

## Empowering Coastal Communities in Emergency Response Through Basic Life Support Training

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### ABSTRACT

First aid in patients who experience respiratory arrest and cardiac arrest is important to give to patients who have a heart attack. The earlier help is given, the greater the chances of the victim's life. The general public is expected to know the early assistance provided to victims who experience cardiac arrest before assistance arrives either from the Puskesmas staff or before being taken to the hospital. Coastal areas are far from health facilities, fishermen also often go to sea for long periods, so that when they or others who have a heart attack can get help quickly and precisely. Knowledge of basic life support is very important for the general public especially fishermen, to prevent further complications. When help is given before 5 minutes, the chances of a person's life are 99%. The problem that is often found in the community is when someone is unconscious, confused, doesn't know what to do, and only becomes a spectator until the victim comes to the hospital because they do not have sufficient knowledge and skills. The solution to this problem is to conduct appropriate training in emergency conditions through BHD training so that mortality and disability rates can be reduced. The principle of first aid that is done is creative by utilizing available equipment, calm and fast and precise in assisting. This activity was carried out on October 15, 2021, with 15 fisherman participants at the Panggungrejo Village, Pasuruan City where this activity consisted of delivering material and discussions as well as training on how to do cardiopulmonary resuscitation. The results of this service showed a significant increase where the average value of the pretest was 41 and after the training, there was an increase in the average score to 81. This basic life support training activity must be carried out regularly, for refreshing and updating of new knowledge for fishermen groups emergency response.

**Keywords:** Coastal Communities, Emergency Response, Basic Life Support

### INTRODUCTION

Geographically, the Pasuruan City area is located in the northern region of the island of Java which connects it with the island of the Gods as the nickname of the island of Bali, where most of the area is located at an altitude of about four meters above sea level. This strategic geographical location makes Pasuruan City have a romantic history during the reign of the Dutch East Indies as a stopover for foreign ships and a trading center to other islands and even abroad. People living in coastal areas work as fishermen who catch fish every day in the Madura Strait area and manage the potential of other marine resources to maintain their survival. There are 6 sub-districts in the Pasuruan city area which are located in the coastal area of the Madura strait which has marine natural resources they manage, including fish production which annually reaches almost 1000 tons with a total value of rupiah reaching 6 billion and many other commodities that can be developed. even more optimal, such as; the cultivation of mangroves, seaweed, the production of fishpond products, and the development of marine ecotourism which are currently being developed in other areas (Badan Pusat Statistik Kota Pasuruan, 2015). Fishing activities at sea require 2 to 3 weeks to sail for small vessels and 3 to 4 months for large vessels. According to the medical records of the Trajeng Health Center in 2020, most of the fishing communities suffer from hypertension where this disease ranks first out of the ten most diseases experienced by coastal communities (fishermen). During such long sailings, they are at risk of experiencing respiratory or cardiac arrest due to exhaustion. The factors that caused the victim's condition to become more severe were that no immediate help was given and it took more than 10 minutes to get to the health facility. lack of knowledge about initial aid and if the

respiratory arrest and cardiac arrest occur in the middle of the sea, this condition creates panic and makes it impossible to get help from health services quickly (Firdaus, 2019). If these inhibiting factors can be handled properly, then the possibility of death can be minimized because with basic life support and forcing the heart to work again so that fatal and adverse events can be avoided (Zuhroidah et al., 2021). First-aid measures for sufferers who experience cardiac arrest and respiratory arrest for coastal communities who are victims must be carried out by all parts of the coastal community. when the victim is unconscious, the community is often just a spectator and waits a long time to bring the victim to a health care facility, death can be minimized and disability can be reduced by providing basic life support quickly and appropriately. This community service activity aims to enable fishermen to play an active role in providing first aid to patients with cardiac arrest and respiratory arrest appropriately and to be able to perform Cardiopulmonary Resuscitation (CPR) and form groups of fishermen who respond to emergencies.

## **METHOD**

The method used in this community service activity includes providing material or theory about basic life support and training skills in performing CPR. The number of participants in this activity was 15 people. The stages of implementation include:

Stage 1. Prepare for the initial survey activity in the Coastal Area of Pasuruan City, submit a proposal to the faculty and then to LP2M, submit a letter of application for community service to the Faculty of Nursing then issue a letter of assignment from LP2M, then coordinate with Panggungrejo Village, Pasuruan City regarding the proposed activity. will be carried out in this area.

Stage 2. Implementation

a. Lecture

This method can be used for all respondents who participate in this activity, both those with higher education and those with low education. The key to the success of the lecture is if the lecturer can master the target (Notoatmodjo, 2015). This method explains the target so that the learning domain only relies on the sense of hearing where the target or participant participates in activities passively and conveys knowledge orally. The material presented in the lecture covers the general concept of basic life support.

b. Discussion

After participants were explained the concept of basic life support, the next step was to discuss the topic that had been presented. Give a case to be solved together and give reasons for the answer. With the discussion, it is hoped that there will be an exchange of ideas, information and experiences between participants so that a mutually agreed conclusion is obtained. The discussion started with one of the participants asking questions related to cases found in the field if a victim suddenly became unconscious.

c. Demonstration

At this stage, the implementation team demonstrates how to perform basic life support on Phantom. The stages demonstrated are by standard operating procedures for basic life support by the 2020 AHA guidelines (American Heart Association, 2020). The purpose of this activity is for participants to get a direct picture of how to practice helping victims in the event of respiratory arrest and cardiac arrest, prompt and appropriate action in helping victims.

d. Monitoring Evaluation

The purpose of this activity is to obtain information from participants regularly by the goals that have been set, to explore whether the activities carried out are by the planning and procedures agreed at the beginning of the meeting. The indicator of the success of this activity is the evaluation by the target and essential activities by the program planning. Fishermen or targets can consult with the implementation team about the basic life support practices that have been carried out. Meanwhile, the team can evaluate directly in the field about the competency targets that have been achieved by the participants. This activity is monitored during the service implementation period.

### Stage 3. Evaluation

To measure the success of this activity, it is necessary to evaluate the results carried out at the beginning of the activity and the end of the activity. Stages of activity reports include; The first is a progress report, the second is a service activity report and a report on the use of the financial budget, and the third is an evaluation report on the service activity process.

### **RESULTS**

The implementation of this community service activity was carried out on October 15, 2021, for fishermen in Panggungrejo Village, Pasuruan City, starting with an opening activity by Mr. village head Panggungrejo Pasuruan City, followed by 15 fishermen. Furthermore, an initial assessment is carried out in the form of a pre-test to measure the participants' understanding and ability about the topic to be discussed.

From the results of data analysis, it was found that the average difference in the ability of fishermen to carry out basic life support before and after training. The evaluation showed that there was an increase in the ability of fishermen in this community service activity, which was shown from the results of the initial assessment (pre-test) the lowest score was 30, the highest score was 50 and the average score was 55.4. While the results of the final assessment (post-test) obtained the lowest score of 70 and the highest score of 85, with an average score of 85.6.

### **DISCUSSION**

During the training activities, all fishermen enthusiastically participated in the training. Many questions were asked during the presentation on the topic of basic life support and cardiopulmonary resuscitation practice. Participants were asked about what they and their friends had experienced while at sea. The results showed that fishermen still do not know how to give first aid to people who have a cardiac arrest and respiratory arrest, signs of a person having a heart attack, initial help when syncope occurs, and when practicing cardiopulmonary resuscitation. From the results of the analysis, there are several points of problems found in the field, including the very high workload of fishermen coupled with the large number of fishermen who experience hypertension, which is a risk factor for heart attacks and other neurovascular diseases, heart attacks and respiratory arrest can occur when fishermen work. where the location is far from health care facilities, this condition requires quick and appropriate initial action, the low level of knowledge and basic skills of fishermen in providing basic life support (BHD) and community participation in overcoming health problems still needs to be improved.

The problems mentioned above have been well resolved by the resource persons and the team during the community service activities. Fishermen understand how to avoid hypertension and its complications, first aid in the event of respiratory and cardiac arrest, can practice cardiopulmonary resuscitation and form groups of fishermen who respond to emergencies. This activity can be said to go according to plan and there are no obstacles that can interfere with this activity. To further assess the effectiveness of this activity, in the next activity, it is necessary to refresh the material regarding basic life support and evaluate the ability of fishermen to carry out cardiopulmonary resuscitation (CPR) and evaluate the fishermen groups that have been formed are still active or not.

Basic life support training activities should be given to all levels of society, for now, the training is still focused on health workers and the general public specifically such as students who are active in the Youth Red Cross (PMR) activities who are expected to be able to provide first aid to sufferers who have problems stopping respiratory and cardiac arrest in an emergency condition at the scene so that it is expected to reduce the risk of death. In line with (Toha et al., 2021) training for students carried out for 2 days can increase knowledge by 85%.

Assisting as early as possible to victims due to accidents or sudden illnesses such as heart attacks should be done immediately for people who can provide emergency first aid before the arrival of an ambulance and further assistance by more skilled medical personnel (Zhou et al., 2016). The condition of the emergence of emergency problems can occur to anyone, anywhere and at a time that cannot be predicted in advance which can be caused by factors that have the potential to cause these problems or are caused by deliberate factors (Hsiao et al., 2007). The provision of First Aid for emergency problems is the responsibility of all circles of society, not

only the responsibility of medical personnel alone, which most ordinary people perceive. Indeed, limited knowledge and skills in providing emergency first aid to sufferers is a problem that must be found a solution so that the community can assist as early as possible to minimize the risk of death. Temporary community involvement is only limited to understanding and minimal capabilities such as reducing pain, evacuating accident victims to safer places which can affect further assistance to improve the quality of life of the sufferer. If from the beginning the wrong handling is done by the community, then further assistance by skilled medical personnel will have difficulty maintaining the safety of the patient's soul. The incidence of emergencies caused by accidents or disasters has recently increased with the occurrence of high death cases as well. This situation was caused by delays in providing first aid to the victim. Providing fast, precise and accurate help can save the lives of sufferers who experience emergency conditions (Li et al., 2012). With the increase in knowledge and skills of coastal communities, it is hoped that they will be able to answer the problems of emergency cardiac arrest and respiratory arrest due to various diseases and trauma, the distance from the location of health services, the low level of education, a healthy lifestyle that is still low, the high prevalence of the cardiovascular disease is a real threat that must be addressed. faced. BHD is an effort made to maintain life when the patient or victim experiences a life-threatening condition (Link et al., 2015). Having adequate knowledge and skills in providing basic life support (life-saving) for the community will help the survival of a person experiencing emergency problems that can threaten his life wherever and whenever it occurs.

### CONCLUSIONS AND SUGGESTIONS

The activities held in community service regarding basic life support have met expectations, namely an increase in the knowledge and skills of fishermen with the results of the evaluation of the average score obtained, which is 41 increasing to 81. The response of trained fishermen shows high enthusiasm and feels happy with this activity because it is a new thing that is very beneficial for families and society in general. Psychomotor/action aspects Participants can perform cardiopulmonary resuscitation appropriately. This activity is very good if carried out regularly with a wider community reach so that all communities around the coast have the same and equitable knowledge and skills about basic life support to create a fishing community that is responsive, resilient and ready to provide basic life support to the community. around wherever and whenever needed.

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## APPENDIX



**Figure1.** Submission of Material



**Figure 2.** Discussion



**Figure 3.** Cardiopulmonary Resuscitation Demonstration



**Figure 4.** Cardiopulmonary Resuscitation Practice