

**THE RELATIONSHIP BETWEEN SELF EFFICACY AND THE LEVEL OF
KNOWLEDGE OF NURSING PROFESSIONAL STUDENTS AT JENDERAL
SOEDIRMAN UNIVERSITY TOWARDS THE IMPLEMENTATION OF
BASIC LIFE SUPPORT IN CARDIAC ARREST**

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ABSTRACT

Background: Cardiac arrest is a phenomenon that can happen to anyone, anywhere, and anytime. One of the actions to handle cardiac arrest is to provide basic life support (BLS). Nursing profession students as one of the bystanders and prospective health workers, need to pay attention to crucial things such as knowledge and self efficacy as a basis for performing BLS. This study aims to determine the relationship between knowledge level and self-efficacy towards the application of basic life support in cardiac arrest cases.

Methods: This type of research is cross sectional, sampling using total sampling with a total of 70 nursing profession students aged ≤ 27 years. The research instrument used a modified knowledge level and self-efficacy questionnaire. The analysis test used the Spearman Rank correlation test.

Result: The results of this study showed that the average age of respondents was 22,64 years, (92,9%) the majority were female, (81,4%) had encountered cardiac arrest cases, (61,4%) had performed BLS actions. The level of knowledge of the respondents was in the good category with a percentage of (64,3%) and self efficacy in the high category with a median of 63,5 (category in score >52). The results of the Spearman Rank correlation test showed a significant relationship with a p value = 0,026 and a coefficient value of 0,266).

Conclusion: There is a significant relationship between the level of knowledge of nursing professional students and self-efficacy towards the application of basic life support in cardiac arrest cases.

Keywords: BLS, Cardiac arrest, knowledge, nursing profession students, self efficacy

ABSTRAK

Latar Belakang : Henti jantung merupakan fenomena yang dapat terjadi pada siapa saja, dimana saja, dan kapan saja. Salah satu tindakan untuk menangani henti jantung adalah dengan memberikan bantuan hidup dasar (BHD). Mahasiswa profesi ners sebagai salah satu pengamat dan calon tenaga kesehatan, perlu memerhatikan hal krusial seperti pengetahuan dan self efficacy sebagai dasar melakukan tindakan BHD. Penelitian ini bertujuan untuk mengetahui hubungan tingkat pengetahuan dengan *self efficacy* terhadap penerapan bantuan hidup dasar pada kasus henti jantung.

Metodologi: Jenis penelitian ini yaitu *cross sectional*, pengambilan sampel menggunakan *total sampling* dengan jumlah 70 mahasiswa profesi ners usia < 27 tahun. Instrumen penelitian menggunakan kuesioner tingkat pengetahuan dan *self efficacy* yang dimodifikasi. Uji analisis menggunakan uji korelasi *Spearman Rank*.

Hasil Penelitian: Hasil penelitian ini menunjukkan rata-rata usia responden yaitu 22,64 tahun, (92,9%) mayoritas berjenis kelamin perempuan, (81,4%) pernah menjumpai kasus henti jantung, (61,4%) pernah melakukan tindakan BHD. Tingkat pengetahuan responden dalam kategori baik dengan persentase (64,3%) dan self efficacy dalam kategori tinggi dengan median 63,5 (kategori dalam skor >52). Hasil uji korelasi Spearman Rank menunjukkan terdapat hubungan yang signifikan dengan nilai $p = 0,026$ dan nilai koefisien 0,266).

Kesimpulan: Terdapat hubungan yang signifikan antara tingkat pengetahuan mahasiswa profesi ners dengan self efficacy terhadap penerapan bantuan hidup dasar pada kasus henti jantung.

Kata kunci: BHD, Henti jantung, mahasiswa profesi ners, pengetahuan, self efficacy

INTRODUCTION

Cardiac arrest is a condition in which blood circulation stops suddenly, caused by ineffective heart contractions during the systolic phase (Hardisman, 2014). When patients or victims experience cardiac arrest outside the hospital, the chances of survival are very slim because the survival rate decreases by 7-10% every minute (Wijaya, Feri, Juartika, & Ari Wibowo, 2022). To increase the life expectancy of victims or patients of cardiac arrest, it is important to provide Basic Life Support (BLS) as a first aid effort. BLS can be performed by anyone, not just health workers, as long as the person has the basic knowledge, abilities, and skills to do so. Nursing students are one of the individuals who often face emergency situations such as cardiac arrest when placed in hospitals (Putri, Hade Afriansyah, & Rusdinal, 2019).

Knowledge of BLS can be a motivating factor for individuals to adopt positive attitudes and behaviors when helping others. However, it is not enough for an individual to have good knowledge, skills and attitudes to handle a cardiac arrest event, as self-efficacy or confidence in their abilities is also very important. Self efficacy relates to a person's beliefs and confidence in their abilities (Bandura, 2013) If someone has good self-efficacy, they will tend to adopt positive attitudes and behaviors to support the provision of BLS in cardiac arrest patients (Nastiti, Fatkuriyah, & Tursina, 2022). Knowledge of basic life support and awareness of nursing students to seek information about first aid in emergency conditions is currently considered to be less than optimal (Rahmawati, Pawiliyah, Fernalia, Ichsan Dwi Putra, & Yuanda, 2022)

A study conducted on nursing students in Bengkulu showed that out of 64 respondents, 42 people (65.6%) had insufficient knowledge about Basic Life Support (Rahmawati et al., 2022). In addition, research on self-efficacy in freshgraduate nursing students in Malang found that 87.8% of students had low self-efficacy in performing Basic Life Support (Hermanto, Barlianto, & Suryanto, 2021). Preliminary studies conducted on ten nursing profession students at Jenderal Soedirman University found data related to knowledge and level of self-confidence or self efficacy, 6 out of 10 students had good knowledge, 3 students had sufficient knowledge, 1 student had insufficient knowledge, 5 students had a low level of confidence and 5 other students had a fairly high level of confidence. Based on the phenomenon from this description, the researcher is interested in analyzing the relationship between the level of knowledge of nursing profession students and self-efficacy towards the application of basic life support in cardiac arrest cases.

METHOD

This study is a type of quantitative research with a cross sectional approach. This research site was conducted at the Nursing Department, Faculty of Health Sciences, Jenderal Soedirman University. The population in this study amounted to 70 people with the characteristics of the inclusion criteria, namely nursing profession students of Jenderal Soedirman University class XXIX and XXX, nursing profession students who have never worked in a hospital, and nursing profession students who have or are getting Emergency Nursing Stages who are willing to become respondents.

The exclusion criteria in this study are nursing profession students who cancel their willingness to become research subjects, nursing profession students who are on academic leave and do

not participate in clinical activities, nursing profession students who have more than 5 experiences when encountering cardiac arrest cases and applying basic life support and nursing profession students who have worked in hospitals. The sampling technique used in this study was total sampling. There are three research instruments used, namely the respondent's personal data, a knowledge questionnaire regarding Basic Life Support in Cardiac Arrest Cases, and a self-efficacy questionnaire namely Basic Resuscitation Skills Self Efficacy Scale (BRS-ES). Data analysis was used with the Spearman Rank nonparametric test. This study has been approved by ethic commission of Universitas Jenderal Soedirman with letter number 975/EC/KEPK/XII/2022

RESULTS AND DISCUSSION

Result

Univariate Analysis Results

Table 1. Univariate Analysis of Respondent Characteristics Age

Category	Median	Minimum-Maksimum
Age	22	21-27

Based on table 1, explaining the data on the age of respondents is not normally distributed where in this study respondents have an age range of 21-27 years and the median center value is 22 years.

Table 2. Univariate Analysis of Respondents Characteristics based on Gender and Experience

Category	Frequency	Percentage (%)
Gender		
Male	5	7,1%
Female	65	92,9%
Experience with cardiac arrest cases		
Ever	57	81,4%
Never	13	18,6%
Experience in performing Basic Life Support		
Ever	43	61,4%
Never	27	38,6%

Based on Table 2, the majority of respondents in this study were female as many as 65 people (92.9%). Regarding experience, the majority of respondents in this study had experience encountering cardiac arrest cases as many as 57 people (81.4%) and had experience performing BHD actions as many as 43 people (61.4%).

Table 3. Univariate Analysis of Knowledge Level of Basic Life Support Implementation in Cardiac Arrest Cases

Category	Frequency	Percentage (%)
Knowledge Level		
Good	45	64,3%
Fair	17	24,3%
Poor	8	11,4%

Based on table 3 shows that the majority of nurse profession student respondents in this study had a level of knowledge in the good category as many as 45 people (64.3%).

Table 4. Univariate Analysis of Self Efficacy of Basic Life Support Implementation in Cardiac Arrest Cases

Category	Mean	Median	Minimum-Maximum
Self Efficacy	63,37	63,5	26-90

Based on table 4, it explains that 70 respondents have self efficacy with the lowest score of 26 and the highest score of 90 and the average self efficacy score data is 63.37 with a median of 63.5.

Results of Spearman Rank Bivariate Analysis

Table 5. Spearman Rank Bivariate Analysis

	<i>Self Efficacy</i>	N	<i>P value</i>
	r		
Knowledge Level	0,266	70	0,026

Based on table 5, it explains the results of the Spearman Rank correlation test of knowledge level with self-efficacy, which shows a correlation coefficient with a value of 0.266 at a significance level of 0.05. The p value = 0.026 is smaller than 0.05, indicating a significant relationship with a positive direction. The value of 0.266 is in the criteria of 0.26-0.50, thus the correlation that occurs between the level of knowledge and self efficacy there is a fairly strong relationship.

This study shows that respondents who are nursing students have ages from 21-27 years. Based on the age classification according to the Minister of Health Regulation number 25 of 2016, the age of respondents in this study falls into adult age category (18-45 years). Adult age itself has an innate need and greater interest in learning something as a useful experience as a potential learning resource (Nastiti, Fatkuriyah and Meldy Tursina, 2021). The gender in this study was mostly female with a total of 65 people (92.9%) and for men as many as 5 people (7.1%). Gender differences will form different perceptions, thus influencing different attitudes and knowledge between men and women (Normadewi, 2012). Then, for the experience of encountering cardiac arrest cases and experience performing BLS actions, with the results of the study the majority of respondents had experience encountering cardiac arrest cases as many as 57 people (81.4%) and had experience performing BLS actions as many as 43 people (61.4%). The existence of training and experience itself has a significant effect directly on knowledge, self-efficacy, and chest compression skills (Partiprajak & Thongpo, 2016).

The level of knowledge in this study showed results from the good category as many as 45 people (64.3%). Knowledge about BLS will affect behavior regarding the provision of first aid to victims who need BLS action (Dahlan, Kumaat, & Franly, 2014). Self efficacy in this study has a median of 63.5, where in this category of self efficacy is classified as high (category in score > 52). High self-efficacy in the application of BLS owned by nursing profession students can be because students have been taught about the knowledge and skills on how to carry out BLS during their education so that they tend to get used to dealing with these conditions (Wati, Wihastuti, & Nasution, 2021). The results of the correlation statistical test with Spearman Rank on 70 people showed a significant relationship with a p value = 0.026 ($p < 0.05$), at a significance level of 0.05 with an r value of 0.266.

DISCUSSION

Cardiac arrest and emergencies can happen to anyone, anytime and anywhere. Cardiac arrest is a phenomenon that we cannot predict. Cardiac arrest is a condition where the heart stops beating so that blood flow stops circulating and cuts off all oxygen and food substances throughout the body. Cardiac arrest is one of the first causes of death in the world. Treatment of cardiac arrest must be done as soon as possible. Delays in providing basic life support greatly affect the success of the action. Time is the most important factor, because for every minute of delay in defibrillation, the victim's chance of survival is reduced by 7-10%. Therefore, BLS is the first step in the management of cardiac arrest until a defibrillator is available (Pfefferbaum & Shaw, 2013). Knowledge of BLS affects behavior in providing first aid to patients who need BLS action. Knowledge about BLS will increase individual knowledge about identifying signs of patients who must be given BLS, how to carry out the stages of BLS, and also know the signs of patients who have recovered or are not saved (Wiliastuti, Anna, & Mirwanti, 2018). Knowledge and self-efficacy need to be continuously improved so that when needed it can be done well (Desiani, Nuraeni, & Priambodo, 2017).

In increasing the chances of survival of individuals who experience cardiac arrest, it is very important for a nursing student to have a knowledge base and self-efficacy in performing BLS actions. Self efficacy in nurses is formed through a social learning process that can occur in the hospital. Self-efficacy needs to be based on knowledge as the basis for individual cognitive abilities (Nastiti, Fatkuriyah and Meldy Tursina, 2021). As bystanders or observers and as prospective health workers, nursing students should make various efforts to achieve good knowledge and self-efficacy, so that they can create qualified bystanders and prospective health workers (Desiani et al., 2017).

Experience in the theory of Feist, et al (2017) is also a factor that influences self-efficacy, where the experience in question is the experience of mastering something and social modeling or unexpected experiences. This is also related to work experience, where the longer a person works, the higher the self-efficacy he has in a particular field. The growth of strong or high self efficacy requires experience in overcoming various obstacles encountered through hard work. After a nurse believes that he has everything needed, he will face even unfavorable circumstances and quickly rise from failure (Ferianto & Rini, 2016).

Knowledge and skills gained from training will create experience and confidence in carrying out work. This will increase self-efficacy, where individuals with increased self-efficacy will take advantage of the training program and will apply the expertise gained from training on the job (Lianto, 2019). Based on this explanation, it can strengthen the reason for the possible

nature of the relationship in the research results is quite strong, while the level of knowledge is in the good category and self efficacy is in the high category. If all respondents have long work experience, it is likely that all respondents will have a good level of knowledge and high self efficacy, so the nature of the relationship is likely to be strong.

The nature of the relationship in this study is quite high, but the level of knowledge is in the good category and self efficacy is in the high category. This is because the respondents in this study were nursing professional students who did not previously have work experience in hospitals, so that the results were still found, namely the level of knowledge in the moderate and insufficient categories and low self-efficacy. Long time working in the hospital will provide experience for nurses in providing treatment (Wiliastuti et al., 2018)

BLS material itself is a challenge because it is one of the knowledge that must be learned by all ordinary people, especially nursing students. It is very important to have a high level of knowledge and self-efficacy to obtain better standards of care and higher effectiveness of BLS performance (Partiprajak & Thongpo, 2016). Nursing profession students as prospective health workers who are the spearhead for improving health status should have high knowledge and self efficacy. Therefore, if a nursing professional student has low knowledge and self-efficacy they should try to improve it to support behavior and competence in health services.

Competence and self-efficacy of a nursing student in basic life support actions is a necessity that becomes an obligation in handling daily emergency conditions that can occur to anyone, anytime and anywhere. Not only for nursing students, this ability must also be mastered by all levels of society as an effort to optimize community-based disaster risk reduction in order to create a safe, comfortable environment for all, namely a safe community (Kamaluddin, Rahayu, Kusumawardani, & Siswandi, 2021).

LIMITATIONS OF THE STUDY

The limitation of this study is that researchers only examined age, gender, experience in encountering cardiac arrest cases, and experience in performing basic life support measures as characteristic data in data collection, but did not examine the experience of attending training, seminars or workshops related to basic life support.

CONCLUSION

Most of the respondents in this study already had experience encountering cardiac arrest cases and were experienced in performing basic life support measures. The level of knowledge of nursing profession students in basic life support is in the good category with a percentage of 64.3% and has a high self efficacy category with a median of 63.5%. The level of knowledge and self efficacy has a significant relationship with the nature of the relationship, which is quite strong.

SUGGESTIONS

1. Educational institutions can evaluate the skills of performing basic life support in nursing students by providing a variety of cases and learning methods related to handling cardiac arrest in order to increase the level of knowledge and self-efficacy of nursing professional students.

2. Future researchers are expected to be able to examine more deeply related to other factors that can affect self-efficacy in implementing basic life support for cardiac arrest cases and examine the effectiveness and experience of attending basic life support training for nursing professional students on self-efficacy in handling cardiac arrest cases. research by paying attention to other factors such as length of work and experience attending training such as seminars or BHD workshops that were not examined in this study.

ETHICAL CONSIDERATIONS

This study has been approved by ethic commission of Universitas Jenderal Soedirman with letter number 975/EC/KEPK/XII/2022

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Conflict of Interest Statement

We have no conflicts of interest to disclose.

All authors declare that they have no conflicts of interest.

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