



The Effect of Educational Videos on Knowledge and Attitudes about Cardio Pulmonary Resuscitation as an Aid for Drowning Victims in Fishermen of Muara Angke

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Abstract

Drowning is a life-threatening emergency due to shortness of breath caused by lungs submerged in fluid. Fishermen are one group of people who must understand first aid treatment for drowning victims. Knowledge of first aid for drowning victims is important because drowning victims require immediate treatment or assistance. The knowledge that can be provided to fishermen is educational videos. This study aimed to explain the effect of educational videos on knowledge and attitudes about CPR as a first aid for drowning victims among fishermen in Muara Angke. In this study, we employed a quasi-experimental design with a one-group pre-post test approach. This study used a sample of 16 respondents. The independent variable of this study is the CPR educational video, and the dependent variable is Knowledge and Attitude in helping drowning victims. The results of the t-test analysis obtained differences in knowledge before and after being given an educational video about CPR, the p value was 0.000 (p value <0.05), while the difference in attitude before and after being given an educational video about CPR, the p value was 0.001 (p value <0.05). This indicates that there is a significant difference between knowledge and attitude in carrying out CPR in respondents before and after being given an educational video about CPR as Basic Life Support for drowning victims. Audiovisual media such as educational videos can be an effective learning method in increasing individual understanding and awareness of first aid measures, especially cardiopulmonary resuscitation.

INTRODUCTION

Drowning is an emergency that can endanger and threaten the lives of its victims due to asphyxiation caused by the submersion of the lungs in liquid, especially water. As a result of filling the lungs with water, it causes damage to the primary airway. Approximately 90% of drowning victims experience pulmonary aspiration, and pulmonary aspiration also occurs in approximately 80-90% of near-drowning victims (Suryono & Nugroho, 2020).

People living in coastal areas are at high risk of drowning accidents. To overcome this, it is necessary to increase public knowledge about first aid for drowning victims through accurate information from health workers or other trusted sources (Hady et al., 2020). The increase in cases of cardiac arrest due to drowning requires special education for the public so that they can provide first aid in the form of Cardiopulmonary Resuscitation (CPR) when the incident occurs (Sandra & Yuliatun, 2023). Cardiopulmonary Resuscitation (CPR) is a modality to improve prognosis by increasing perfusion to vital organs and stabilizing the patient's condition with the goal of restoring cardiac function. (Abrams et al., 2022).

Based on data from the World Health Organization (WHO) in 2019, around 236,000 people die each year from drowning. Drowning is the third leading cause of unintentional death in the world and is a global public health issue. In Indonesia, the death rate from drowning reaches 3.3 per 100,000 population, or almost 9,000 cases (WHO, 2019 in (Aurelia et al., 2023)). Around 90% of drowning cases in Indonesia do not receive immediate assistance. This condition is influenced by the low level of public knowledge about first aid

and minimal education about the importance of quick action for drowning victims (Hady et al., 2020).

One of the causes of the high number of drowning deaths is the rescue system, inappropriate skills and knowledge of victim handling, and inappropriate first aid principles. Victim handling skills determine the success of the rescue. Many drowning victims die or are disabled as a result of initial aid errors. This is due to a lack of public knowledge about emergencies, especially drowning (Wirmando et al., 2023). Good and correct rescue techniques not only make it easier for the rescuer to perform the rescue, but can also ensure the safety of the rescuer. The importance of educating riverine communities about first aid management of drowning victims is a solution to reduce the number of drowning deaths due to delayed treatment. (Nizar et al., 2023).

Fishermen are a group of people who should understand first aid management of drowning victims. Knowledge of first aid for drowning victims is important because drowning victims need immediate response or treatment by not forgetting the safety factor of themselves in the helper (Nizar et al., 2023).

Knowledge that can be given to fishermen is educational videos. Educational videos are learning tools in the form of videos that present lesson materials in an interesting, interactive, and educational way (Ahmad & Maulana, 2019). The problems in providing educational videos are that learning is less effective if the community forgets some parts of the video that has been played, the community must have internet access to be able to download videos provided by researchers, and there may be misunderstanding of the community in understanding the material if the recording is wrong and requires support media such as projectors to display on a large scale which uses expensive costs. (Hakim et al., 2021)(Parlindungan et al., 2020).

Muara Angke is a fishing boat or fishing port in Jakarta. Characterized by the operation of supporting fishermen's needs such as fish auctions (structure and facilities) in addition to the prevalence of a city managed by a syahbandar. Administratively, Muara Angke is located in Pluit Village, Penjaringan District, North Jakarta Municipality. The site is adjacent to Muara Karang. Although known to many Jakartans as a fishing village, fish auction and port, and a place to eat grilled fish, Muara Angke has other potentials. This research was conducted in Muara Angke because this area has a high density of water activities, including fishing transportation and settlements on the waterfront. Based on the report of the DKI Jakarta BPBD (2023), this area is recorded as one of the locations with the highest drowning incidents on the coast of Jakarta. In addition, the geographical conditions that are prone to tidal flooding and sea tides increase the risk of water accidents, making Muara Angke a strategic location for research on drowning prevention.

Based on the results of Rahmawati's research, (2020) it was concluded that there was a significant influence between audiovisual based training on BLS knowledge of nursing students with the mean knowledge of research subjects or respondents before receiving training was 50.47 with a standard deviation of 11.468. After receiving training on basic life support, the average ability of respondents is 74.53 with a standard deviation of 13.444 (Rahmawati & Ningsih, 2020). Then the results of research by Imran & Harahap (2023) concluded that providing training with the community CPR method can increase knowledge in providing first aid for drowning victims. The knowledge skills of the community in providing and affect the willingness of the community to provide emergency assistance for drowning victims. (Imran & Harahap, 2023).

Therefore, researchers want to provide basic community knowledge through educational videos on how to provide proper and quick first aid to help drowning victims. With the aim of analyzing the differences in pre and post knowledge given educational videos on CPR in fishermen in Muara Angke and analyzing the differences in pre and post-

attitudes given educational videos on CPR in fishermen in Muara Angke. In accordance with the background, that this study aimed to explain the effect of educational videos on knowledge and attitudes about CPR as BLS for helping drowning victims in fishermen in Muara Angke.

RESEARCH METHODS

The type of research to be carried out is an analytical research with a quasiexperimental research design with a one group pre post test design approach, first the research sample will be given a pre test before treatment, then after treatment the sample will be given a post test (Nursalam, 2013:165 in (Mardika, 2019). The design in this study will be carried out by first assessing the knowledge and attitudes of the subject group, after which treatment will be given in the form of Cardiopulmonary Resuscitation (CPR) educational videos on helping drowning victims, reassessment will be carried out at the end of the study. This study examines the effect of educational videos on knowledge and attitudes about CPR as BLS for helping drowning victims among fishermen in Muara Angke.

The population in this study were all fishermen who were actively fishing, a total of 47 respondents. This study used a sample of fishermen with a sample size formula (Daniel WW, 1999). The sampling technique used in this study was random sampling technique. random sampling was carried out on fishermen with an age range of 15-64 years, male gender. Of the 47 population will be identified according to the inclusion criteria where fishermen who have a productive age range according to WHO, namely 15-64 years, are male and willing to be respondents, then obtained 16 respondents. The research implementation activities were carried out on November 02, 2024 at Jl Dermaga Kaliadem, Muara Angke Blok Empang Rt 005/022, Kec. Penjarangan, Kel, Pluit for 380 minutes. This research instrument uses a questionnaire used to measure the knowledge and attitudes of respondents in performing Cardiopulmonary Resuscitation (CPR). The questions tested with product moment person from 15 questions about basic life support knowledge and declared valid with $r \text{ table} = 0.308$. The results of the reliability test on the questionnaire obtained a Cronbach's alpha value of 0.902, which means that the questionnaire is suitable for use. Data collection techniques in this study after the researcher gave consent in research participation, the researcher conducted a pre-test of respondents' knowledge and attitudes about CPR, after which the researcher provided video education about CPR, then the researcher conducted a post-test on knowledge and attitudes about CPR after providing an educational video.

In this study, researchers will analyze the data, which consists of 2 types of analysis, namely univariate analysis and bivariate analysis. Before analyzing the data, the researchers will perform normality and homogeneity tests on the data. Overall knowledge of the Sig value > 0.05 , then it can be said that the entire data is normally distributed or which means H_0 is accepted. Then the overall attitude value is Sig > 0.05 . So that the entire data can be said to be normally distributed or which means H_0 is accepted. Thus for the next test to determine the effect of the two groups (pre-post test) using the parametric test, namely the t-test. This study was approved by the Health Research Ethics Committee of the Faculty of Health Sciences, Universitas Brawijaya (Protocol Number: 24F171100103M).

RESULTS

1. Data on characteristics of respondents

Table 1. Frequency distribution of respondents' characteristics based on age, gender, source of information and recent education (n=16).

	Respondents F	
	F	%
Gender Age		
20-29 Years Old	2	12.5%
30-39 Years Old	4	25.0%
40-49 Years Old	7	43.8%
50-59 Years	3	18.8%
By Gender		
Males	16	100.0%
Female	0	0.0%
Source of information		
Health worker	3	18.8%
Newspaper	0	0.0%
TELEVISION	4	25.0%
Internet	0	0.0%
None	9	56.3%
Last education		
Primary school	13	81.3%
Junior High School	1	6.3%
High School	0	0.0%
Not in school	2	12.5%

Table 1 above shows that the age of the most dominant respondents is 40-49 years old, a total of 7 people (43.8%). Based on gender, all males were 16 people (100.0%). Based on the source of information about CPR, the most dominant did not receive information, namely 9 people (56.3%). Then the most dominant last education is primary school as many as 13 people (81.3%).

2. Differences in knowledge before and after educational video on CPR

Table 2. Differences in knowledge before and after educational videos

	Mean (SD)	P- Value	Min	Max	95% CI of the Difference
Knowledge Pretest	6.12 (1.310)	0.000	4	8	-5.50 ((-6.348) - (-4.652))
Knowledge Posttest	11.63 (1.258)		9	14	

Based on Table 2, the p-value is 0.000 (p-value <0.05), which indicates that there is a significant difference between the knowledge of CPR instructional videos to the respondents before and after being given instructional videos on CPR as BLS help for drowning victims. There is an increase in the mean value of knowledge before and after educational videos.

3. Differences in Attitudes Before and After CPR Training Videos

Based on Table 3, the p-value is 0.001 (p-value <0.05), which indicates that there is a significant difference between the attitudes towards performing CPR on the respondents

before and after being given an educational video on CPR as BLS help for drowning victims. There is an increase in the mean value of attitudes before and after educational videos.

Table 3. Differences in attitudes before and after educational videos.

	Mean (SD)	P-Value	Min	Max	95% CI of the Difference
Attitudes Pretest	36.13 (6.956)	0.001	27	46	-6.12 ((-9.151) - (-3.099))
Attitudes Posttest	42.25 (5.422)		30	49	

DISCUSSION

1. Differences in knowledge before and after exposure to CPR instructional videos

The results of this study showed a difference in knowledge before and after in fishermen after being given an educational video about CPR with a p value of 0.000. The results of this study obtained an increase in knowledge in the form of changes in answer patterns after being given an educational video about CPR consisting of the definition, indications, objectives, CPR actions and implementation after performing CPR.

The results of this knowledge study were obtained through changes in the pattern of responses after being given an educational video on CPR as BLS help for drowning victims consisting of definitions, indications, objectives, CPR actions, and implementation after performing CPR. The results of research by Irianto et al, (2020) concluded that people understand quickly just by watching videos without having to explain again what they just watched, respondents have very poor knowledge so that more explanation is needed after watching the video so that respondents understand more about BLS (basic life support), most respondents already understand how to do basic life support properly and correctly just by watching videos. (Irianto et al., 2020).

The results of other studies Fathoni et al, (2022) show that the use of educational video media has an effect in increasing the knowledge of the respondents, researchers assume this is because audiovisual media consists of audio elements (sounds) that can be heard and visual elements (images) that can be seen in the form of videos, so they are considered more interesting and easy to understand. (Fathoni et al., 2022).

Several factors that influence the level of knowledge of respondents include age, education level, experience, social conditions, environment, and sources of information received. In this study, the most dominant age group of respondents was in the range of 40-49 years, which was 7 people (43.8%). In accordance with existing theory, age also influences a person's attitude and ability to absorb information, where the older the age, the better the knowledge they have. (Ramadhanti et al., 2019).

In this study, the respondents are fishermen who work in the port of Muara Angke, so in terms of educational factors also affect the knowledge of the respondents. In this study, the most dominant education of respondents was primary school, 13 people (81.3%). As explained in (Budiman dan Riyanto, 2013 in Retnaningsih, 2016) knowledge has a close relationship with education where a person has extensive knowledge if he is highly educated.

The environment also affects the knowledge of the respondents, as explained in the theory that the environment affects the application of knowledge to someone in that environment. This is because there is a process of mutual interaction that a person receives, then responds as knowledge. (Budiman dan Riyanto, 2013 in (Retnaningsih, 2016)). Where

the respondent is a fisherman and mingles with the community who certainly exchange ideas with each other to gain knowledge.

According to Yuliana (2017) information obtained either through education or outside of education can provide short-term knowledge, so that it will lead to a change and increase in knowledge. Today's advanced technology provides a variety of mass media, which can influence public knowledge about updated information. The most dominant source of information obtained by respondents in this study was not getting information as many as 9 people (56.3%).

2. Differences in attitudes before and after educational video on CPR

The results of this study showed a difference in attitudes before and after the CPR educational video in fishermen after being given an educational video about CPR with a p value = 0.001. The results of this study obtained an increase in attitude values in the form of changes in answer patterns after being given an educational video about CPR consisting of how to help people who are in emergency conditions, the purpose of basic life support, the importance of basic life support training, and basic life support steps.

The results of this study obtained an attitude in the form of changes in the pattern of responses after being given an educational video on CPR as BLS for helping drowning victims consisting of appropriate positive and negative statements. Factors that influence the responsiveness of the respondents are environment, experience, and education. The environment greatly influences the attitude of the respondents, as explained in the theory that all respondents have a tanggao attitude about Basic Life Support (BLS). This is probably due to the environmental conditions and the need of the respondents who are local residents whose role is to protect the surrounding settlements from all environmental threats.

The researcher assumes that the longer a person works as a fisherman, the more diverse the experiences gained and the more likely the possibility of marine accidents and emergencies at sea that require fishermen to perform BLS.

In this study, the respondents were fishermen in Muara angke port, and the most dominant last education was elementary school as many as 13 people (81.3%). Researchers assume that the lack of education of respondents in this study is due to economic factors experienced by fishermen, causing fishermen are unable to continue to a higher level of education. In terms of educational factors, it also affects the knowledge of the respondents as described in the table below. (Budiman dan Riyanto, 2013 in Retnaningsih, 2016)) Knowledge has a close relationship with education, where a person has extensive knowledge if they are highly educated. In addition to education, the respondents also gain experience of a drowning victim incident, which as explained in the theory of knowledge is gained from an experience that is experienced (Yuliana, 2017).

The findings of this study are that CPR educational video training as BLS can be a reference and reference as a tutor in planning to provide CPR education to the community, and CPR educational video training as BHD can also increase confidence and ability to provide CPR education to the community, and CPR educational video training is more efficient and can be applied by tutors in providing education about CPR in the health world and in the community. Limitations in this study The study was conducted in residents' homes, if you want to use the location you must pay, so the space to conduct research is limited, then the fishermen are mostly elementary school graduates and some cannot read and write,

making it difficult to take the pretest and posttest. During the study, respondents were assisted by a team for pretest and posttest activities.

CONCLUSION

There are differences in knowledge and attitudes before and after being given educational videos on CPR where the results of this study show that the respondents have knowledge after being given educational videos on CPR as BLS for helping drowning victims in fishermen at Muara Angke Harbor.

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