

Original Research Article

ANALYSIS OF FACTORS RELATED TO THE SELF-EFFICACY OF INDONESIAN RED CROSS (IRC) MEMBER STUDENTS IN CARRYING OUT AHA 2020 STANDARD CARDIOPULMONARY RESUSCITATION IN DENPASAR CITY

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Abstract

Background: Cardiac arrest is a condition where the heart loses its function to pump blood throughout the body. Currently, the death rate due to cardiac arrest reaches 50 to 60 incidents per 100,000 people per year. The cause of this death is the lack of public awareness, especially the younger generation, to become bystanders in performing CPR. Cardiopulmonary Resuscitation (CPR) training programs for IRC students are increasingly emphasized to increase bystander CPR which is very low.

Objective: Analyze the factors of self-physicalizing (knowledge, attitude, motivation and awareness) of IRC students in providing cardiopulmonary resuscitation (CPR) in cardiac arrest patients.

Method: This research is a type of quantitative research with a cross sectional approach with purposive sampling. Data collection was carried out for 2 months using a questionnaire. The number of samples in this research was 300 student respondents who were members of the IRC in Denpasar City. The inclusion criteria in this research were IRC student members from universities who were active in lectures, active members of the Denpasar City IRC, attended basic IRC member training and were willing to become respondents. After obtaining consent from the participant, the participant then completed the entire questionnaire for 30 minutes. The analysis using univariate analysis which described the characteristics of research respondents, bivariate using Spearman Rho, and multivariate analysis using the logistic regression test.

Results: The research results obtained knowledge P value = 0.022, attitude p value 0.026, motivation p value 0.017 and awareness p value 0.050. Awareness is the variable that has the most influence on student preparedness (OR= 1.192), meaning that poor awareness will lead to lower efficacy of IRC member students in helping cardiac arrest patients 1 time compared to the efficacy of IRC student members who have good awareness after the variable's knowledge, attitude, and motivation controlled.

Conclusion: There is a relationship between knowledge, attitude, motivation and awareness and the efficacy of IRC student members in performing CPR AHA 2020 where awareness is the variable that has the most influence on efficacy.

Keywords: CPR, Students IRC Members, Self-efficacy

INTRODUCTION

Cardiac arrest is a condition where the heart is unable to pump blood throughout the body. The causes of cardiac arrest include the presence of comorbidities of acute coronary syndrome, having congenital heart disease (Bossory, Boudoulas, and Mehta 2021). An early sign of a heart attack is the presence of chest pain that disappears or persists and is accompanied by loss of consciousness in the victim. When cardiac arrest occurs, it is very important that we perform CPR to replace the function of the heart in pumping blood throughout the body (Protty et al. 2017)

The global Out Hospital Cardiac Arrest (OHCA) incidence rate is 50 to 60 per 100,000 people per year (Badimon, Bugiardini, and Cubedo 2016). The incidence of OHCA is 300,000 cases in Europe and 420,000 cases in the United States (Rawshani et al. 2014). Indonesia has an estimated OHCA incidence rate of 10,000 cases per year or there are 30 OHCA cases per day (RI 2014). The high incidence of OHCA is also followed by a very small *survival rate* of OHCA sufferers, which is only 12% (Ma et al. 2017) There are several factors that cause someone not to do CPR because they are afraid to do CPR because they feel wrong if they do CPR incorrectly, physically cannot do CPR, fear of harming individuals who are helped, fear of contracting infectious diseases, belief that someone has died (Raff, Hoffmann, and Udelson 2017) (Albarqouni et al. 2016)

The death rate that occurs outside the hospital due to cardiac arrest or *Out-of-Hospital Cardiac Arrest* (OHCA) is one of the focuses of world health problems because of its high incidence rate and increases every year. The number of victims resulting from failure to handle emergency patients is generally caused by failure to recognize risks, late referrals, lack of adequate facilities and knowledge and skills

of medical personnel, paramedics in recognizing high-risk situations early which must be done effectively and efficiently (Ahsan 2019) (Nguyen et al. 2013). Awareness in dealing with emergency patients is a very important factor in determining the success of accident relief. Errors or inaccuracies in providing pre-hospital first aid in performing assistance can cause disability or death of emergency patients. Efforts that must be made to minimize the mortality rate of emergency patients must shorten *response time* (Bugiardini and Badimon 2016).

A good target for improving the ability to perform cardiopulmonary resuscitation is the young generation of Indonesia, namely IRC students who provide voluntary assistance to people in need. The phenomenon encountered during interviews with 10 students who were members of the IRC in the city of Denpasar, of the 10 students, there were 7 people who admitted that they were afraid of doing the wrong CPR technique and lacked confidence when finding a heart attack victim, even though the students had already obtained CPR competency when they wanted to become members of the IRC. This is a common concern to be able to train IRC student members to be able to provide assistance considering that the IRC is a paramedic team that is able to provide first aid in emergency situations. Denpasar City IRC members are young people who are active in organizations and ready to help in providing humanitarian services for those in need, so it is very important to be able to increase knowledge, attitudes, motivation and awareness in providing first aid in accidents. heart attack victims wherever they are. Therefore, research is needed to analyze what factors are related to the efficacy of IRC member students in conducting CPR according to AHA 2020 standards.

METHOD

Study Design

This research is a type of quantitative research with a *cross sectional* approach with *purposive sampling*.

Setting

This research conducted in Denpasar City for 2 months.

Research Subject

The number of samples in this study was 300 respondents of IRC member students in Denpasar City. The inclusion criteria in this study are IRC member students from universities who are active in lectures, active as members of IRC Denpasar City, attend basic training for young IRC members and are willing to become respondents. The exclusion criteria in this study are IRC member students who are on academic leave, final semester students who are completing their final assignments, and are currently practicing in a hospital.

Instruments

The data collection in this study used a questionnaire consisting of 40 questionnaires that have been standardized and modified so that a *face validity* test was carried out with 3 teams of *experts* in the emergency field emergency. There were 10 questions about knowledge, 10 questions about attitude, 10 questions about motivation and 10 questions about respondents' awareness. Then the questionnaire was tested for validity with the results of Cronbach's Alpha $0.896 > R$ table 0.4683 which means the questionnaire is relabel to use.

Data Analysis

The analysis carried out was univariate analysis describing the characteristics of research respondents, bivariate analysis using *sperm*, and multivariate analysis using tests logistic regression.

Data analysis test using *SPSS for windows* version 20, with a confidence interval

of 95% or *p* value smaller than *alpha* 5% (< 0.05) then H_0 rejected with a CI value of 95%.

Ethical Consideration

Process research directly and also written on the consent sheet becomes a research respondent and is given *informed consent*. After getting approval, participants can do the entire questionnaire for 30 minutes.

This research begins with the process of obtaining research permits and ethical tests at the ethics commission. The researcher submitted a cover letter from ITEKES Bali for *ethical clearance* management with ethical number:03.0469/KEPITEKES-BALI/VII/2022

RESULT

The results of the study obtained that the majority of respondents' gender in this study were 251 women (83.4%) with a majority religion of Hinduism as many as 215 (71.7%) with the majority having never done CPR A total of 163 (54.3%) and the majority had never seen a cardiac arrest event as many as 248 (82.7%).

Table 1 Demographic Data

Category	N	%
Gender		
Man	49	16,3
Woman	251	83,4
Religion		
Hindu	215	71,7
Catholic	40	13,3
Islamic	30	10,0
Christian	15	5,0
Perform CPR actions		
Ever	137	45,7
Never	163	54,3
Seeing Cardiac Arrest		
Ever	52	17,3
Never	248	82,7

Table 2 Bivariate Tests

Variabel	Student Efficacy		Total	P-value	Coefficient R
	Less	Good			
Knowledge	Less	50	46	0.022	0.709
	Good	74	103		
Attitude	Less	54	55	0.026	0.662
	Good	80	111		
Motivation	Less	60	64	0.017	0.775
	Good	74	102		
Awareness	Less	77	55	0.050	0.368
	Good	57	111		

In bivariate tests using spearman rho, knowledge was obtained to have a relationship with efficacy with a p value of $0.022 < 0.05$ with a strong relationship, attitude variables had a relationship with efficacy with p value of $0.026 < 0.05$ with strong relationship strong, motivation variable has relationship with efficacy with p value $0.017 < 0.05$ with strong relationship very strong, and consciousness variable has relationship with efficacy with p Value $0.05 < 0.05$ with strong low relationship.

Table 3 Multivariate Tests

Variable in the equation		95% CI for Exp (B)	
	Exp (B)	Lower	Upper
Step 1	Knowledge	.538	.000
	Attitude	.823	.293
	Motivation	.000	.000
	Awareness	1.576	.723
	Constant	.920	3.435
Step 2	Knowledge	.451	.000
	Motivation	.000	.000
	Awareness	1.450	.765
	Constant	.877	2.748
Step 3	Motivation	.784	.449
	Awareness	1.494	.791
	Constant	.871	1.371
Step 4	Awareness	1.192	.825
	Constant	.852	1.722

Logistic regression analysis in this research went through 5 modeling stages and categorization of the knowledge, attitude, motivation and awareness variables was carried

out. From the results of multivariate analysis, the results of the largest independent variable to the smallest influence on the dependent variable can be seen from the *value of Odd Ratio* (Exp. B), where the awareness data (OR 1,192)

Awareness is the most influential variable with the efficacy of IRC member students (OR= 1,192), meaning that poor awareness will cause low efficacy of IRC member students in helping patients with cardiac arrest by 1 time compared to the efficacy of IRC member students who have good awareness once the variables of knowledge, attitude, and motivation are controlled

DISCUSSION

According to Yusniawati, Ida Rahmawati, and Lewar (2022) explained that the knowledge, attitudes, motivation and awareness of respondents will be able to influence respondents in making decisions to perform CPR on patients encountered with cardiac arrest. Having a group of students who have basic skills and knowledge about Basic Life Support (BLS) actions, especially CPR, can help students' self-efficacy Get to know more about cardiopulmonary resuscitation actions, it would be even better if this knowledge was trained and implemented in demo activities in training with PMI members on campus. The campus plays an important role in providing a forum for students to develop their potential as a channel of education into the community and as a pawn of the main aid that can reduce OHCA behavior.

Research conducted by Agustini, Yusniawati, and Atika (2009) explained that knowledge is an important component to improve when wanting to reduce delays in helping in cardiac arrest conditions. Increasing knowledge is carried out by providing health education for PMI member students so that they can understand what CPR is and how to do it correctly so that with good knowledge it will be able to improve student attitudes in a positive direction and can increase motivation and

increase student awareness in helping CPR in patients with cardiac arrest wherever they are encountered.

The study was conducted by Nolan et al. (2014) explains that good knowledge is not necessarily supported by a positive attitude, motivation and good awareness. Awareness is a very important component to be improved because if someone has knowledge not supported by awareness, delays in helping cardiac *arrest* will still occur because there will be hesitancy to do help (Randhawa, Nagpal, and Lavi 2015). In addition, a positive attitude and motivation can be formed if a person's awareness is high of cardiac *arrest*. In this study, it was also seen that the majority of students had good and sufficient knowledge, but the efficacy of PMI member students in carrying out CPR actions on victims was still in the sufficient category, this was due to the lack of awareness of the importance of performing CPR on victims (Ghisi et al. 2014).

CONCLUSION

There was a significant relationship between knowledge, attitude, motivation and awareness with the efficacy of IRC member students in conducting CPR AHA 2020 where awareness is the most influential variable on the efficacy of IRC member students in conducting CPR AHA 2020. The weakness of this research is that the research is still limited to self-efficacy factors, it is necessary to evaluate student members of the IRC in practicing CPR AHA 2020.

SUGGESTION

Quality volunteers can be formed by actively increasing their knowledge and skills by holding regular joint exercises with IRC member students. Apart from that, it is necessary to increase awareness by practicing together with senior IRC volunteers to treat patients experiencing cardiac arrest so that they can increase awareness in providing assistance.

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CONFLICT OF INTEREST STATEMENT

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

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AUTHOR CONTRIBUTION

Yustina Ni Putu Yusniawati: Compiling research ideas, as a leader in the research process, data retrieval and data processing as well as designing manuscripts

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