

Basic Life Support Training for Posyandu Cadres in The Bumi Indah Residential Area of The Sakura Cluster, Tangerang District

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Abstract

One of the causes of the high mortality rate due to cardiac arrest that occurs outside the hospital is due to late help, which we still encounter today due to lack of responsiveness, lack of skills, and lack of public understanding of first aid measures when finding someone with respiratory arrest or cardiac arrest. before being sent to health services. One of the important reasons, people need to know and have sufficient supplies to perform quality Cardiopulmonary Resuscitation (CPR) is to anticipate people at home experiencing emergency conditions. The purpose of this community service activity is to carry out basic life support activities using CPR techniques. The target of the service is the integrated health service at the Bumi Indah Cluster Sakura. The activity is carried out in one day on July 17, 2022, the stages of activity are preparation, implementation, and evaluation. Preparation was carried out by conducting a preliminary survey to see conditions in the field and obtaining permission from RW 19 for the facilities used. Implementation is done by distributing pretest questionnaires, delivery of materials, CPR practice, and post-test. Evaluation of activities is carried out for each stage by collecting and concluding data from each stage of activity. The result of the activity is the implementation of training activities for providing Basic life support to integrated health services. Implementing lecturer and student activities and collaborating with HIPGABI Banten.

Keywords: Community Service, CPR, Basic Life Support, integrated health service

INTRODUCTION

Basic Life Support (BLS) is a collection of actions aimed at restoring and maintaining vital organ functions during cardiac arrest and respiratory arrest. The decisive action in basic life support is Cardiopulmonary Resuscitation (CPR) to maintain the survival of victims of respiratory arrest or cardiac arrest (AHA, 2020). Treatment in providing Basic Life Support to save sufferers in life-threatening conditions consists of several stages of treatment because less than 40% of adult individuals receive CPR initiated by lay individuals. First, a rescuer must know the signs of cardiac arrest and respiratory arrest, and after that immediately activate the emergency response system, immediately carry out cardiopulmonary resuscitation, and immediately carry out defibrillation using an AED (Automated External Defibrillator).

Emergency conditions that result in cardiac arrest and heart rhythm will result in disruption/damage to the function of the heart in supplying blood that transports nutrients and oxygen, which will have a hypoxic impact on tissues, especially the brain. If for 4 minutes the brain doesn't get enough blood supply, brain damage will start to occur, and if for 10 minutes it doesn't get enough blood supply, tissue death in the brain will occur.

One of the causes of the high death rate due to cardiac arrest that occurs outside the hospital is due to late help, which we still encounter today due to lack of responsiveness, lack of skills, and lack of public understanding of first aid measures when finding someone with respiratory or cardiac arrest. before being taken to health services.

One important reason that people need to know and have sufficient supplies to carry out quality CPR is to anticipate people at home experiencing emergency conditions. So far, people have been afraid to carry out RJP because they do not have enough expertise to do it. Several factors that can influence lay people or the public to carry out CPR include being afraid to carry out CPR because they feel wrong if they carry out CPR incorrectly, being physically unable to carry out CPR, fear of harming the person being helped, fear of contracting and transmitting infectious disease, and the belief that the person has died (Yasin et al., 2017).

Early initiation of CPR for lay rescuers is recommended for patients with suspected cardiac arrest because the risk of harm to the patient is low if the patient does not experience cardiac arrest. Lay rescuers cannot accurately assess the pulse rate and administer chest compressions.

Death by cardiac arrest is one of the problems in Tangerang Regency. This can be seen from the high number of deaths due to heart failure in the district general hospital. The number of patient deaths in Tangerang Regency in 2018 was 55 people, in 2019 there were 31 people, and from 2020 until October there were 15 people.

The incidence of cases requiring CPR is due to sudden cardiac arrest. The death process in cardiac arrest occurs with the onset of cardiac arrest and is followed by loss of circulatory function which results in tissue death (IKAPI, 2013). OHCA sufferers were male, 21.6% of patients died after not receiving resuscitation, 26.3% were successfully rushed to the hospital and only 9.6% managed to survive until discharge from the hospital. It is known that only 33.3% of OHCA sufferers received CPR and 3.7% received defibrillator treatment (Gahtikumar, 2016). Every year, 90% of people die because they are late in getting medical help due to cardiac arrest. In Indonesia, a child said that his father, who suffered from coronary heart disease, died suddenly and did not have time to receive first aid, or cardiopulmonary resuscitation (Simanjuntak, 2017). Cardiac arrest that occurs outside the hospital is known as Out of Hospital Cardiac Arrest (OHCA). OHCA cases in Europe reach 300,000/year and the death rate due to OHCA is high. In Asia Pacific, OHCA reached 60,000 in the last 3 years (Alfan, 2018). In Japan, around 70,000 people experience OHCA per year. In Indonesia, an estimated 30 people per day, or an estimated 10,000 people suffer from cardiac arrest outside the hospital (Indonesian Association of Cardiovascular Specialists, 2020). The high incidence of OHCA is also accompanied by a very small survival rate of 12%, survival of OHCA victims can reach 75% if "immediate CPR" is carried out after four minutes the percentage becomes 50%, and after five

minutes 25% (Jamil, 2010). 70% of cardiac arrests are emergencies due to heart disease that occur at home (Suhartanti, Ariyanti, and Prastya, 2017).

Data from the World Health Organization or WHO (2020) states that >17 million people in the world die from heart and blood vessel disease. In 2020, coronary heart disease (CHD) became the first most common killer, accounting for 36% of all deaths, this figure is twice as high as the death rate due to cancer (Indonesian Association of Cardiovascular Specialists, 2020). The incidence of heart and blood vessel disease is increasing from year to year, at least 15 out of 1000 people, or around 2,784,064 individuals in Indonesia suffer from heart disease with a percentage of 1.5%, the percentage of heart disease in urban areas is greater than in rural areas, namely 1.5%. 6% (Basic Health Research, 2018). In Indonesia, CHD is the cause of 26.4% of deaths, this figure is four times higher than the death rate caused by cancer with a percentage of only 6%, meaning that approximately one in four people who die in Indonesia is due to CHD (Indonesian Association of Cardiovascular Specialists, 2020). The incidence of heart disease in Tangerang is 0.7% or an estimated 888,447 people (Basic Health Research, 2018).

Even though every year the number of deaths decreases, more hard work is still needed to reduce the number of deaths due to cardiac arrest. To reduce the death rate from cardiac arrest and respiratory arrest, integrated efforts need to be made to deal with problems and diseases caused by cardiac arrest. Posyandu cadres who are community members selected from and by the community, willing and able to work together in various community activities are voluntarily trained to handle individual health problems and routine Posyandu services.

In dealing with emergency conditions such as accidents, choking, and so on, individuals or groups who find victims are required to provide immediate assistance. However, if the rescuer does not know the proper and correct way to provide basic life support, it could have fatal consequences for the victim. Because it is better to know first aid and not need it than to need first aid but not know it. Handling victims at the scene is very important. Because, every time a disaster occurs, health workers often arrive late at the disaster location, causing victims to die without any first aid measures (Nur, Menik, and Arifianto 2019).

Therefore, BLS knowledge and skills need to be taught about basic techniques for rescuing victims of cardiac arrest and respiratory arrest (Pamalango, 2021). Proper preparedness in the form of training for posyandu cadres in providing basic life support is expected to make response efforts quicker and more precise to minimize deaths due to cardiac arrest, especially in residential environments. This is because posyandu cadres are in residential areas and activities are carried out in residential areas.

To overcome the problems above and as a form of lecturer responsibility in implementing the tri dharma of higher education, the author intends to hold community service activities with the title "Basic Life Support (BLS) Training for Posyandu Cadres in the Sakura Bumi Indah Tangerang Cluster Housing". This BLS training aims to increase the knowledge and awareness of Posyandu cadres regarding emergency response to cases of cardiac arrest and respiratory arrest. The expected output is that this article can be published through scientific publications in national journals (with ISSN and accredited SINTA 4) and in print/electronic media (YOUTUBE)

Table 1. Extension and Training Methods

No	Type of Activity	Activity Output	Target	Implementation of Activities	Activity time
1.	Pretest	Find out the basic knowledge that posyandu cadres have regarding cardiac arrest and CPR	Posyandu cadres	The activities carried out were in the form of giving questions about Cardiac Arrest and CPR	10 minutes
2.	Counseling	Increased Cadre knowledge about cardiac arrest and CPR	Posyandu cadres	The activities carried out included providing material on cardiac arrest and CPR	60 minutes
3.	Training and implementation of RJP	Increased ability to prevent death from cardiac arrest	Posyandu cadres	The activities carried out are in the form of training	90 minutes
4.	Post-test	Knowing the effectiveness of providing education and training	Posyandu cadres	The activities carried out were in the form of giving questions regarding cadres' knowledge of cardiac arrest and CPR	10 minutes

RESULT

Basic Life Support training activities were held on Sunday 17 July 2022 at the Sakura Cluster, Bumi Indah housing complex, Pasar Kemis, Tangerang at 09.30 WIB. This activity was carried out to increase the knowledge and awareness of Posyandu cadres regarding the first emergency treatment for cases of cardiac arrest and respiratory arrest.

Before the outreach activity, participants who attended were asked to fill out an attendance and pretest questionnaire. After all participants have filled out the attendance and pretest questionnaires, outreach activities begin. The team immediately worked according to their respective responsibilities. The team serving as instructors took a place at the front for the presentation, while those serving as Basic Life Support (BLS) or Cardiopulmonary Resuscitation (CPR) instructors were among the participants. The chief executive and observer are behind the training participants.

Counseling on Basic Life Support Material

The 60-minute presentation of the material began by asking an open question about whether the participants knew about Basic Life Support for people who experience cardiac or respiratory arrest. It turned out that none of the participants knew about Basic Life Support. This was followed by a presentation of Basic Life Support material.



Figure 1. Documentation of Basic Life Support Material Extension

Cardiopulmonary Resuscitation (CPR) Training

The 90-minute presentation begins with the instructor explaining the RJP action steps and then practicing the RJP method by standard operational procedures. Steps for implementing Cardiopulmonary Resuscitation (CPR):

- Identify victims: do the 3A (self-safe, environmentally safe, patient-safe)
- Check the response using the AVPU method
- Request help by activating emergency medical services (EMS)
- Improve the position of victims and rescuers
- Check the airway
- Breathing
- Circulation
- Cardiopulmonary resuscitation (CPR) techniques
 - a. Position yourself next to the victim
 - b. Make sure the victim's position is safe and supine
 - c. Place both palms (overlapping each other), on the xiphoid process or between the two nipples
 - d. Position the helper upright
 - e. Providing cardiopulmonary resuscitation
can be said to be of quality if it includes this, namely strong pressure (minimum 2 inches / 5cm) and speed (100-120 times per minute) and waiting for chest recoil to complete completely, minimizing interruptions in compression, avoiding excessive ventilation, change the compressor/assistant every 2 minutes, but can be done in < 2 minutes if you are starting to get tired, if there are no further breath sounds, ventilation compression ratio 30:2, quantitative wave capnography, if PETCO₂ results are low or decreasing, review the quality of the CPR that has been given.
- Recovery Position



Figure 2. Documentation of Cardiopulmonary Resuscitation (CPR) Training

DISCUSSIONS

The results of the activity showed that all the counseling participants were posyandu cadres. The average age of respondents was 44 years with an age range of 36-65 years. All participants were women. Of the respondents, it is known that all of them are housewives. The speakers are experts in the field of emergencies, in the material the narrator explains basic life support techniques and cardiopulmonary resuscitation, then all respondents are given basic life support training. The presenters explained the concept of cardiac arrest, basic living concepts, the concept of cardiopulmonary resuscitation, and the steps for implementing cardiopulmonary resuscitation. After explaining the concept of the material, the presenter then practiced how to carry out cardiopulmonary resuscitation according to standard operational procedures with Public Health Center (Posyandu) cadres. Next, the presenters asked several cadres to explain the material that had been presented and practice how to perform cardiopulmonary resuscitation (CPR). As a result, cadres gain clarity on the material that has been presented and can begin carrying out cardiopulmonary resuscitation according to operational standards.

The results of this activity are in line with the results of community service activities by (Rahmawati & Puspitasari, 2023) who stated that the implementation of the activity began with providing counseling, and continued with BLS application practice and a BLS practice simulation test using fictitious cases. The results of this activity are also in line with (Nurlaecci et al., 2021) which stated that the simulation of providing Basic Life Support (BLS) increased the knowledge of lay participants in Cicaheum Village, Bandung City. The results of other activities revealed that after attending BLS training, cadres' abilities in carrying out BLS had increased (Aswad et al, 2021). Other results also revealed that the implementation of the Village Life

Development (BHD) education and training program aimed at members of youth organizations in Sribit and Sekarsuli Hamlets, Sendangtirto, Kapanewon Berbah, Sleman, Special Region of Yogyakarta, succeeded in having a positive impact on increasing participants' knowledge (Ghozali et al. al., 2023). Other results also reveal that there is an influence of RJP training on knowledge and skills before and after being given training (Ramadia et al., 2021). This emphasizes that it is very important to carry out regular training so that help can be given to accident victims early (Pitoy, 2023). Counseling and training is one of the important efforts made to increase the knowledge and skills of lay people and to create lay workers who can carry out BLS for emergency victims to avoid death and disability (Watung, 2020).

Simulation and role-play learning methods will provide participants with the opportunity to learn directly through seeing, practicing, and role-playing how to provide first aid in an accident or provide BLS action (Rahmawati & Puspitasari, 2023). The learning process can provide knowledge for community service participants, so that the more someone learns or knows something, the more motivated that person will be to behave according to what they have learned. (Watung, 2020). One of the factors that makes training using the simulation method able to increase knowledge is that participants are guided directly by trainers who have provider certificates (Nirmalasari & Winarti, 2020).

CONCLUSIONS AND RECOMMENDATIONS

Basic life support training for Posyandu cadres shows that this training has provided significant benefits for Posyandu cadres in providing first aid in emergencies in the form of: cognitive aspects, affective aspects, and psychomotor aspects.

Based on the activities carried out by lecturers and students of the Bachelor of Nursing Study Program at Yatsi Madani University regarding Basic Life Support (BLS) training, it is hoped that posyandu cadres can play an active role in the community in handling emergency cases, and cadres can carry out regular training so that posyandu cadres remain updated with the latest developments. in first aid and basic life support.

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