From the results of observations and interviews of researchers during a preliminary study at Karsa Husada Batu Hospital, Code Blue incident data was obtained between 25 and 37 times a month and 25% of them required basic life assistance measures. In addition, from the report of the room where there are patients who need BHD and nurses need help from students in carrying out BHD actions in obtaining information on the lack of skills of students in helping to do basic life support.

From the description above, researchers are interested in conducting research with the title "Effectiveness of Basic Life Support Simulation (BHD) in Efforts to Improve the Skills of Nursing Students in Basic Life Support (BHD) in Karsa Husada Batu Hospital".

## Purpose

To find out the effect of giving basic life support simulation (BHD) in an effort to improve the skills of the nursing profession students in the implementation of basic life support (BHD) at Karsa Husada Batu Hospital.

Special purpose:

1. Identify the skills of nursing profession students about basic life support before being given a basic life support simulation (BHD) of Karsa Husada Batu Hospital.
2. Identify the skills of nursing profession students about basic life support after being given a basic life support simulation (BHD) of Karsa Husada Batu Hospital.
3. Analyzing the influence of basic life support simulation (BHD) in efforts to improve the nursing profession student skills in basic life support (BHD) in Karsa Husada Batu Hospital.

## Method

In this study, researchers used quasi-experimental methods (quasi experiment designs) with the design of one group pretest and post-test. And in this design do not use a control group or comparison group. The population in this study were all S1 Nursing Professional Students at Karsa Husada Batu General Hospital as many as 32 people. The sampling technique in this study uses accidental sampling. The data obtained were analyzed by researchers using Wilcoxon statistical tests.

## Result

Based on Fig. 1, it can be seen that out of 30 respondents, most of them were aged between 21 and 22 years, 53%.

Based on Fig. 2, it can be seen that out of 30 respondents, the majority of respondents were 60% female.

Based on Fig. 3 it can be seen that out of 30 respondents, the majority of 73% came from institution A.

Based on Fig. 4 it can be seen that out of 30 respondents, most of the 73% respondents have never attended basic life assistance training and the like.

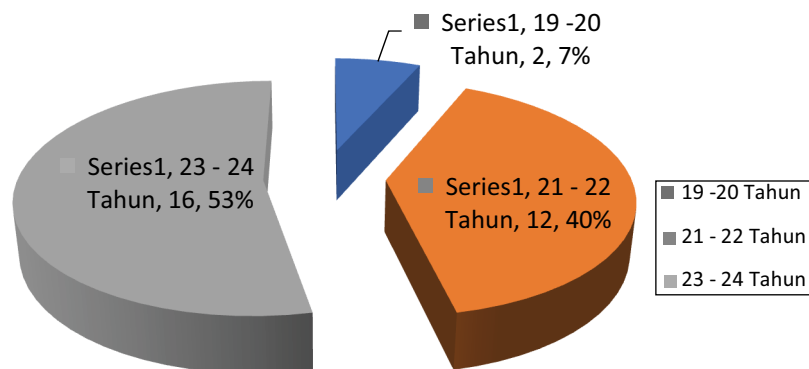


Figure 1 Characteristics of respondents by age.

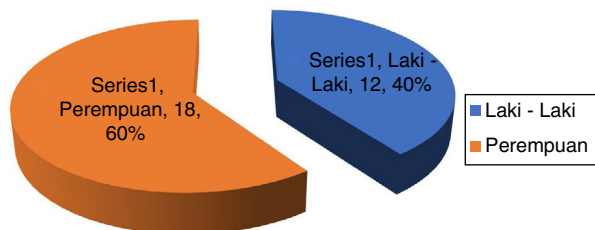


Figure 2 Characteristics of respondents by sex.

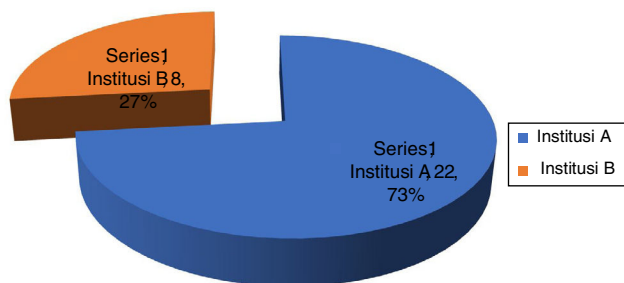


Figure 3 Characteristics of respondents by education.

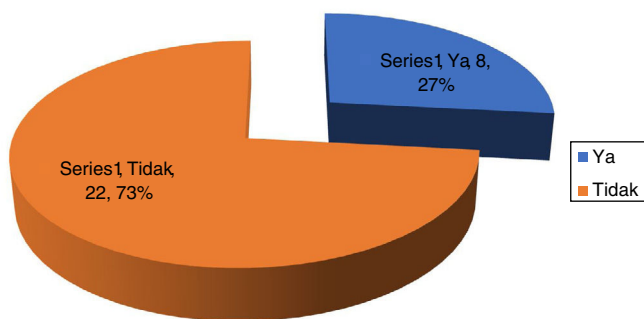


Figure 4 Characteristics of respondents by training of BLS.

Research on the influence of basic life support simulation (BHD) in Efforts to Improve the Skills of Nursing Professional Students in Basic Life Support Implementation (BHD) at Karsa Husada Batu Hospital, researchers used data

Table 1 Skills of nursing profession students in implementing basic life support after simulation.

No.	Skill	N	%
1	Good	3	10
2	Enough	14	46.7
3	Less	13	43.3
Total		30	100

Table 2 Life support skill of respondents.

No.	Skill	N	%
1	Good	23	76.7
2	Enough	7	23.3
3	Less	0	0.0
Total		30	100

collection techniques by observing basic life support actions before and after giving basic life support simulations.

Observations carried out included basic life support steps starting from the first step of securing the scene, the second step examining the victim's response, the third step activating the emergency care system, step four checking circulation and breathing, step five chest compression, step six open the airway, step seven check breathing, step eight provide breath aid, step nine re-evaluate up to step ten position the patient in steady posture.

Skills of nursing profession students in implementing basic life support before simulation.

Based on Table 1 it is known that out of 30 respondents almost half of the respondents had enough basic life support skills as enough as 46.7% (14 respondents).

Based on Table 2 it can be seen that out of 30 respondents most of them had good basic life support skills as enough as 76.7% (19 respondents).

### Analysis of data

Statistical test results of the influence of basic life assistance simulation in efforts to improve the skills of nursing

**Table 3** Wilcoxon signed ranks test.

Test statistics <sup>b</sup>	Nilai_Post-test–Nilai_Prestest
Z	–4.714 <sup>a</sup>
Asymp. Sig. (2-tailed)	0.000

<sup>a</sup> Based on negative ranks.

<sup>b</sup> Wilcoxon signed ranks test.

profession students in basic life assistance implementation at RSU Karsa Husada Batu (Wilcoxon) (Table 3).

Based on the results of test statistics the test of wilcoxon signed rank test (Asym.p Sig. 2 tailed) obtained a value of 0.000. Because the value of 0.000 is less than <0.05, it can be concluded that “H1 is accepted”. This means that there are differences in the results of BHD skills for pre-test and post-test. So that it can be concluded that there is an Influence of Basic Life Support Simulation in Efforts to Improve the Skills of Nursing Profession Students in Basic Life Assistance Implementation at RSU Karsa Husada Batu.

## Discussion

The results showed that the skills of nursing profession students before the provision of basic life support simulations were almost half of the respondents' skills were sufficient as much as 46.7% (14 respondents). This is supported by the majority of respondents aged 22–23 as many as 53% (16 respondents), the majority of respondents were women as much as 60% (18 respondents), student education institutions mostly from universities A as much as 73% (22 respondents) and most have never attended BHD training 73% (22 respondents).

Basic life support knowledge (BHD) is considered a basic skill for nurses.<sup>3</sup> Basic life support skills (BHD) are important because they are taught about the basic techniques of rescuing victims from various accidents or everyday calamities that are commonly encountered.<sup>4</sup>

From the description above, it can be concluded that the skills of the nursing profession students in providing basic life support are as many as 14 respondents and less than 13 people. This is because the age of the early adult respondents had already received basic life assistance materials.

The results showed that the skills of students after giving a simulation of basic life assistance were as much as 76.7% Good (23 respondents). This is supported by the following observations of basic life assistance measures; the first step is to secure the scene 86.7%, the second step checks the response of victims 74.2%, the third step activates the emergency service system 81.3%, step four checks circulation and breath 81.1%, step five chest compression 90.8%, step six opens the airway 50%, step seven checks breathing 95%, step eight gives breath relief 96.7%, step nine performs 96.7% re-evaluation and step ten positions the patient position 96.7% solid.

According to Joyce and Weil,<sup>9</sup> this model has the following four stages. In the first step of Orientation, this stage researchers prepare simulation topics, principles and simulation processes. Second step Exercise for participants, including explanation of scenarios, division of simulation plays and short practice. Third step Simulation process,

carrying out activities and feedback on misconceptions. Fourth step Strengthening and debriefing where researchers provide a summary of learning.

From the description above it can be concluded that the skills of students after the provision of basic life assistance simulations are as much as good as many as 23 respondents and enough 7 respondents. This is supported by the ability of students in understanding basic life assistance simulation learning.

1. The skills of nursing professional students regarding basic life support before being given a simulation of basic life support at Karsa Husada Batu General Hospital were found to be sufficiently as much as 46.7% (14 respondents).
2. The skills of nursing professional students regarding basic life support after being given a simulation of basic life support at Karsa Husada Batu Hospital were mostly good as much as 76.7% (23 respondents).
3. There is an influence of basic life assistance simulation in efforts to improve the skills of nursing profession students in basic life assistance implementation at RSU Karsa Husada Batu.

1. For Respondents

Given the importance of basic life assistance skills, it is necessary to have periodic training to maintain and improve the ability to provide basic life assistance.

2. For RSU Karsa Husada Batu

Especially for RSU Karsa Husada Batu, the results of this study can be used as a reference in accepting students to practice the nursing profession to be skilled in providing basic life assistance.

3. For educational institutions

Educational institutions should provide training to students who will carry out clinical practice in health institutions.

4. For Next Researchers

The next researcher should be able to refine and develop this research by giving a control group with concepts that have been running in the Hospital, for example by making a research title “Effectiveness of Basic Life Assistance Simulation on Health Student Assistance Skills”.

## Conflict of interests

The authors declare no conflict of interest.

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