



# JURNAL PENGABDIAN MASYARAKAT DALAM KESEHATAN

Vol. 3 No. 2, October 2021

Laman Jurnal: <https://e-journal.unair.ac.id/JPMK>

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## EMPOWERMENT OF HIGH SCHOOL STUDENTS IN THE ESTABLISHMENT OF SAFE COMMUNITY: PROMOTIVE EFFORTS FOR CONTROL AND HANDLING OF TRAFFIC ACCIDENT IN LAMONGAN

Erna Dwi Wahyuni, Arina Qona'ah and Sriyono Sriyono

Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

### ARTICLE HISTORY

Received: February 19, 2021

Accepted: June 05, 2021

### CONTACT

Erna Dwi Wahyuni

[erna-d-w@fkn.unair.ac.id](mailto:erna-d-w@fkn.unair.ac.id)

Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

### ABSTRACT

**Introduction:** Traffic accidents have a physical, psychological and social impact. People still have low awareness and knowledge both in driving and in providing first aid to victims of traffic accidents. Students can be one of the human resources that can be used to provide education to the community or their own groups regarding the control and handling of traffic accidents. This community service aims to improve students' knowledge and skills regarding basic life support and safety riding.

**Methods:** The method of activity is done by teaching and Q&A. Before giving pre-test material and afterward post-test. The method used is through education and training which includes safety riding and first aid which is combined both online and offline methods. Health education are carried out using zoom while training activities are carried out at Public Senior High School 2 Lamongan. The material delivered through Zoom is related to safety riding, basic life support and transportation and mobilization. The training materials provided to students include basic life support, and splints and ambulation. The training is carried out by means of lectures, demonstrations - simulations and discussions. Media delivery of technology is also prepared, namely in the form of materials and teaching aids.

**Results:** Students' knowledge of first aid in accidents before the activity was less than 23 people (69.69%), only 8 people (24.24%) and 2 people (6.06%) were good. While the knowledge after the activity is less than 1 person (3.03%), enough 16 people (48.48%) and good 16 people (48.48%). The results of the pre-test and post-test showed an increase in students' knowledge about first aid in accidents.

**Conclusion:** Efforts to establish a safe community can be done by involving students as one of the components of society which is expected to become agents of change in controlling and handling traffic accidents.

### KEYWORDS

safety riding; safe community; promotive; accident first aid; basic life support

### Cite this as:

Wahyuni, E. D., Qona'ah, A., & Sriyono, S. (2021). Empowerment of High School Students in The Establishment of Safe Community: Promotive Efforts for Control and Handling of Traffic Accident in Lamongan. *J. Pengabdian Masyarakat dalam Kesehatan*. 3(2). 51-55. Doi: [10.20473/jpmk.v3i2.23802](https://doi.org/10.20473/jpmk.v3i2.23802)

## 1. INTRODUCTION

Lamongan is one of the cities in East Java which is located on the Pantura (North Coast) route. This route is known as the national line 1 which connects Jakarta - Surabaya. Traffic movements along the north coast road are very congested, including in Lamongan.

Traffic conditions are heavy and roads. The bumpy roads and the presence of several railroad tracks cause a high risk of traffic accidents (Wikipedia, 2019; Eko, 2015).

In 2013, based on WHO data in the Global Status Report on Road Safety, 1.24 million people died and

20-50 million people suffered serious injuries due to traffic accidents. Traffic accidents in Indonesia in the last three years have become the third biggest killer after coronary heart disease. Indonesia is a country with the highest number of accidents. The number of deaths due to traffic accidents reaches 120 people per day and an average of 3 people die every hour. In 2015, the number of traffic accidents in Lamongan was 622 with a death toll of 163 people and 70% of traffic accidents occur on motorcycles. Adolescents (15-25 years) are the age group with the most traffic accidents (Asdar, et al, 2013).

A traffic accident is an unexpected and unplanned event. Accidents involve vehicles with or without other road users resulting in human casualties and/or property loss (Law Number 22 of 2009 concerning Road Traffic and Transportation) (Law of the Republic of Indonesia Number 22 of 2009). Most of the accident victims who were brought to the emergency room experienced problems in the form of head and extremity injuries. Victims of traffic accidents need to get first aid that is fast and appropriate so that it can reduce the risk of disability and death (Casey, et al, 2012).

According to the Director General of Land Transportation, Pudji Hartanto, there are various factors that can trigger traffic accidents, namely humans (cyclists), vehicles, roads and the environment. Driver factors contribute to accidents as much as 61%, this is due to the ability and character of the driver in driving. The condition of the vehicle that does not meet the roadworthiness requirements causes accidents as much as 9%. Meanwhile, 30% of traffic accidents are caused by road and environmental conditions (Ministry of Health of the Republic of Indonesia, 2017).

Accidents are the leading cause of death and disability worldwide<sup>12</sup>. Accidents that often occur in the ED are head and extremity injuries where patients require further treatment both in the ICU and in the treatment room (Casey, et al, 2012)<sup>1</sup>. Based on data

from the Medical Record of Lamongan Muhammadiyah Hospital, the number of traffic accident patients in the life-threatening category in 2012 was 255 patients and in 2013 there were 222 patients. Most of the victims of traffic accidents in Lamongan are students. Traffic accidents can be caused by various factors, one of which is the driver's element, namely the driver's disobedience to traffic rules and safe driving. In addition, public knowledge about safety riding is still lacking and requires information about safety riding.

Victims of traffic accidents require appropriate and fast initial treatment. Proper handling can save lives and prevent disability in victims (Hazinski & Mary Fran, 2010). Based on the results of a preliminary study on students' knowledge regarding first aid for accident victims, it was found that 56% had low knowledge and 44% had moderate knowledge. So it can be concluded that most students' knowledge about first aid for accident victims is still low.

First aid which is usually done by the community is not carried out in accordance with the standards in performing first aid. The community does not understand the correct evacuation technique and does not endanger the victim, does not have the ability to provide basic life support if the victim experiences life-threatening problems, does not know how to identify the victim's problem and provide treatment according to the problems experienced by the victim. Conditions like this will give the victim a greater risk of not being given first aid quickly and appropriately.

## 2. MATERIAL AND METHODS

The method used in this community service is through education and training for high school students in the Lamongan. Activities carried out not only by the lecturer, but also involving partners, namely SMAN 2 Lamongan (Public Senior High School 2 Lamongan). This activity was given by a

lecturer at the Faculty of Nursing, Universitas Airlangga with certified Critical and Emergency Nursing, and the Head of the Dikyasa Unit of the Lamongan Police Satlantas. The activities in this community service that have been carried out are the activity of providing material through zoom meetings and training. The details of the activities are as follows:

**Education about Safety**

Counseling on safety riding was given by the Head of the Dikyasa Unit of the Lamongan Police Satlantas IPDA Fifi. This activity is carried out online using Zoom. In this community service activity, students are given information about the concepts and priorities of the safety riding program targets.

**First Aid for Accident Victims education**

Education on first aid in accidents was given online by a lecturer at the Faculty of Nursing, Universitas Airlangga. The material presented is related to basic life support and splint dressing. This counseling is given because first aid to accident victims must be mastered by medical personnel, paramedics and lay people. Handling carried out by the community can include first aid to the accident victim, both helping to move the victim, applying splints if needed and providing basic life support if the victim is in cardiac arrest.

**Accident Victims First Aid Training (offline)**

The next activity that was carried out after providing counseling was training related to how to perform first aid on accident victims. The training materials provided to students include basic life support, and splints and ambulation. The training is carried out by means of lectures, demonstrations - simulations and discussions. Media delivery of technology is also prepared, namely in the form of materials and teaching aids. The props provided are full body and body mannequins to teach heart massage if the victim is unconscious, materials that require splints/spalk, mitella, gauze and alcohol swab. This media is

prepared to support training so that it runs more optimally.

**3. RESULTS**

The number of students involved in this community service activity were 33 students of SMA N 2 Lamongan consisting of 24 students of class X and 9 students of class XI. Evaluation of this activity was carried out using a questionnaire to explore aspects of students' knowledge. Questionnaires were given before and after the activity (pre and post-test). The results of the evaluation before the activity (pre-test) showed that students had less knowledge related to handling traffic accidents were 23 people (69.69%), enough knowledge 8 people (24.24%) and good knowledge 2 people (6.06 %). After completing the training, an evaluation is carried out again to find out the progress or results of the activities that have been carried out. The results of the post-test evaluation are students who have less knowledge of 1 person (3.03%), 16 people (48.48%) sufficient knowledge

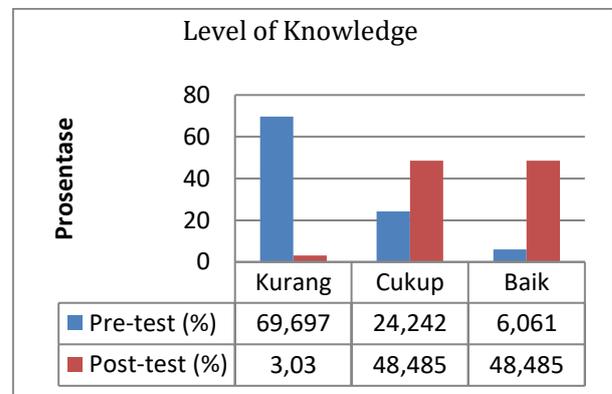


Figure 1. Pre and Post Test Results

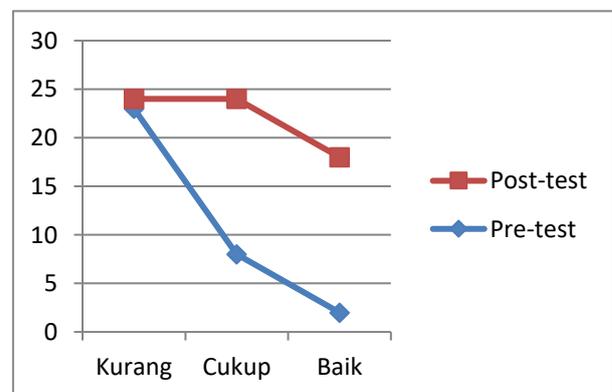


Figure 2. Level of Knowledge

and 16 people (48.48%) good knowledge (Figure 1). There was an increase in students' knowledge after receiving education and training on handling traffic accidents. This can be seen from the percentage change in knowledge before and after the activity (Figure 2).

#### 4. DISCUSSION

Safe community is a safe and healthy condition created by, by and for the community. The safe community was formed with the aim of being a place to provide public health counseling and counseling, to conduct cadre development / community empowerment, to provide basic health services for early detection and first handling of emergency cases. Counseling and training related to safe communities aims to encourage community independence for healthy living, increase individual, family and community empowerment in health efforts, increase the reach and quality of basic health services, first aid in handling emergency cases and other health services in accordance with authority (Dinkes, 2017).

Traffic accidents in Lamongan district are one of the problems that must be handled immediately. Handling can be given in the form of promotive, preventive, curative or rehabilitative. The main handling that must be done is through promotive efforts with the aim of reducing the number of traffic accidents and reducing the number of deaths or disabilities caused by traffic accidents. The promotive action that can be taken as a handling effort is to provide education to the public about safety riding and first aid for accident victims.

Based on the results of community service activities, it was found that there was an increase in students' knowledge about safety riding and first aid in accidents. The results of the assessment before the activity, most of the students had less knowledge while after the community service activities in the form of counseling and training were carried out, some of the students had a sufficient and good level of knowledge. Education provided to the public

regarding safety riding can increase public knowledge and awareness about safe driving for both themselves and others. Training on first aid for accident victims is expected to increase the knowledge and skills of the community in providing first aid to accident victims. The community can identify accident victims who have health problems, provide appropriate first aid, properly transfer accident victims, contact community services that can help help victims such as the police, hospitals, and PMI. Through this effort, it is expected to create a safe environment and support the safe community program launched by the government.

Safety riding is a program to reduce the number of traffic accidents by providing an understanding to the public that traffic is an activity that involves many aspects so that it must pay attention to the safety and security factors of personal self and others. Safety riding is designed to increase rider awareness of all possibilities that occur while driving (Ariwibowo & Raditya, 2013). The priority targets of the safety riding program include equipping vehicles with mirrors, turn signal lights and brake lights (vehicle accessories), wearing a standard helmet and ensuring it clicks (safety equipment), turning on the lights during the day for two-wheeled vehicles, using the left lane for passenger cars. Public (MPU) and two-wheeled vehicles (Puspitasari, et al, 2013).

Education is given to high school students because they are a group of teenagers where teenagers are the largest age group in the Indonesian population structure. Adolescents are the focus of attention and strategic interventions for the development of future human resources as the nation's next generation. The characteristic of teenagers is to have a great curiosity so that the information given to teenagers can be absorbed effectively. In addition, teenagers have high access to information so that they can disseminate the information they have obtained to others.

In addition to education about safety riding, students are also given education and training on first

aid in accidents. Handling carried out by the community can include first aid to the accident victim, either helping to move the victim, applying splints if needed and providing basic life support if the victim is in cardiac arrest. This education covers basic life support, bandages and splints. Basic Life Support (BHD) is the initial response that we must do when we encounter an emergency condition. BHD aims to quickly maintain oxygen supply to the brain, heart and other vital organs while waiting for further treatment. In BHD, it is taught about how to identify victims and provide first aid to victims (Oman, et al., 2007). Bandaging and splinting is a method of first aid for injuries or trauma to the musculoskeletal system that must be known by doctors, nurses, or people who will provide first aid at the scene of an accident. Splinting aims to prevent movement (immobilization) of fractured bone fragments or dislocated joints, minimize/prevent damage to the soft tissue surrounding the fractured bone (reduce/prevent injury to blood vessels, peripheral nervous tissue and the fractured tissue) and reduce bleeding, and swelling that arises (Musliha, 2010).

## 5. CONCLUSION

Community service activities that have been carried out by the Faculty of Nursing, Universitas Airlangga in collaboration with SMAN 2 Lamongan have produced several results and outcomes, namely (1) health education about safety riding and driving, ambulation splints and basic life support has been carried out using the online method through zoom meetings, and offline for training activities in an effort to improve first aid skills in accidents and (2) increasing knowledge and skills of students (PMR members) SMAN 2 Lamongan about first aid in accidents

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