



Original Research

The Influence of Basic Life Support Training on The Knowledge and Skills of Lifeguard Carpulung Resuscitation at Sanur Beach



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Article Info	Abstract
Article history: Received: May 26, 2023 Accepted: June 28, 2023	<i>Introduction:</i> The post-drowning state is an emergency that requires quick and precise help because it can cause death. The knowledge and skills of cardiopulmonary resuscitation become important to be known by the lifeguard in the effort to save the drowning victims, so it is expected to save the life of the drowning victim, prevent the victim condition become worse and accelerate the victim's recovery. Then the effort that can be used to improve the knowledge and skills of lung heart pulmonary resuscitation is through basic life support training. The objective is to determine the effect of basic life support training on lung pulmonary cardiac resuscitation skills and skills in Sanur Beach 2018. <i>Methods:</i> This study used pre-experimental research design with one group pretest post-test design approach. Sampling used non-probability sampling with saturated sample technique (total sample). The number of samples this study as many as 17 respondents. Data collection using a knowledge questionnaire and an observation sheet of pulmonary cardiac resuscitation measures. <i>Result:</i> The result of data analysis using non-parametric statistic test that is Wilcoxon Rank Test with significance level 0,05 got p value <0,000 hence Ho rejected Ha accepted which mean there is influence of life support training base to knowledge and skill of heart resuscitation of lung lifeguard at Sanur Beach year 2018. In this study indicates that the more often the basic life support training is the more increasing the knowledge and skills on the lifeguard. <i>Conclusion:</i> Providing good and correct basic living assistance can make the lifeguard help save the drowning victim. And if no basic life support training can have a negative impact on a drowning victim so that it can cause death.
Keywords: Attitude, behaviour, diabetes mellitus, management of hypoglycemia, hypoglicemia	

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INTRODUCTION

Drowning is an event in which the whole or part of the body is immersed in a liquid which can result in death due to aspiration of the liquid into the breath [1] Drowning is ranked third, namely as many as 7% of deaths caused by injuries in the world. In 2015, it is estimated that 360,000 people died from drowning, making drowning a global health problem. Children, adult men, and individuals who frequently travel to water areas are at high risk of drowning [2][3]

Post-drowning situations are emergencies that require quick and appropriate assistance. In some victims with cases of drowning, it is necessary to carry out cardiopulmonary resuscitation (CPR) because it is closely related to respiration and cardiovascular. In a drowning condition a person will lose adequate breathing patterns[4]. Hypoxia and anoxia of the central nervous system will occur within hours, therefore first aid must be given immediately less than 24 hours after the incident, otherwise it will result in death for the victim [3]

Drowning usually occurs in water areas such as swimming pools and beaches. Indonesia is surrounded by many seas, so it is possible that there will be many accidents on the beach, such as drifting and drowning. Marine attractions are often visited by tourists, especially during the holiday season[5]. There are many cases of tourists drowning due to high tide or the tourists' carelessness [6][7]

the handling of emergency drowning victims must be carried out by people who are

at the scene of the incident, such as ordinary people, special lay people, and health workers according to their competence states that those who are classified as special lay people are people who have knowledge or skills in accordance with their fields beyond ordinary people[1][8]. One that includes special ordinary people is a lifeguard. Lifeguard is a profession in providing assistance in accidents that occur in water. The duty of a lifeguard is to provide first aid to drowning victims and provide tourists with a sense of security. Help that can be done here is basic life support (BLS)[9].

BLS is an effort made to maintain life when the patient experiences a state of cardiac arrest and respiratory arrest. BHD aims to re-effective circulation and oxygenation, and maintain normal neurological function. (Kurniati et al. 2018). A 10-minute delay in giving CPR to a drowning victim who has a cardiac arrest can cause death, if the delay in giving CPR is only 1 minute, the chance of the victim surviving is up to 98% [10]. This shows that CPR knowledge and skills are important for lifeguards to know in an effort to save drowning victims[11].

In Indonesia, almost 90% of drowning cases do not get fast and appropriate help from lifeguards. This is caused by several factors, such as the lack of knowledge of lifeguards regarding first aid for drowning victims and the lack of socialization about the benefits of first aid for drowning victims. Providing quick BHD assistance to victims can provide a 3-4% chance of survival every minute, but so far it has not been carried

out optimally due to the lack of BHD knowledge and skills [3]

Based on an initial survey conducted by researchers of the Balawista Sanur coordinator on October 16 2017, it was stated that in the last three years the number of drowning victims was 98 and 13 people were declared dead. The cause of death occurred due to the inability of the lifeguard to treat patients in the pre-hospital emergency phase due to drowning, the delay in providing assistance, and the severity of the victim[5]

Life guards on Sanur beach already have certificates and deserve to be lifeguards, but some of them still don't have certificates. Certified lifeguards when interviewed about BHD first aid still gave answers that were not in accordance with existing theories. In addition, the guidelines used are still using the Balawista 2010 guidebook, whereas now there is the latest BHD theory from the American Heart Association (AHA) 2015. BHD training is very important to be given again to improve the knowledge and skills of lifeguards who do not yet have a certificate and are useful. to renew BHD knowledge on certified lifeguards[12].

Training is an important effort to improve the knowledge and skills of lifeguards in providing pre-hospital first aid so that later lifeguards will be ready to help. The benefits of training for lifeguards are expected to save the lives of drowning victims, prevent the victim's condition from deteriorating and speed up the victim's recovery.

METHODS

The research design used was a experimental design, one group pretest posttest design. The population in this study were all lifeguards working on the Sanur beach with a total of 17 people. The sampling method in this study used non-probability sampling using the saturated sample technique, namely by using all 17 lifeguards on duty at Sanur beach.

Data collection methods used in this study were questionnaires and observation sheets. The questionnaire used was a questionnaire with closed statements containing 30 statements using the Guttman scale with correct (B)=1 and wrong (S)=2 answer choices. Knowledge results are categorized as good (21-30), sufficient (11-20), less (1-10). To measure skills using an observation sheet containing 10 components using the Guttman scale where there are two column options for assessment, namely actions taken with a score of 1 and actions not carried out with a score of 0. The results of skills are categorized as good (8-10), enough (4-7), less (0-3).

This study conducted data analysis to test the hypothesis with a parametric test on numerical scale data. The data is tested by assumptions, namely the data normality test using the Shapiro Wilk test. The results of the normality test of the knowledge questionnaire using the Shapiro Wilk Test said that it was not significant Data were analyzed through univariate and bivariate analysis using the Wilcoxon Sign Rank Test. Before collecting data using questionnaires and observation sheets, the researcher first explained the aims and objectives of the

research, then asked permission from the respondents to sign informed consent. This research has received research ethics from the ITEKES Bali ethics commission with the number: This research has received research ethics from the ITEKES Bali ethics commission with the number: 03.0469/KEPITEKES-BALI/VII/2020.

RESULTS

Characteristics Data

Table 1 describes the characteristics of the respondent's data where the majority are male 60 (100%) with the majority aged 26-30 years as many as 30 (50%), and the majority of 1-5 years of work as many as 30 (50%).

Result of crosstab of knowledge and skill

Table 2 explains the research variables before and after being given BLS training on the knowledge variable, the majority of respondents had sufficient knowledge of 30 (50%) and after the training the respondents all had good knowledge of 60 (100%). on the skills variable the majority of respondents had sufficient skills as much as 40 (66.6%) and after the BLS training, all respondents had good knowledge of 60 (100%)

Result of statistic test with Wilcoxon test of knowledge

Table 3 shows that the results of the statistical analysis of the Wilcoxon Sign Rank Test obtained a negative result rank 0a, this shows

that after being given treatment (basic life support training), none of the respondents experienced a decrease in their knowledge score, while a positive result rank 17b, this shows that after being given treatment, all respondents experienced an increase in knowledge score. Ties 0c this shows that there are no respondents who have the same value between the pretest and posttest. From the results of the Wilcoxon Sign Rank Test statistic, it was found that $p = 0.000 < \alpha 0.05$. This shows that there is an effect of basic life support training on lifeguard cardiopulmonary resuscitation knowledge on the Sanur beach.

Result of statistic test with Wilcoxon test of skill

Table 4 shows that the results of the statistical analysis of the Wilcoxon Sign Rank Test obtained a negative result rank 0a, this shows that after being given treatment (basic life support training), none of the respondents experienced a decrease in their skill score, while a positive result rank 17b, this shows that after being given treatment, all respondents experienced an increase in knowledge score. Ties 0c this shows that there are no respondents who have the same value between the pretest and posttest. From the results of the Wilcoxon Sign Rank Test statistic, it was found that $p = 0.000 < \alpha 0.05$. This shows that there is an effect of basic life support training on lifeguard cardiopulmonary resuscitation skills on the Sanur beach.

Table 1

Characteristic Data

Respondent Characteristics	n	f
Gender		
Male	60	100%
Age		
20-25	7	11,6 %
26-30	30	50 %
31-35	8	13,4%
36-40	15	25%
Length of work		
>1	10	17%
1-5	30	50%
>5	20	33%

Table 2

Result of knowledge and skill pre-test and post-test

variable	Pre test		Post test	
	n	f	n	f
Knowlage				
Good	5	8,3%	60	100%
Sufficient	30	50%	0	0
Poor	25	41,6%	0	0
Skill				
Good	7	11,7%	60	100%
Sufficient	40	66,6%	0	0
Poor	13	21,7%	0	0

Table 3

Result of statistic test with Wilcoxon test of knowledge

Uji Wilcoxon Sign Rank Test	Hasil
Negatif Ranks	0 ^a
Positif Ranks	60 ^b
Ties	0 ^c
P value	0,000

Table 4

Result of statistic test with Wilcoxon test of skill

Uji Wilcoxon Sign Rank Test	Hasil
Negatif Ranks	0 ^a
Positif Ranks	60 ^b
Ties	0 ^c
P value	0,000

DISCUSSION

Lifeguard Cardiac Pulmonary Resuscitation Knowledge at Sanur Beach After Being Given Basic Life Support Training

This research results showed that the frequency distribution of lifeguard cardiopulmonary resuscitation knowledge at Sanur Beach after being given basic life support training, all 60 respondents had knowledge in the good category. After being given basic life support training, almost all of the respondents answered correctly the statement of knowledge about cardiopulmonary resuscitation. However, after being given health education there were still lifeguards who answered incorrectly on the statement of knowledge about pulse and respiration evaluations that can be done every 5 minutes, and the rate of heart compressions is 80-90 times/minute.

According to Yusniawati, Ida Rahmawati, et al. (2022) Knowledge can be influenced by several factors, namely education, information/mass media, social, cultural, economic, environmental and age. One of the factors that influence the lifeguard's knowledge of cardiopulmonary resuscitation is information, by getting new information through training. Training is a learning process by carrying out a series of activities in increasing knowledge and skills outside the applicable education system with a relatively short time, so as to be able to have professional performance in their field [13][14]

Researchers are of the opinion that the lifeguard's knowledge of cardiopulmonary

resuscitation after being given basic life support training using the instructor's direction method at Sanur Beach has increased from not knowing enough to knowing and being able to perform first aid for cardiopulmonary resuscitation on drowning victims. Lifeguard considers basic life support to be very important to maintain the victim's condition when experiencing cardiac arrest and respiratory arrest if it is not carried out quickly and correctly it can cause death to the victim. If there is a drowning victim, the lifeguard panics and cannot concentrate on the steps that must be carried out. This may be due to the lack of lifeguards' knowledge of cardiopulmonary resuscitation. However, after being given basic life support training, lifeguards understand what to do first when dealing with drowning victims who experience cardiac arrest and respiratory arrest without having to panic and immediately ask for help and immediately provide cardiopulmonary resuscitation assistance quickly and precisely. The results also show that after being given basic life support training the lifeguard can understand the basics of first aid basic life support outside the hospital, namely the five chains of survival where the lifeguard can understand the first to the last steps that must be carried out such as asking for help, high-quality CPR, defibrillation prompt, advanced basic medical services, advanced life support and post-heart attack care. [15]

Lifeguard Cardiac Pulmonary Resuscitation Skills at Sanur Beach

After Being Given Basic Life Support Training

The results showed that the frequency distribution of lifeguard cardiopulmonary resuscitation skills at Sanur Beach after being given basic life support training, all 60 respondents had skills in the good category. After being given basic life support training, almost all of the respondents were able to carry out the steps of cardiopulmonary resuscitation on the skills aspect correctly. However, after being given basic life support training there were still respondents who did not do simple things in the steps of cardiopulmonary resuscitation on the skill aspect of calling for medical assistance and asking for an AED.

Skill is a person's ability to apply knowledge into action. The development of a knowledge can be seen from the ability of a person to be able to apply it, one of which is in the form of skills. The process of developing skills can be carried out after learning activities (Justine, 2006). Knowledge of BHD is a knowledge and skill because if you only know the theory without doing training or practice, then your mentality is not trained when you actually face real events [16][17]

Researchers are of the opinion that the lifeguard's cardiopulmonary resuscitation skills after being given basic life support training using the instructor's direction method at Sanur Beach in 2018 have increased from not knowing enough to knowing and being able to perform first aid for cardiopulmonary resuscitation on drowning victims. This can be seen from the way lifeguards practice basic life support

measures. The average respondent was able to correctly carry out the SOP order or basic life support steps and some lifeguards did not call for medical assistance and ask for an AED. This may be due to the importance of basic life support training which must be carried out on an ongoing basis so that lifeguards can apply basic life support more optimally and have good skills to become professional lifeguards. So that continuous training is needed to refresh and improve lifeguard knowledge and skills. If the lifeguard has good knowledge and skills, it is hoped that he can save the life of a drowning victim, prevent the victim's condition from worsening, and speed up the victim's recovery[3]

Basic Life Against Lifeguard Cardiac Pulmonary Resuscitation Knowledge and Skills at Sanur Beach

Training is a learning process by carrying out a series of activities in increasing knowledge and skills outside the applicable education system with a relatively short time, so as to be able to have professional performance in their field. The difference in average lifeguard cardiopulmonary resuscitation knowledge and skills that was significant in this study was influenced by the delivery procedures and basic life support training methods. When basic life support training was given, it was not only the material providers who were active, but also the respondents who were active in providing questions and answers regarding how to provide assistance to drowning victims by performing cardiopulmonary resuscitation. Respondents were also very interested in the material

presented by the presenter because the presentation was accompanied by pantum and AED which was the first time they saw it, so that respondents could try to do more optimal cardiopulmonary resuscitation. The lifeguard's knowledge and skills of cardiopulmonary resuscitation on Sanur beach has increased after being given basic life support training.

This research method, the researcher used the instructor's direction method. According to Mondy (2008) in Habib (2014) instructor directions are an effective training method because an instructor can convey material and information in a relatively short time. This method is also suitable for use by looking at the material presented and making it easier to deliver the material so that respondents understand more quickly and can do or try the material that has been delivered. The results of the study showed that basic life support training had an effect on the knowledge and skills of lifeguards in cardiopulmonary resuscitation on the Sanur beach in 2018. The provision of basic life support was carried out to someone who had a cardiac and respiratory arrest at the Emergency Ambulance Foundation[3][4]. Lifeguards usually don't know about handling basic life support that must be done quickly and precisely by looking at the delay in the possibility of success when giving cardiopulmonary resuscitation and lifeguards being aware when giving high-quality CPR[18][16]. The benefits of giving BHD quickly and accurately can save the lives of drowning victims, prevent the victim's condition from deteriorating and speed up the victim's recovery. After being given basic life

support training, lifeguards know about the worst impact that will happen to victims if they cannot handle or are late in providing assistance[2][19].

This research is in line with research conducted by 118 (2018) stated that after being given basic life support training the knowledge and skills of the respondents increased. This is supported by differences in the level of knowledge and skills before and after being given basic life support training. The research shows that there is a significant influence on the knowledge and skills of the respondents. The limitation of this research is the small research sample and the research area is still local.

CONCLUSION

There is an effect of basic life support training on the knowledge and skills of lifeguards in cardiopulmonary resuscitation at Sanur Beach. So it is necessary to carry out continuous training by upgrading the BLS so that the retention of lifeguard knowledge and skills can continue to increase.

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CONFLICT OF INTEREST

In this study, there was no conflict of interest from the parties involved in this panel.

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