

The Influence of Health Education on Knowledge and Skills of PMR Members About First Aid in Syncope and Minor Injury in SMAN 9 of Bengkulu City

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Article Information:

Received June 9, 2023

Revised June 22, 2023

Accepted June 22, 2023

Keywords:

First Aid; Minor Wounds;

Syncope

Abstract

The incidence of syncope in the world is estimated at around 12 million cases each year and the incidence of injuries according to research conducted in America is 20.4 cases. First aid is needed to deal with these cases of syncope and minor injuries. The purpose of this study was to determine the level of knowledge and skills of adolescent red cross members before and after health education and the effect of health education on the knowledge and skills of adolescent red cross members regarding first aid for syncope and minor injuries. This study uses a type of quantitative research with a quasi-experimental method with one group pre and post-test. The sample in this study were 25 people with a total sampling technique. Data collection using questionnaires and observation sheets. The results of the study before being given health education showed knowledge about syncope in the sufficient category and skills in the less category while for minor injuries the level of knowledge was in the good category and skills in the less category. The results of the study after being given health education the level of knowledge and skills of syncope and minor injuries was in the good category. The conclusion of this study is the results of the Wilcoxon test, knowledge and skills pre and post syncope tests show that the $p\text{-value} \leq \alpha$, which means there is a significant difference, meaning that there is an influence of health education in providing attention assistance to syncope. However, the variable knowledge of pre and post minor injuries shows that the $p\text{-value} > \alpha$, which means there is no significant difference, while the skills show that the $p\text{-value} < \alpha$ which means that there is an influence of health education on the first comfort skills of minor injuries in Bengkulu City 9 Public High School.

A. Introduction

The problem of syncope and minor injuries at school can occur due to several factors. Cases of syncope and minor injuries can pose a health threat. The need for good knowledge of members of the Indonesian Red Cross (PMR) in first aid at school. PMR is an activity that can help students at school so that good knowledge and the right skills can save one's health (Febrina et al., 2017; Ibrahim & Adam, 2021; Listiana & Silviani, 2020).

Knowledge and skills regarding emergency first aid (PPGD) for victims are needed so that they can provide proper and appropriate assistance (Abdurrahman et al., 2022; Hidayat et al., 2020; Kushayati & Kiswatik, 2022; Marsaid, 2020). The goal is to prevent death and disability in emergency patients, so they can live and function again in society, refer emergency patients through the referral system to obtain more adequate

How to Cite : Dianti, F. E., & Susilawati, D. (2023). The Influence of Health Education on Knowledge and Skills of PMR Members About First Aid in Syncope and Minor Injury in SMAN 9 of Bengkulu City. Jurnal Ilmiah Pengabdian Masyarakat Bidang Kesehatan (Abdigermas), 1(2), 90–96.
<https://doi.org/10.58723/abdigermas.v1i2.35>

ISSN : 2986-2698

Published By : CV Media Inti Teknologi

treatment and victims of assisting disaster management must know the cause of death in order to prevent death.

Efforts made by teachers are coaching school students which involve PMR by collaborating with Bengkulu University to conduct education or health education through training and lectures. This community service was held on April 1, 2023 at SMA N 9 Bengkulu City. This service was attended by 25 PMR members. method simulation and evaluation is carried out by observing the actions taken again. The results of the overall evaluation of each student are able to understand and perform first aid properly in each case and can be used as a basis for those in charge of extracurricular activities to integrate first aid materials as part of the learning curriculum.

Based on these problems, we as Bengkulu University Nursing lecturers are interested in carrying out Community Service activities with the title: The Effect of Health Education on the Knowledge and Skills of PMR Members regarding First Aid for Syncope and Minor Injuries at SMA Negeri 9 Bengkulu City

Problems in the human aspect: lack of knowledge and skills of students. Facilities: there is no preparedness post for PMR members in the presence of health facility equipment such as first aid, splints.

Based on these problems, the formulation of the problem is "There is still a lack of knowledge and skills of PMR members regarding First Aid for Syncope and Minor Injuries at SMA Negeri 9 Bengkulu City".

The general objective is to determine the effect of health education on PMR knowledge and skills in providing first aid for syncope and minor injuries to students at SMA Negeri 9 Bengkulu City. Improving first aid knowledge and skills of students at SMAN 9 Bengkulu City and as a place to allow students to gather, discuss, help each other, and motivate in emergency response.

B. Research Methods

The method used is to educate and train 25 students of SMAN 9 Bengkulu City to take the pre-test. Furthermore, the community service team conducted counseling on first aid in cases of syncope and minor injuries and demonstrated first aid skills. The target audience in this service activity are students from PMR members of SMAN 9 Bengkulu city. In addition, volunteers among the younger generation have good basic knowledge of computer technology so that the training objectives are expected to be optimally achieved. The service will be held on April 1, 2023. The number of participants is 25 people. The stages are as follows:

1. Preparation Phase

Implementation of an approach to the school's application for licensing community service activities from the Chairperson of the LPPM and the Head of Community Service at the University of Bengkulu. Preparation in providing material using PPT media and demonstrations.

2. Implementation Stage

- a) Conduct meetings for education and demonstrations
- b) Conduct a pre-test of participants' knowledge and skills level for 30 minutes at 08.30 – 09.00 WIB
- c) Provide material at 09.00 – 12.00 WIB

The lecture method is used to convey the concept of responsiveness

First aid for syncope and minor injuries. If the training participants are not clear about the material presented by the resource persons, they can ask questions directly or do not have to wait for the question and answer session. The use of the lecture method is combined with the use of laptops and LCDs to display PowerPoint material supplemented with pictures. The Demonstration Method is used to demonstrate a work process so as to provide convenience for trainees. The demonstration was carried out by resource persons, with the hope that the training participants would be able to carry out emergency response assistance based on the condition of the victim at the scene. The practice method is carried out after delivering material through lectures and giving examples through demonstrations. This method is used so that participants can practice all the procedures that have been presented and exemplified. By practicing, it is hoped that the participants will be able to see immediately the improvement in their skills in relation to emergency actions. At the same time this practical activity can be roughly measured the level of success of the training that has been carried out. Through this method the instructor can also find difficulties that the participants have not been able to overcome, and jointly try to solve the problem. Providing simulations or demonstrations about handling

emergencies as an application of knowledge that has been obtained and as exercises carried out so that volunteers respond directly to emergency situations in the Bengkulu coastal tourism area.

3. *Evaluation Stage*

The initial evaluation was carried out by giving a pre-test to participants which contained questions related to the counseling material to be provided. The result of this evaluation is in the form of a score for each respondent, which is the result of dividing the correct answers by the total number of questions multiplied by 100. Process evaluation is carried out by looking at the responses of respondents through the questions asked or the feedback given in the discussion. The final evaluation is carried out by giving the participants a post-test, which contains the same questions that were given in the pre-test. The post test score is compared with the pre-test score. If the post-test score is higher than the pre-test score, then the extension activities provided have succeeded in increasing the participants' knowledge. This evaluation is carried out at the time of counseling.

C. **Result and Discussion**

The implementation was carried out in three meetings, namely April 1, 2023 offline. The target was PMR members of SMAN 9 Bengkulu City totaling 10 people. This activity is carried out by providing training on basic first aid in cases of syncope and minor injuries.



Figure 1. Discussion and Demonstration of First Aid for Syncope Cases



Figure 2. First Aid Simulation

The enthusiasm of the participants in carrying out first aid simulations in cases of syncope and minor injuries. The simulation was carried out from 08.00 to 16.00 WIB at SMA 9 Bengkulu City. This activity partnered with the PMR group of SMAN 9 Bengkulu City, totaling 25 people. The material provided becomes an insight for the participants in the simulation regarding basic life support as the basis for immediate assistance.

Table 1. Frequency distribution of respondents' knowledge before and after being given health education about syncope

Treatment	Value	<i>F</i>	%
Pre-Test	Good	6	24
	Enough	16	64
	deficient	3	12
	Total	25	100
Post-Test	Good	19	76
	Enough	6	24
	deficient	0	0
	Total	25	100

Based on the table above, it can be seen that the majority of respondents with pre-test results were in the good knowledge category, namely 6 people (24%), in the sufficient knowledge category, there were 16 people (64%), and in the less category, namely 3 people (12%). The results of the post test showed that most of the respondents were in the good knowledge category, namely 19 people (76%), and the rest were in the sufficient knowledge category, namely 6 people (24%).

Table 2. Frequency Distribution of Respondents' Skills Before and After Being Given Health Education About Syncope

Treatment	Value	<i>F</i>	%
Pre-Test	Good	1	4
	Enough	3	12
	Deficient	21	84
	Total	25	100
Post-Test	Good	18	72
	Enough	7	28
	Deficient	0	0
	Total	25	100

Based on the table above, it was found that the majority of respondents with pre-test results were in the good skills category, namely 1 person (4%), in the sufficient skills category, namely 3 people (12%), and in the less skills category, namely 21 people (84 %). The results of the post test showed that most of the respondents were in the good skills category, namely 18 people (72%), and the rest were in the sufficient skills category, namely 7 people (28%).

Table 3. Frequency distribution of respondents' knowledge before and after being given health education about minor injuries

Treatment	Value	<i>F</i>	%
Pre-Test	Good	20	80
	Enough	5	20
	Deficient	0	0
	Total	25	100
Post-Test	Good	25	100
	Enough	0	0
	Deficient	0	0
	Total	25	100

Based on the table above, it can be seen that the majority of respondents with pre-test results were in the good knowledge category, namely 20 people (80%), and the rest with sufficient knowledge category, namely 5 people (20%). The results of the post test showed that most of the respondents were in the good knowledge category, namely 22 people (88%), and the rest were in the sufficient knowledge category, namely 3 people (12%).

Table 4. Frequency Distribution of Respondents' Skills Before and After Being Given Health Education About Minor Injuries

Treatment	Value	F	%
Pre-Test	Good	5	20
	Enough	9	36
	Deficient	11	44
	Total	25	100
Post-Test	Good	25	100
	Enough	0	0
	Deficient	0	0
	Total	25	100

Based on the table above, it was found that the majority of respondents with pre-test results were in the good skills category, namely 5 people (20%), in the sufficient skills category, namely 9 people (36%), and in the less category, namely 11 people (44%). The results of the post test showed that most of the respondents were in the good skill category, namely 25 people (100%).

One of the factors that influence knowledge is age where in this study the average age of respondents was 14-17 years so that their age was classified as an age that easily remembered and understood an object, this was in line with research (Roy Wilson, 2019) which stated that the average - an average age of 14-18 years is an age that is still easy to remember or understand. According to WHO, the age of 14-17 years is classified as middle adolescence, where at the stage of thinking skills, physical growth is experiencing growth and development. The older a person eats, the more they will understand new things that are happening and will affect their mindset.

Based on research conducted by researchers, it was found that most PMR members came from science majors, this is in line with research conducted by (Mentari, et al 2018) explaining that PMR members from science majors received a lot of biology learning material compared to social studies majors, because through PMR extracurricular activities, many of the materials obtained are related to biology subjects such as the structure of the human body so that it becomes one of the factors to increase mastery of the material. Therefore, PMR is more interested in students majoring in science.

Knowledge is the result of knowing after someone senses an object, most of human knowledge is obtained through the eyes and ears (Hendrawan et al., 2019; Indramukti, 2013; Sulistiyanti & Andarwati, 2013). Knowledge is influenced by several factors, namely age, education, experience, and information. Knowledge is said to be good in the category of understanding, because understanding is defined as the ability to correctly explain a material or object that is already known. Good knowledge greatly influences fast and precise handling. Good knowledge can be obtained from books as well as from the internet. While respondents with sufficient knowledge category because respondents did not understand about syncope and the impact of syncope incidents.

Skills are skills to be able to do a job. Skills are influenced by several factors, namely motivation, experience, and expertise. Knowledge and skills during training are very important, therefore the importance of motivation that comes from within to provide encouragement to take the desired action. Skills in providing correct and fast first aid can save lives and prevent worsening conditions (Hanifa, 2022; Prasetyo et al., 2021; Triwidiyantari & Sari, 2021; Welembuntu et al., 2022). From the results of the research, it was found that many PMR members had the ability to perform unfavorable actions in first aid for syncope and minor injuries. The act of helping is an attitude that needs to be developed because it greatly influences the way in providing first aid.

When conducting research on PMR members at SMA Negeri 9 Bengkulu City, totaling 25 people before the intervention was carried out, it was found that the characteristics of the respondents had sufficient knowledge (64%) on syncope and lacking skills (84%) on first aid for syncope. In theory, knowledge is the result of knowing what happens after sensing an object. Based on the results of the research conducted by the researchers, it was shown that the level of knowledge about syncope was in the sufficient category because some students already knew the meaning, signs and symptoms, and the causal factors of syncope, but the skills were in the less category. On the observation sheet for syncope, the average respondent only performed two of the seven actions listed on the observation sheet, such as paying attention to the victim's breathing and pulse and loosening tight clothing.

In the study of minor injuries, the results showed that the majority of respondents had good knowledge of minor injuries (80%) and lack of skills (44%) in action. The researcher revealed that most of the respondents had good knowledge about minor injuries and only a few respondents had sufficient knowledge, some respondents who were in the moderate category argued in question numbers 4 and 5 that wounds could be covered using tissue or cotton and the wound would heal without needing treatment. The wound should not be covered with cotton or tissue because cotton or tissue has fine powders that can stick to the wound which will later slow down the wound healing process and wounds that are not treated will cause infection, therefore the goal of wound care is to prevent the wound from becoming worse. The skills regarding wound care actions are in the sufficient category because PMR members lack experience in carrying out actions in wound care.

The level of knowledge and skills of PMR members after the health education intervention was carried out after the intervention was given health education about first aid for syncope and minor injuries, the result was that knowledge and skills increased. Respondents had good knowledge (76%) on syncope and good skills (72%) on first aid for syncope and minor injuries. Respondents' knowledge and skills about injuries and procedures were in the good category (100%).

The results of this study are also in line with research (Ramadhanti, 2017) which states that there are differences in knowledge and skills after being given health education using a simulation method of first aid for syncope. Student knowledge of first aid for injuries after being given basic training according to research (Rohyat et al, 2022) shows students' knowledge and skills are in the good category. The results of this study are in line with research [Kundre & Mulyadi \(2018\)](#) regarding the effect of health education and simulation on first aid knowledge and skills in students who experience syncope at SMA 7 Manado. The results of this study indicate that there is an effect of health education and simulation on knowledge and skills. From the results of the research, the researcher states that education greatly influences the formation of good student knowledge and skills. The results of this study are also in line with research [Febrina et al \(2017\)](#) which states that someone who has knowledge has better abilities compared to someone who only provides first aid without any knowledge, but this research also says that if knowledge is practiced in the field, then the first aid given will be better, compared to someone who only has knowledge without training in the field.

The level of knowledge and skills is influenced by age, sources of information and students' experience of first aid. Knowledge is influenced by education and experience is a way of repeating the knowledge gained. Thus, first aid health education is very well done in the school environment. Health education regarding first aid for syncope and minor injuries at SMA Negeri 9 Bengkulu City was found to be able to increase knowledge and skills in performing first aid. The results obtained show that there is an influence of health education in providing first aid for syncope and minor injuries in the school environment.

D. Conclusion

The results of the activities provided are very useful so that students can increase their knowledge and skills about first aid for syncope and minor injuries. Continuous programs must still be carried out for guidance in schools in Bengkulu City.

E. Acknowledgement

The plan for the next stage is still to coordinate in monitoring the development of first aid emergency alert schools and there is an ongoing program in an MoU between LPPM University of Bengkulu and PMR members of SMAN 9 Bengkulu City.

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Abdigermas: Jurnal Ilmiah Pengabdian Kepada Masyarakat Bidang Kesehatan

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