



Scout Members Cardio Pulmonary Resuscitation (CPR) Skills in Lubuklinggau City after CPR Training

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ABSTRACT

A sudden stop in heart function is called cardiac arrest, and if CPR is not administered right away, it can be life-threatening. CPR training and education are required to boost both the quantity and quality of bystander CPR. In this study, the impact of CPR training on the CPR skills of Lubuklinggau City scout members will be examined. A quasi-experimental design with a pre- and post-test methodology was implemented in this study. A CPR mannequin was utilized as a simulation instrument in CPR training. A purposive sampling technique was used to collect samples from seventy-two scout members. The PPNI CPR SOP checklist used to assess the subject's CPR performance. A paired t-test was used to analyze the data, and the results showed that CPR training significantly improved the skills of scout members ($t = -49.343$, $p \text{ value} = 0.0001$). Based on the analysis and discussion results, it can be said that scout members' abilities to perform CPR are positively impacted by CPR training that uses the simulation method.

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1. INTRODUCTION

If the correct help is not provided straight away, cardiac arrest is a condition in which the heart stops beating that can have highly deadly results. [1], [2]. Because of the availability of medical personnel, incidents that occur outside of hospitals need additional care. CPR must be administered as quickly as feasible in order to save the patient. With an annual incidence of about 55 per 100,000 persons worldwide, cardiac arrest that takes place outside of a hospital, also known as out-of-hospital cardiac arrest (OHCA), is a severe issue [3]. In the United States, more than 356,000 OHCA occur each year [4]. 80% of OHCA pass away before getting medical assistance [5].

The high rate of OHCA mortality is caused by the victim not receiving adequate treatment at the scene because no one witnessed it, no one could offer assistance, and the distance to medical facilities was far away [6], [7]. If assistance is not provided, OHCA victims' chances of survival will drop by about 7–10% per minute [6]. Eyewitnesses play an important role in helping before health workers arrive, also known as bystander CPR [8].

In Indonesia, data collection on cardiac arrest incidents is still inadequate. Coronary Heart Disease (CHD) is one of the factors that can increase the number of cardiac arrest incidents. According to estimates, 30 people in Indonesia go into cardiac arrest every day, or 10,000 people annually [9]. neither the Health Service nor the Statistics Agency provided accurate records of the number of cardiac arrest cases in Lubuklinggau. Preliminary research indicates that many cardiac arrest deaths are mistaken for heart attack deaths. According to these data, there is still a difference in how people view heart attacks and cardiac arrest, which means that statistical data do not accurately reflect the severity of the problem of cardiac arrest outside of hospitals.

The presence of bystander CPR, which is two times better, is one of the elements that improves the chances of survival for OHCA victims [3], [10]. Bystander CPR is a critical link in the chain of survival and is closely related to improving OHCA survival [11], [12]. Someone at the scene of an incident who can perform cardiopulmonary resuscitation (CPR) on an OHCA victim in order to preserve their life and stop additional harm is known as a bystander CPR provider [13]. The lack of skills and knowledge of OHCA witnesses is the reason for their poor CPR performance [14].

Every group in society should be knowledgeable about and proficient in CPR. Teenagers are the most numerous group of all ages, making them excellent candidates to be CPR bystanders [15]. According to the Republic of Indonesia's Central Statistics Agency (BPS), the majority of Indonesians are between the ages of 15

and 19, and over 60% of them are presently enrolled in school. If all teenagers are aware of CPR, there will be a large number of bystanders. Those who have potential include scout members, because they are educated to have a high sense of social and courage. The most effective way to increase the number of trained lay person and bystander CPR is to teach CPR to school-age children[16].

By preparing its members to have national character in line with the Dasa Darma and Tri Satya, which are governed by the behavior and attitude of helping others, scouting serves as a platform for educating the next generation [17]. Based on a preliminary study conducted on 10 Scout members in Lubuklinggau City, it was stated that all of them were not yet able to perform CPR, and 8 (80%) of the 10 students were not willing to perform CPR if they found an OHCA victim, the case study picture is inversely proportional to the potential of Scout members, so it is necessary to hold education and training on cardiac arrest management to increase knowledge to increase the number of CPR bystander in the community starting from Scout members.

Basic life support training is useful for improving knowledge and skills in providing CPR. According to Febriana et al. (2018), high school students in Karanganom Klaten experienced a notable impact on their knowledge following CPR instruction [18]. School-based and community-based CPR training programs have been effective in promoting practical skills among adolescents, laypersons, and family members of cardiac patients [19]. Internationally, Basic Life Support (BLS) education for schoolchildren is a top focus [20].

2. RESEARCH METHOD

2.1 Design

This research is quantitative research with a quasi-experimental, pre and post-test

2.2 Sample, sample size, and sampling technique

The sampling technique uses random sampling. The sample in this study were scout members in Lubuklinggau City who met the following inclusion criteria: 15-17 years old, have never received CPR teaching or training in any form before, are willing to take part in CPR training, and the exclusion criteria were not willing to take part in research, a disability that makes it impossible to perform CPR. Respondents who did not complete the study were also excluded.

This study enrolled a total of seventy-two respondents

2.3 Data Collecting process

The research began with a preliminary study of scout members in Lubuklinggau City. CPR skills are measured using the CPR SOP issued by PPNI and obtained through the Nursing Standard Operating Procedure book. This SOP is then assessed using 3 assessment criteria. 2 points for the value of actions carried out well. 1 point for the value of actions carried out poorly. 0 points for the value of actions not carried out. The maximum value in this SOP is 28 which is then presented as 100%. Participants are given CPR training twice within a month using a CR mannequin. One week after the second meeting, Participants are required to perform CPR using a mannequin again to be assessed as the final data.

Data collection in this study was carried out a months, from May 2024.

2.4 Statistically analysis

This research data is usually distributed, so analysis tests can be carried out using Paired t-tests. The achievement indicator in this study was the value of scout members' skills to perform CPR

2.5 Ethical consideration

This study was conducted according to the guidelines of the Declaration of Helsinki. The Palembang Health Polytechnic Ethics Committee number 0617/KEPK/Adm2/VI/2023 issued the ethical approval. All participants were asked to fill out and sign a consent form after receiving information about the research and whether they had the right to participate in this study or not. The researcher assures that the confidentiality of the information will be guaranteed.

3. RESULTS AND ANALYSIS

The following are the results of research on the characteristics of the respondents.

Tabel 1. Respondents Characteristics (n=72)

No	Characteristics	n	%
Gender			
1.	a. Male	41	56.9%
	b. Female	31	43.1%
2.	Age		
	mean	15.89	y.o
CPR Training History			
3	a. Ever	0	0%
	b. Never	72	100%

OHCA Viewing History			
4	a. Ever	12	16.7%
	b. Never	60	83.3%
History of performing CPR			
4	a. Ever	0	0%
	b. Never	72	100%
Total		72	100%

Based on the table 1, respondents in this study were almost balanced based on gender. Where the female respondents were 31 people (43.1%) while the male respondents amounted to 41 people (56.9%). The majority of respondents had never seen an OHCA incident, namely 60 people (83.3%), and only 12 people (16.7%) had ever been eyewitnesses to an OHCA incident. Based on the data in Table 1, it was also found that all the respondents has no experience of CPR performing in OHCA and have never been trained or attended CPR training.

Table 2. Variable Value Results (n=72)

Variable	Pretest	Post-test	Difference	t	p*
	M ± SD	M ± SD	M ± SD		
CPR Skill	42.37 ± 7.078	91.53 ± 5.230	-49.16 ± 6.941	-49.343	.001

*Paired t-Test

Table 2 reveals an increase in CPR Skill before and after the CPR training and had statistically significant p 0.001. Based on the data in table 2, the skill of the participant, in this case the scout members in Lubuklinggau city, has increased in dealing with OHCA victims, which can be seen from the increase in pre and post test scores with a difference of -49.16.

Enhancing one's ability to perform CPR in emergency situations is greatly aided by CPR training. Skills such as response efficacy, confidence, and knowledge gain can all be impacted by training in CPR [21]. This conclusion is corroborated by other research, which showed that training in CPR increased participants' practical skills in addition to their knowledge. Prior to instruction, the average skill score was 9.42; following training, it rose to 78.31. Participants' skills remained greater than before training, despite a decline in scores after a few months. This suggests that they retained their talents, albeit not as well as they did right after training [22], [23].

Participants' conceptual knowledge and practical skills are greatly increased by CPR training. Video simulation courses and hands-on practice were shown to be particularly successful to encourage changes in teenagers' CPR knowledge and skills, according to a systematic assessment of school-based CPR instruction [24].

A highly significant difference (p=0.0001) was found by statistical analysis, suggesting that CPR training was successful in enhancing participants' abilities. Simulation techniques are thought to be highly effective at giving participants hands-on experience that can enhance their technical proficiency in performing cardiopulmonary resuscitation (CPR), including assessing the victim's reaction, requesting assistance, monitoring breathing and pulse, and administering the proper chest compressions [25], [26].

Real-time feedback from instructor or interactive technology is frequently incorporated into practical courses, enabling participants to fix errors like incorrect compression depth or rate. Better performance during actual resuscitation results from this feedback loop's improvement in skill quality and accuracy [26].

Participants in practical CPR training can physically conduct chest compressions, airway management, and other resuscitation methods through simulation-based exercises and hands-on experience with mannequins. Through active participation, students are better able to internalize the proper techniques and muscle memory required for efficient CPR. Research indicates that students who engage in simulation-based training are more motivated and proficient in performing cardiopulmonary resuscitation (CPR) than those who exclusively receive theoretical instruction [27].

Ultimately, the ultimate goal of all CPR training for lay people is to increase the number of CPR bystanders which in turn will also increase the likelihood that OHCA victims will be given immediate and timely CPR properly and correctly [28], [29]. Widespread CPR training in the community provides greater readiness and resilience. More trained people increase the possibility that someone will be on hand to provide CPR in the event of a cardiac arrest even before professional help arrives [30].

The implication of increasing public knowledge about cardiac arrest management is that it increases the survival rates of cardiac arrest victims, with the explanation that they are helped at the scene until health workers arrive or better yet they return to ROSC after several cycles of CPR.

4. CONCLUSION

CPR training is highly effective in increasing participants' practical skills of CPR. The evidence underscores the importance of both initial and ongoing training to ensure that these critical life-saving skills are retained and readily available when needed on cardiac emergency situation

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