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Public Knowledge Retention Series Study Post Training on Hands Only CPR

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Abstract

Cardiac arrest is still a big problem around the world and is a global problem that continues to be discussed by health professionals. Even in developed countries, the problem of cardiac arrest is still the main focus to be resolved. In Indonesia, heart and blood vessel disease consistently ranks as the first cause of death in Indonesia. Lay person has great potential in its role as a CPR Bystander to helpresolve cases of cardiac arrest in various situations, including in the community. *The purpose of this study was to look at the retention of knowledge of Lay person about hands only CPR with a serial study. The design of this research is Descriptive Research with the subjects of this study were active studentsof STIKES Mataram in the 2nd semester of Nursing program with a population of 63 people. Sampling using total sampling, the number of populations that can be used as a sample is 63 respondents. The research instrument uses a questionnaire that has been tested for validity and reliability and the resulting data is processed using simple descriptive analysis. At the initial stage before the training (Pre) the average knowledge variable of the respondents was 48.8%, then shortly after the training (post 1), the average knowledge ability of the respondents reached 85.7%. Then the results of the second posttest (two weeks after training) and third (1 month after training) decreased to 77.9% and 73.0% respectively. This study concluded that the training was able to increase respondents' knowledge about Hands Only CPR shortly after the training, then followed by an insignificant decrease in knowledge or in other words tended to be stable in the second post test (2 weeks after training) and third post test (1 month after training).*

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1. INTRODUCTION

Cardiac arrest is still a big problem throughout the world and is a global problem that continues to be discussed by health workers. Even in developed countries, the problem of cardiac arrest is still the main focus for solving, for example in the United States, the incidence of OHCA (Out of Hospital Cardiac Arrest) is recorded at more than 300,000 cases and causes death every year with a survival rate that varies with an average of less than 10% of all incidents (Bobrow, Leari and Heighmen, 2011). The American Heart Association (2013) stated that the incidence of OHCA reached 359,400 cases with a survival rate of 9.5%.

In Indonesia, heart and blood vessel disease consistently remains the number one cause of death in Indonesia. Several sources state that the number of cardiac arrest incidents in Indonesia varies greatly. Patients suffering from cardiac arrest both inside and outside the hospital were collected from the RSU. Dr. Sayidiman Magetan recorded 82 cases in 2013 and 92 cases until October 2014 (RSUD. Dr. Sayidiman, 2014). The number of deaths due to cardiac arrest at RSU Anutapura Palu in 2010 was 20 cases, in 2011 there were 31 cases,

in 2012 there were 39 cases (Aminudin, 2013).

Cardiac arrest events require action integrated cardiopulmonary resuscitation (CPR) which is called the Chain of Survival (chain of life) (Travers et al, 2010). Quality CPR is a key factor influencing patient survival. Standard CPR is able to provide one third of normal blood supply to the brain and 10-20% of normal blood flow to the heart (Ong et al, 2012). Mastery of CPR skills must be able to be performed well when needed in all circumstances (Janti, 2010).

Publicly people have great potential in their role as CPR Bystanders to help resolve cardiac arrest cases in various situations, including in the community (Kardong et al, 2010). The effective role of Bystander CPR is able to double the chances of survival for cardiac arrest patients. The above phenomenon raises the fact that it is important to master and retain basic life support skills for both lay people and medical personnel (Parnell and Larsen, 2007). One effort to increase CPR skills among ordinary people is by conducting training. Increasing understanding of knowledge and skills in handling cardiac arrest can have a significant impact in increasing the survival rate in cases of cardiac arrest (Glaa and Chick, 2011). However, in reality, cardiopulmonary resuscitation training is not always accompanied by skill retention for each individual. Several studies state that a person's ability to perform cardiopulmonary resuscitation will continue to decrease over time. In a study conducted on lay people, it showed that 80% of subjects experienced a decrease in cardiopulmonary resuscitation abilities a year after training (Christensona et al, 2007). Based on the overall phenomenon above, researchers want to study further about the retention of cardiopulmonary resuscitation knowledge among lay people.

2. MATERIALS AND METHOD

This research design is a type of descriptive research with the subjects of this research being active students of STIKES Mataram, semester 2 of the Bachelor of Nursing study program with a population of 63 people. Sampling used total sampling. The research instrument uses a questionnaire that has been tested for validity and reliability and the resulting data is processed using simple descriptive analysis.

3. RESULTS

A. General data

Table 1.1 Distribution by Type

No.	Gender	Frequency(n)	Percentage e(%)
1	Man	19	30.2
2	Woman	44	69.8
	Total	63	100

Based on gender, the distribution of respondents in this study was male, 19 respondents (30.2%), and 44 women (69.8%).

B. Custom Data

Table 1.2 Respondents' Knowledge Level Before Receiving Hands Only CPR Training

No	Knowledge level	Frequency	Percentage e(%)
1	Not enough	44	69.8
2	Enough	19	30.2
3	Good	0	0
	Total	63	100

From the table above, it shows the level of knowledge of respondents immediately after attending Hands Only CPR training, where the knowledge of respondents increased significantly where the majority of respondents own A good level of knowledge was 60 respondents (95.3%), only 3 respondents (4.7%) were at a sufficient level of knowledge.

Table 1.3 Respondents' Knowledge Level Before Receiving Hands Only CPR Training

No	Knowledge level	Frequency	Percentage e(%)
1	Not enough	0	0
2	Enough	3	4.7
3	Good	60	95.3
	Total	63	100

From the table above, it shows the level of knowledge of respondents immediately after attending Hands Only CPR training, where the knowledge of respondents increased significantly where the majority of respondents had a good level of knowledge, namely 60 respondents (95.3%), only 3 respondents (4.7%) who are at a sufficient level of knowledge.

Table 1. 4 Respondents' Level of Knowledge Before Receiving Hands Only CPR Training

No	Knowledge level	Frequency	Percentage e(%)
1	Not enough	0	0
2	Enough	10	15.8
3	Good	53	84.2
	Total	63	100

From the table above, it shows the respondent's level of knowledge 2 weeks after attending the Hands Only CPR training, where the respondent's knowledge generally looks stable, but a slight decrease in knowledge was identified although it still remains in the same knowledge classification.

Table 1. 5 Respondents' Level of Knowledge Before Receiving Hands Only CPR Training

No	Knowledge level	Frequency	Percentage e (%)
1	Not enough	2	3,2
2	Enough	18	28.6
3	Good	43	68.2
	Total	63	100

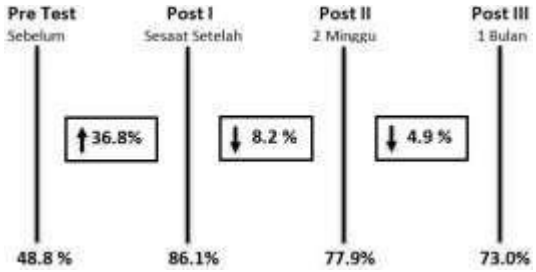
From the table above, there is no significant decrease in respondents' knowledge. there are 43 respondents (68.2%) who remain at a good level of knowledge, and there are 18 respondents (28.6%) who are at a sufficient level of knowledge, and at this stage there are also 2 respondents (3.2%) who are at a level of knowledge which is lacking.

4. DISCUSSION

In general, the average knowledge of respondents increased significantly immediately after the training and tended to stabilize until data collection was carried out in the fourth week.

The following figure shows the average percentage of respondents' knowledge before

and after receiving Hands only CPR training, both immediately after training, 2 weeks and 1 month after training.



Respondents' knowledge before receiving training and immediately after receiving training.

Knowledge variables appear to develop dynamically over time. In the initial stage before the training (Pre) the average respondent's knowledge variable was 48.8%. Then immediately after the training (post 1), the average respondent's knowledge ability reached 86.1%.

Knowledge is a mental activity that is developed through the learning process and stored in memory, which will be retrieved when needed through the form of memory (Sukiarko, 2007). A study involving lay people showed that respondents' knowledge increased after CPR training. Increased knowledge is generally accompanied by increased commitment and confidence to perform CPR in real conditions (Cokkinos et al, 2012). In the training process, respondents received material through lecture methods, question and answer, watching videos and carrying out live simulations.

The use of multi-media learning in the form of videos is thought to be able to have a positive impact on increasing knowledge. This is in line with previous research which states that the use of video as a learning medium is able to expand the dissemination of knowledge and create comfort for subjects in receiving new knowledge about cardiopulmonary resuscitation (Blewer et al, 2010).

Respondents' knowledge after 2 weeks of training.

The decrease in the average knowledge ability began to appear in the third measurement (post 2) which was carried out two weeks after the training was implemented. A simple analysis immediately after training (post 1) and two weeks after training (post 2) showed that there was no difference in retention of adult cardiopulmonary resuscitation knowledge up to four weeks after training. Knowledge tends to be stable in this phase, although there appears to be an insignificant negative deviation.

Theoretically, knowledge and ability of cardiopulmonary resuscitation generally tends to be stable and can be detected decreasing with a small intensity within three to six months (Soar et al, 2010). Age and experience are thought to be influential, this is related to

cognitive and degenerative processes. On the other hand, the use of media in learning and training methods will give students a unique impression so that they will be stored longer in their memory (Arthur et al, 1998). The nature of Hands Only CPR knowledge obtained through a memorization process (the lowest level of knowledge) allows for loss or reduction of knowledge in this research. The lack of opportunities to take action based on the knowledge that has been obtained directly results in the respondent's knowledge being degraded. This can be attributed to not forming a memory impression that is strong enough to retain the respondent's knowledge.

Respondents' knowledge after 1 month of training.

The average knowledge of respondents was stable until the fourth week. A simple analysis 2 weeks after training (post2) and four weeks after the training was carried out

(post3) showed that there was no difference in retention of Hands Only CPR knowledge. The results of knowledge analysis in this phase are identical to the analysis in the previous phase (post 1 and post 2) where the decline in knowledge does not occur significantly or in other words tends to be stable.

Although there were several respondents who fell into the category of lacking knowledge, further examination of the knowledge components did not show any significant differences in this phase.

The act of independent learning after training (Refreshing/Overtraining) is very likely to be another factor that is thought to have contributed to the retention of respondents' knowledge. The act of overtraining is defined as the process of learning beyond core training. This advanced training is thought to encourage the process of atomicity or proceduralist (storing knowledge into long-term memory) thereby reducing demands on cognitive abilities and allowing long-term memory to function properly (Anderson, 1983 in Stothard and Nicholson, 2011).

Factors of Motivation and interest also have an important role in maintaining the level of knowledge in this phase. Students who have good and appropriate motivation in participating in training will pay close attention to the details of each material provided during training so that they are considered able to retain their memory longer (Arthur. Et al, 1998).

5. CONCLUSION

The training carried out is preventable to increase respondents' knowledge about Hands only CPR. A simple analysis immediately after training (post 1) and two weeks after training (post 2) showed that there was no difference in retention of adult cardiopulmonary resuscitation knowledge up to four weeks after training. The results of the knowledge analysis in the post 3 phase (1 month after training) were identical to the analysis in the previous phase, where the decline in knowledge did not occur significantly or in other words tended to be stable. Further assessment of the sub-knowledge components did not show any significant differences in this phase.

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