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## FIRST AID TRAINING IN ACCIDENT FOR SENIOR HIGH SCHOOL STUDENTS: EFFORTS TO IMPROVE STUDENT'S KNOWLEDGE AND SKILLS

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### ABSTRACT

**Introduction:** Lamongan is one of the areas on the north coast with very high traffic accident rate. First aid for accident victims is an important part of the management of accident victims. Students who are in the adolescent age group can become first responders for accident victims. The purpose of this community service activity is to increase students' knowledge and skills in providing first aid to accident victims.

**Methods:** First aid training activities for accidents use lecture, discussion, demonstration and role play methods. The training participants were 50 students of SMKN 1 Lamongan. The material presented in the training includes basic life support, dressings and splints as well as evacuation and transportation. Training using audio visual media and teaching aids. Evaluation of the training using the questionnaires given at the beginning and at the end of the training.

**Results:** The results of the pre test showed that 28 students (56%) had low knowledge, while 22 students (44%) had moderate knowledge. The results of the post test after being given education and training to students were as many as 20 students (40%) had moderate knowledge and 30 students (60%) had high knowledge.

**Conclusion:** First aid training for accident victims for SMKN 1 Lamongan students can increase students' knowledge and skills in performing first aid to accident victims. Students are expected to act as first responders for traffic accident victims.

### KEYWORDS

first aid; traffic accidents; senior high school students

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## 1. INTRODUCTION

A traffic accident is an unexpected and unintentional event on the road involving a vehicle with or without other road users resulting in human casualties and/or loss of property (Law Number 22 of 2009 concerning Road Traffic and Transportation). Accidents are the highest cause of death and disability worldwide (Mathers & Loncar, 2006). Most of the accident victims who were taken to the emergency room had

head and extremity injuries. Victims of traffic accidents need to get fast and appropriate first aid so as to reduce the risk of disability and death (Krug, 2012).

In 2013, based on WHO data in the Global Status Report on Road Safety, there were 1.24 million deaths and 20-50 million people were seriously injured as a result of traffic accidents. Every year more than 50 million people are injured or disabled and 1.35

million people die as a result of road traffic accidents (Chowdhury & Chakraborty, 2017). 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 death toll from 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 163 deaths (Central Bureau of Statistics, 2016). 70% of traffic accidents occur on motorbikes. Adolescents (15-25 years) are the age group that has the most traffic accidents (Asdar, Rismayanti & Sidik, 2013).

Lamongan is one of the cities in East Java which is located on the North Coast route (Pantura). Pantura line is a line that connects Jakarta - Surabaya. The Pantura line is called national road 1 which is crossed by the Surabaya - Cepu - Semarang route. The position of Lamongan which is along the northern coast route causes the traffic movement in Lamongan to be very congested. This also has an impact on the high number of traffic accidents that occur in Lamongan. Based on data from the Medical Records of Muhammadiyah Lamongan 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 traffic accident victims in Lamongan are students.

According to the Director General of Land Transportation Pudji Hartanto, there are various factors that can trigger traffic accidents, namely humans (riders), vehicles, roads and the environment. Traffic accidents can be caused by various factors, one of which is from the driver's element, namely the driver's non-compliance with traffic rules and safe driving. Driver factors contribute to causing accidents as much as 61%, namely due to the ability and character of the driver in driving. The condition of vehicles that do not meet the road-worthiness requirements causes as many as 9% of accidents. Meanwhile, 30% of traffic accidents are

caused by road conditions and the environment (Ministry of Health of the Republic of Indonesia, 2017). Accident victims need fast and appropriate assistance to increase life expectancy, reduce disability and the risk of death.

Proper initial treatment is one way to help traffic accident victims. The purpose of first aid is to save the victim's life, prevent permanent disability and provide a sense of security and comfort to the victim. Initial treatment is carried out by carrying out basic life support, including one of which is moving the victim to a safe place in the right way. The training was given to students of SMKN 1 Lamongan. High school students are a group of teenagers. Teenagers are the largest age group in the Indonesian population structure. Adolescents are the focus of attention and strategic intervention for the development of future human resources as the nation's next generation. The characteristic of adolescents is to have great curiosity so that the information given to adolescents can be absorbed effectively. In addition, adolescents have high access to information so that they can disseminate the information they have obtained to others.

The first aid that is usually carried out by the community is not appropriated 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 a life-threatening problem, does not know how to identify the victim's problem and provide treatment according to the problem experienced by the victim. Environmental conditions like this will put the victim at greater risk of not being given fast and appropriate first aid. First aid given by someone who has not been trained has the risk of aggravating the victim's condition and has the potential to cause injury to other limbs (Chowdhury & Chakraborty, 2017). Victims of traffic accidents require appropriate and fast initial treatment. Proper

handling can save lives and prevent disability in victims. Based on the results of a preliminary study regarding students' knowledge regarding first aid to accident victims, it was found that 56% had low knowledge and 44% moderate knowledge. So, it can be concluded that most of the students' knowledge about first aid for accident victims is still low.

Training on first aid for accident victims is one way to increase student knowledge in providing first aid for accident victims. Through this training, students are expected to be able to provide proper first aid. The objectives of first aid training for accident victims are increasing student awareness regarding the importance of skills in providing first aid properly and correctly, increasing students' knowledge about first aid in accidents and improving student skills in providing first aid to accident victims.

## 2. MATERIAL AND METHODS

Community service activities carried out are by providing training on first aid in accidents for high school students. Community service was carried out for 50 students of SMKN 1 Lamongan. The activity was carried out in November 2022. This activity was carried out by Lecturers from the Faculty of Nursing, Vocational Faculty of Airlangga University, Stikes Hamzar Memben East Lombok, and Stikes Banyuwangi.

In the activity preparation stage, it begins with obtaining activity permits from the Head of SMKN 1 Lamongan. The team leader coordinated with the Deputy School Principal of Field III and the Sports Teacher to convey the aims and objectives of the activity. Coordination related to training participants, time and place of implementation as well as explanation of the concept of training given to students. Activities carried out through counseling and training. Evaluation of the implementation of activities is carried out through a pre-post test using a questionnaire.

Community service activities are carried out through two stages, namely the first stage of health education using the lecture method and the second stage, namely training. Lectures are intended to provide basic information regarding training materials. The topics presented in this community service are basic life support, evacuation of accident victims and dressings. The resource persons in this activity were Arina Qona'ah, S.Kep., Ns., M.Kep. from the Faculty of Nursing, Airlangga University. After the material was delivered to the participants, they then gave the first aid module in an accident and divided the participants into three big groups. Participants are given training on each skill (Cardio Pulmonary Resuscitation, Victim Evacuation and Splint Dressing). Participants move from one skill to the next. At each station the participants will be given training and asked to demonstrate independently. The final stage is evaluating the participants' cognitive abilities, namely through a post-test through a questionnaire. Presentation of data in tabular form containing frequency and percentage.

## 3. RESULTS

This community service activity began with an opening which was attended by the community service team, PMR coaches, and Public Relations of SMKN 1 Lamongan. The opening ceremony was filled with remarks by the head of public relations at SMKN 1 Lamongan and the chief executor of community service. This community service activity was attended by 50 students of SMKN 1 Lamongan. The next event was health education about basic life support, evacuation of accident victims and bandaging and splinting by the speakers followed by a question-and-answer session. The participants were very enthusiastic and actively asked the speakers (Figure 1).

The second stage is training by giving demonstrations to participants on how to provide first aid to accident victims in a professional manner. The training participants were divided into three



Figure 1. Opening and Presentation of Material by Resource Persons



Figure 2. First Aid Training Demonstration

Table 1. Overview of first aid knowledge in accidents at SMKN1 Lamongan students before and after training

Knowledge	Pre Test		Posttest	
	n	%	n	%
Low	28	56	-	-
Moderate	22	44	20	40
Hight	-	-	30	60
Total	50	100	50	100

groups, namely the basic life support demonstration group; evacuation and transportation as well as dressings and splints. The demonstration was held for 20 minutes for each group. After the time is up, the group will move from one skill to the next skill.

The last activity in first aid training is evaluating the success of the materials and skills that have been demonstrated. Several training participants were asked to demonstrate how to perform first aid independently and evaluate the action. The community service team also conducted pre-test and post-test evaluations. Pre-test activities to explore participants' initial abilities in understanding the topics presented, and the last stage is evaluating participants' cognitive abilities.

Community service carried out for SMKN 1 Lamongan students can increase students'

knowledge regarding first aid for victims of accident accidents. The results of the pre test showed that 28 students (56%) had low knowledge, while 22 students (44%) had moderate knowledge. The results of the post test after being given education and training to students were as many as 20 students (40%) had moderate knowledge and 30 students (60%) had high knowledge. The average value of the pre test is 50 while the post test is 84.

#### 4. DISCUSSION

A traffic accident is an unexpected event, it is difficult to predict when and where it will occur on the highway involving motorized vehicles and other road users. Accidents result in damage and human casualties (minor injuries, serious injuries and death) (Kurg, 2012). The main causes of traffic accident

victims are airway obstruction and uncontrolled bleeding. This condition causes traffic accident victims to need first aid. First aid is often done by ordinary people because help from health services cannot come directly to the scene of the incident. So that the first aid given by a bystander (the person who first saw the victim) can save the victim's life (Arbon et al., 2011).

First aid is the first aid given to sick/injured/accident sufferers who need basic medical treatment. First aid aims to save the victim's life, prevent disability, reduce the risk of death and provide comfort and support the healing process. Everyone is obliged to provide first aid to others (KUHP Article 531). One of the obligations of a helper is to identify and deal with life-threatening problems and provide assistance quickly and appropriately based on the victim's condition. First aid is a factor that reduces health problems and fatalities in traffic accidents (Kureckova et al., 2017).

First aid training for accident victims is intended to increase community knowledge and skills regarding early intervention which is very important for trauma victims on the road to prevent further injury or death (Arbon et al., 2011). First aid training has been shown to increase students' knowledge of first aid (Israeli et al., 2020). In addition, first aid training can also increase the motivation and desire of the community to provide assistance to accident victims. Some basic skills that must be owned by the community in providing first aid to traffic accident victims include basic life support, splinting, and victim transportation (Wahyuningsih et al., 2022).

From the results of the community service carried out by the team, it can be seen that most of the trainees have a high level of knowledge (60%) after being given first aid training to accident victims. Adequate knowledge can influence a person's attitude in providing first aid to traffic accident victims. Someone who is knowledgeable and has high skills tends to have high motivation to provide

assistance to accident victims (Wahyuningsih et al., 2022).

## 5. CONCLUSION

An accident is an unpredictable and planned event that can cause injury and potentially death. First aid training can increase students' knowledge and skills regarding first aid to accident victims. High school students are expected to increase their motivation and involvement in providing first aid to accident victims.

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