





# Training to Improve the Ability of Destana Volunteers to Bandage Splints in Disaster Response Situations

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## Abstract

A disaster is an event that causes damage, ecological disruption, loss of human life, and deterioration of health services or services on a certain scale that requires a response from the community in the disaster-affected area. Matesih District is dominated by steep slopes and experiences high rainfall. These conditions cause extensive erosion, weathering and landslides. The purpose of this service is to improve the knowledge and skills of volunteers about splint dressing. Disasters that have occurred in the world include landslides that have caused several people to suffer minor injuries. Injuries to residents generally occur in the musculoskeletal system. To prevent injuries to the musculoskeletal system, splint dressing assistance is needed through health education/training, providing understanding and knowledge to volunteers about the importance of increasing volunteer knowledge and skills about splint dressing. The method used is by presenting material and a simulation. Based on this identification, STIKes Mitra Husada Karanganyar aims to provide an understanding to Destana volunteers about splint dressing. In this service activity, the population was 27 volunteers in Girilayu village. This activity was carried out with the initial method of providing material and then continued with simulations related to splint dressing. The results of the community service activities went smoothly, understanding and skills about splinting increased by 85,2 %. So it can be concluded that the increase in splinting skills is inseparable from the provision of splint dressing training.

## A. Introduction

Disaster is an event or series of events that threaten and harm people's lives caused by natural and/or non-natural factors or human activities resulting in material losses and loss of life, environmental damage, and psychological impacts. Indonesia is an archipelagic country that is also famous for its position in an active tectonic plate zone, with a tropical climate characterized by high rainfall intensity and humidity. Such geographical and climatic conditions cause Indonesia to be an area prone to floods, volcanic eruptions, earthquakes, and landslides (Suwaryo et al., 2019).

It is the responsibility of health workers to handle emergency conditions that can occur anywhere and anytime. It is possible that emergency conditions can occur in areas that are difficult for health workers to reach (Mhlongo et al., 2020). The role of the community and students to help victims before being handled by health workers is very important in these conditions (Warouw et al., 2018).

Matesih District is dominated by steep slopes and experiences high rainfall. These conditions cause extensive erosion, weathering and landslides. These conditions are exacerbated by human activities that

ignore land management and conservation as part of landslide disaster mitigation efforts (Li et al., 2019). Significant amounts of inappropriate land use, such as land for agriculture and logging activities, are often found in steep slope areas. Efforts are needed to minimize losses, especially social aspects (loss of life) due to landslide disasters (Purwaningsih et al., 2020). The BPBD of Karanganyar Regency (2020) explained that there are several areas in Matesih District such as Koripan Village, Plosorejo Village, and Girilayu Village which are areas in the red zone prone to landslide disasters (Sutisna et al., 2024).

Landslides cause some people to suffer minor injuries. Injuries to residents generally occur in the musculoskeletal system, namely tendons, muscles, ligaments, skin and bones. Accidents to the musculoskeletal system must be treated quickly and appropriately (Barelds et al., 2017). There is not much treatment that can be done by the volunteer team, the injured are immediately taken to the nearest clinic or hospital. If not treated quickly, it will cause more severe injuries and can trigger bleeding. Other impacts that occur can result in bone deformities or disability or even death. To prevent injuries to the musculoskeletal system, splint bandages are needed through health education/training (Warouw et al., 2018).

Health education/training is an effort or activity to help individuals, groups, and communities improve their abilities, both skills, attitudes, and skills to achieve optimal healthy living (Gebresenbet & Aliyu, 2019). Skills provided to victims of bone injuries with splints. Splinting is an act of fixing or immobilizing injured body parts using rigid or flexible objects as fixators/immobilizers (Meliana et al., 2024).

Destina volunteers totaling 45 people with various complex problems. The results of the survey on volunteers showed that some did not understand about splint wrapping. And from the results of the survey and interviews, there are still many residents who do not understand the importance of splint wrapping training in disaster-prone areas so that disasters can be responded to. Minimal knowledge and skills and lack of information from medical personnel regarding splint wrapping are obstacles. Therefore, it is necessary to carry out an understanding and simulation of splint wrapping. The purpose of this service is to increase the knowledge of volunteers about splint wrapping in disaster response situations is very important. This is what can be conveyed by volunteers to the community so that the community can know more about how to properly bandage splints. Through this education and simulation, it can provide information to volunteers and the local community to be able to carry out basic assistance in disaster response situations.

Thus, there is an obligation for the related parties to provide understanding and knowledge to volunteers about how important it is to improve the knowledge and skills of volunteers about splint dressing. Based on this identification, there is a follow-up from the university to provide an understanding to Destana volunteers about splint dressing. The form of the activity is skills training involving Lecturers of the Nursing Bachelor's Program and Nursing Professional Education at STIKes Mitra Husada Karanganyar.

## B. Methods

In this community service activity, the population is volunteers from Girilayu Village, Matesih, Karanganyar. The number of participants in the community service was 27 people. The activity was carried out by providing education and simulation, the implementation time was Monday, January 20, 2025 starting at 13.00 until finished, continued with a splint bandage simulation. The activity was held in the multipurpose building of the Girilayu Village Hall. The methods used in carrying out community service are as follows: 1. The implementing team uses the PBL (Problem Base Learning) approach method. 2. The problems faced by partners are collected by the community service implementing team through FGD (Focus Group Discussion) activities. This is done to facilitate the determination of priority issues that must be done immediately to overcome partner problems. Instruments or aids used to deliver material in activities using leaflets and elastic bandages, mitela and spalk for splint bandage simulations. From the results of the FGD conducted. 3. the implementing team then formulates various problems faced by volunteers in general and the solutions offered to overcome these problems. From the results of the FGD conducted, several main problems faced by volunteers were obtained. 4. The next method is to provide education and simulations related to splint bandages after that the team Disseminates information about when education and simulations are through local volunteer meetings, through village officials. Coordinate with other teams regarding the types of services to be held. 5. On the day of the service implementation, the service team then Delivers material related to splint bandages then continues with the practice of splint bandages on Destana volunteers. 6. After the delivery of material and simulations, the team Motivates residents and community leaders. In addition, provides counseling on Basic Aid during disasters. Increases residents' knowledge and understanding of the importance of disaster management.

### C. Results and Discussion

The discussion can be made in several sub-sections. This section is the main part of the community service article and is usually the longest section with the length of the results and discussion section around 60% of the total body of the article of an article. In this section, the results of the community service are explained and at the same time a comprehensive discussion is given. Results can be presented in the form of figures, graphs, tables, and others that make it easier for readers to understand.

The implementation of this activity was carried out in Girilayu Village, Matesih District. The activity was carried out on January 20, 2025 with 27 people present, with various complex problems. Researchers conducted a survey and interview on December 21, 2024. Many volunteers still do not know and cannot yet about Balut Bidai. From the results of the community service carried out, it can be seen that there are efforts from volunteers and residents to take part in the training.

The implementation of this community service activity is education, educational activities for volunteers are carried out through four stages which include, (1) collecting facts, namely collecting and recognizing social problems faced in the field. (2) Identification of volunteers. (3) delivery of materials and continued with the planned splint dressing practice. (4) Evaluation of training results, namely to measure whether the objectives determined during the activity have been implemented as planned. The counseling and training activities were attended by 27 Destana volunteers from Girilayu village. At the implementation stage, the counseling and training began with the provision of a pre-test then continued with the presentation of material by the facilitator after the presentation of the material was completed then continued with teaching the practice of splint dressing. The material presented was splint dressing. After the discussion activity, the facilitator provided splint dressing training, at the end of the counseling and training, a post-test was carried out by measuring knowledge and skills regarding splint dressing. The results of the pre-test and post-test can be seen in the table below.

**Table 1.** Measurement of Volunteer Knowledge and Skills

Knowledge and Skills	n	%
Pre test	4	14,8
Post test	23	85,2
Total	27	100

The results of the implementation of community service can be seen through the final session with an evaluation of the knowledge and practice of volunteers which increased by 85,2 % on splint dressing material and a mini practice was carried out on splint dressing skills. Volunteers actively participated especially in discussion sessions with facilitators, this was a formation of attitudes and responsiveness of volunteers in learning splint dressing that might occur in their environment. It was seen that volunteers could explain what the researcher explained at the beginning, in addition volunteers could also practice how to do splint dressing.



**Figure 1.** Presentation of Material



**Figure 2.** Discussion



**Figure 3.** Demonstration of Splint Dressing from the Facilitator Team



**Figure 4.** Volunteer Team Splint Dressing Practice

The increase in knowledge after being given training shows that the material that has been given to participants has proven to be able and useful to support volunteers related to splint dressing. This can also be proven by the results of qualitative evaluation through interviews which stated that several participants reported an increase in self-confidence in answering.

In carrying out community service in the form of educational activities in Girilayu Village, Karanganyar, there are various preparations made by the service team. The preparations made to carry out educational activities aim to ensure that the implementation process runs smoothly according to plan, in addition, preparations are also included in the stages of educational activities. There are various forms of preparation made by the service team, namely the first preparation made before going directly to the field, namely discussing the material to be educated to volunteers. Our group's service team discussed splint bandages, so our team first looked for the literature or references.

The implementation of the activity was carried out in 1 day, namely by providing education or counseling on the implementation of splint dressing in disaster response situations. Before education, participants were given a pretest to measure their level of knowledge. After education, participants were also given the opportunity to ask questions, then given a posttest again to find out changes in knowledge after education. Evaluation was carried out by looking at the attendance and activeness of participants, as well as follow-up plans after being given educational activities by discussing with Destana volunteers and village heads to determine the types of activities that would be carried out to improve knowledge and skills in splint dressing in disaster response situations.

Splinting is an act of fixing or immobilizing an injured body part using a rigid or flexible object as a fixator/immobilizer (Poetri et al., 2021). Splinting assistance can be performed by all trained laypeople. One of the trained laypeople in the community is a volunteer who has received basic emergency education (Suswitha & Arindari, 2020).

Expertise is the ability that someone has that will make them skilled in performing certain skills (Listiana & Oktarina, 2019). This can lead to an increase in skills between before and after splint dressing training. Volunteer skills increased more as seen through motivation and participation in participating in splint dressing training, curiosity and intention to learn shown by volunteers through simulation activities by practicing splint dressing directly (Hanif, 2022). Volunteers participated in simulations in cases with fractures (broken bones) in the extremities, in this process most volunteers carried out simulations with good assessments and did so according to the material they had previously received during training (Pei et al., 2019).

Skill theory is the application of skills so that a person's skill level is related to the skill level (Listiana & Oktarina, 2019). The increase in respondents' skills in this study was because the respondents had enthusiasm (high self-motivation), basic skills, and curiosity about splint dressing material both through videos and simulations (Ngirarung et al., 2017).

The improvement of splint dressing skills is actually inseparable from the provision of splint dressing training. Training is provided by means of direct practice (simulation) equipped with teaching aids. However, previously volunteers were given the opportunity to see a splint dressing simulation, then given an example by the training resource person and volunteers tried to practice independently. The method with practice applies and adapts theory to real conditions, so that with the training carried out the skill level shows a change after being given splint dressing training. Skills are applications of skills so that a person's



skill level is related to the skill level, and skills are influenced by education level, age, experience, motivation, and expertise (Warouw et al., 2018).

Training is a process to equip volunteers with new knowledge, abilities, skills, sense of responsibility, obedience, self-confidence, deepen the sense of belonging and increase loyalty, and form good cooperation. However, not all students are able to grasp perfectly because of the differences in the characteristics of each student. Some students have a visual learning style, an auditory learning style, and Analytical.

The community service activity was carried out on January 20, 2025 at the Girilayu Karanganyar Village Hall with participants consisting of volunteers, community leaders and the Karanganyar BPBD. The material for implementing this community service activity was provided by the Community Service Team. The ultimate goal of implementing this activity is to increase the knowledge of volunteers regarding splint dressing. The assumption that the community service team wants to formulate is that when volunteers have been equipped with the ability or knowledge about splint dressing. One of the goals of splint dressing training is to increase the knowledge and skills of volunteers. This devotion has been implied from the goals that have been achieved. Thus, the community service team from STIKes Mitra Husada Karanganyar felt the need to carry out community service activities. The Community Service Team and Resource Persons from STIKes Mitra Husada Karanganyar nursing lecturers tried to gather information by holding discussions with volunteers, the community and related elements, so there are several things related to splint dressing. This service has limitations, it has not been given to all residents of Girilayu Village, it has only been given to volunteers.

#### D. Conclusion

In this community service activity, the population is volunteers from Girilayu Village, Matesih, Karanganyar. The number of participants in the community service was 27 people. The activity was held in the multipurpose building of the Girilayu Village Hall. The method used in implementing community service is the Implementation Team using the PBL (Problem Based Learning) approach method. The problems faced by partners were collected by the community service implementation team through FGD (Focus Group Discussion) activities. The results of the post-test given to volunteers stated that knowledge and skills had increased by 85,2 %. The results of the implementation of the community service can be seen through the final session with an evaluation of volunteer knowledge and practice which increased by 85,2 % regarding splint dressing material and a mini practice was carried out on splint dressing skills. Volunteers actively participated especially in discussion sessions with facilitators, this was a formation of volunteer attitudes and responsiveness in learning splint dressing. The improvement of splint dressing skills is actually inseparable from the provision of splint dressing training.

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