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Comparative Effect of Hands Only CPR Training for Lay People Using Online and Face-to-Face Methods in the West Lombok Surfer Community.

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Abstract
From the riskesdes 2018, it is known that cardiac arrest data is not listed in detail in West Nusa Tenggara province. However, Riskesdes has data on cases of heart disease, which is one of the causes of cardiac arrest. Cardiac arrest mostly occurs in people aged 5-14 years, about 4. 128cases, and it is more common in women. The number of heart disease cases in West Nusa tenggara is 21,308 (Riskesdes NTB, 2018). The purpose of this study is to compare online and face-to-face methods in delivering hands-only CPR training to laypersons. The population of this study was the members of the West Lombok surfing community, which may number as many as 30 people. The sample was the entire population since the study employed the total sampling technique. The respondents were divided into 2 groups, online and face-to-face. Theresearch used a quasi-experimental design, with a pre and posttest without a control group. The data was collected using a questionnaire. The data was then analyzed using an independent t test. These results indicated that before the training, 12 respondents in the face- to-face group and 13 respondents in the online group were in the category of lacking. After the training, 14 respondents in the face-to-lace group were in the category of and respondents in the online group were in the category of good, compared to 11 respondents in the online group. The face-to-face method is more efective for delivering hands-only CPR training for laypersons.

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1. INTRODUCTION

The cardiovascular system is a system that explains the circulation that occurs in the human body. Good circulation can be seen from the components in it which are in good condition. The size of the heart in adults is 250-360 grams. The location of the heart is in the mediastinal cavity.

Medialis on the left, behind the sternum, in front of the spine and above the diaphragm and surrounded by the right and left lungs (Yudha, 2017).

Heart disease is a condition where the heart cannot carry out its function properly, so that the heart's work as a pump of blood and oxygen throughout the body is disrupted. Disruption of oxygen and blood circulation can be caused by weakened heart muscles, a gap between the left atrium and the right atrium which results in clean blood and dirty blood mixing (Anies, 2017). Heart disease usually occurs due to damage to the heart muscle cells in pumping blood throughout the body, which is caused by a lack of oxygen carried by the blood to the blood vessels in the heart or also due to spasms in the heart muscle which causes failure of the heart organ to pump blood, thus causing the condition the heart cannot carry out its functions properly (Wahyudi and Hartati, 2017). According to the World Health Organization (WHO), cardiac arrest is one of the number one causes of death in the world with a death rate of 60%. It is estimated that around 350,000 people die annually from cardiac arrest in the United States and Canada (AHA, 2015).

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 with cardiac arrest both inside and outside the hospital who were successfully 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).

In West Nusa Tenggara Province, there is no detailed data on cardiac arrest events. However, there is data for cases of heart disease which is one of the causes of cardiac arrest. According to the age grouping, cardiac arrest mostly occurs at the age of 5-14 years, with an incidence of 4,128 people, and occurs more often in women, from the overall characteristics of the incidence of heart disease in NTB. as many as 21,308 (Riskesdas NTB, 2018). One of the causes of the high death rate due to cardiac arrest that occurs outside the hospital is due to late help, which we still encounter today is due to lack of responsiveness, lack of skills, and lack of public understanding of first aid measures when finding someone in respiratory or cardiac arrest before being taken to health services. First aid is providing immediate assistance to sick or injured sufferers who require basic medical treatment while waiting for help to arrive or the sufferer to be taken to health services (Ngurah and Putra, 2019). First aid is intended for victims with cardiac arrest and respiratory arrest to calm and secure the sufferer before being treated by more skilled personnel and more adequate facilities. First aid can be provided by health workers, lay people or specially trained lay people. Therefore, there have been many training programs for both health workers and the general public in carrying out first aid measures, especially Cardiopulmonary Resuscitation (CPR). This training helps participants to increase their knowledge, skills and confidence in performing CPR (Meaney et al., 2010).

Training can be carried out by providing learning using face-to-face and online methods. According to Bonk and Graham, face-to-face learning is a conventional learning model, which seeks to convey knowledge to students by bringing teachers and students together in a room for learning that has characteristics. planned, place-oriented and social interaction. Online learning is formal education organized by schools where students and teacher instructors are in separate locations so that it requires an interactive telecommunications system to connect the two and various available resources. required in it (Subron, et al. 2019).

Neukai surfing is a surfer community in Senggigi, West Lombok. This community has extreme activities in the wild and the worst possibility is cardiac arrest during the activity. During the pandemic, they have carried out 2 Hands Only CPR training for lay people as a form of their commitment to increase capacity to become trained laypeople, but only a few members have been given training. This community was formed from several people with the same hobby, namely surfing. In the West Lombok surfer community there are 96 people, of which 30 are untrained members. Therefore, prospective researchers are interested in conducting research in the Neukai Surfing community, West Lombok to see the differences the effectiveness of training carried out using face-to-face and online methods, where if you get the results of online training it has the same effectiveness as face-to-face training, then all Neukai surf members will easily get training without any direct meetings, and training using the method online can be provided by other lay people.

2. MATERIALS AND METHOD

The research design used in this research is two group pretest and posttest, where this type of research is carried out by giving questionnaires before and after training is given to two groups, online and face to face. In this research, the research population is ordinary

people who are members of neukai surfing. totaling 30 untrained people. The number of samples in this study were all members who had not been trained (total sampling). In this research, a questionnaire sheet was used. Data analysis used in this research used the independent T-test statistical test.

RESULTS

A. General data

Table 1 Respondent characteristics

No	Age	frequency	Percentage
1.	17–25 Year	14	46.6666667
2.	26–35 Year	15	50
3.	36–45 Year	1	3.33333333

Based on Table 1, it shows that the most respondents were in the 26–35-year age category, namely 15 respondents (50%).

B. Custom Data

Table 2 Knowledge level before being given face-to-face and online group training

No	Variable	*Frequenc y*	Percentage
1.	Face-to-face group		
	Good		0%
	Enough		20%
	Not enough		80%
2.	Online groups		
	Good		0%
	Enough		13.3%
	Not enough		86.6%
	Total	0	00%

Based on table 2, there were 12 respondents (80%) who had less knowledge in the face-to-face group. And 13 respondents (86.6%) with poor knowledge of online groups.

Table 3 Respondent's level of knowledge after being given Hand training

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total	Equal variances assumed	,943	,340	-2,226	28	,034	-2.06667	.92822	-3.96803	-.16530

Equal variances not assumed	-2,226	24.086	,036	-2.06667	.92822	-3.98205	-.15128

*only CPR*clogs face to face and online

No	Variable	*Frequency*	Percentage
1.	Face-to-face group		
	Good	14	93.3%
	Enough	1	6.66%
	Not enough	0	0%
2.	Online groups		
	Good		73.3%
	Enough		26.6%
	Not enough	0	0%
	Total	30	100%

Based on the SPSS output, 14 respondents (93.3%) in the face-to-face group had good knowledge, and 11 respondents (73.3%) in the online group had good knowledge

Table 4Data analysis of differences in the effectiveness of hands-only CPR training for lay people using online and face-to-face methods using the independent statistical T-test.

Based on the results of the independent t-test, it was found that the value was 2.226 > 0.514.

3. DISCUSSION

Knowledge level before face-to-face training (pre-test).

Based on the table, respondents who have good knowledge are 0 respondents (0%), respondents who have sufficient knowledge are 3 respondents (20%) and respondents who have poor knowledge are 12 respondents (80%). According to Notoatmodjo, (2018) Knowledge is the result of a person's knowledge of objects through the senses they have, namely the sense of hearing, sense of smell, sense of sight, sense of smell and sense of touch. From the results of filling out the questionnaire, most respondents mastered the statement Depth of heart massage (compression) is 5 – 6 cm with a score of 23 and as a result of filling out the questionnaire, most respondents did not master the questions regarding the statement that heart massage (compression) should not stop for more than 1 minute, that is, they only got a score of 5. And there were 12 respondents who had less knowledge (80%) of the total, lack of knowledge regarding hand only CPR is due to not having been exposed to information regarding hand only CPR training.

This research is in line with Wahyu Dini Metrikayanto, Muhammad Saifurrohman, Tony Suharsono 2018, Differences between Simulation Methods and Self Directed Video on Knowledge, Attitudes and Skills in Cardiopulmonary Resuscitation (RJP) Using I-Carrer Cardiac Resuscitation Mannequins in High School Students, Members of the Teenage Red Cross (PMR).). Results of post-test knowledge (simulation group) and post-test knowledge (self-directed video group) has a significance value (p value) 0.468 (p> 0.05), the attitude posttest score (simulation group) and attitude posttest (self-directed video group) have a significance value (p value) = 0.739 (p>0.05), and the skills posttest (simulation group) and skills posttest (self-directed video group) scores had a significance value (p value) = 0.089

(p>0.05). It was concluded that the simulation method and self-directed video had an effect on knowledge, attitudes and skills of Cardiopulmonary Resuscitation (CPR) using the I-Carrer Cardiac Resuscitation Mannequin, however, between the simulation method and self-directed video there was no difference in knowledge, attitudes and skills of Cardiopulmonary Resuscitation (RJP) using the I-Carrier Cardiac Resuscitation Mannequin on high school students who are members of the Youth Red Cross (PMR). Knowledge level after being given face-to-face training (post-test).

Based on the table, there were 14 respondents who had good knowledge (93.3%), 1 respondent who had sufficient knowledge (6.6%) and 0 respondents who had poor knowledge (0%). After being given face-to-face hand only CPR training, public knowledge about hand only CPR increased where, Cardiopulmonary resuscitation (CPR) or cardiopulmonary resuscitation is a series of life-saving actions (Life Saving) carried out with the aim of increasing the chance of survival in patients with cardiac arrest. heart (Travers et al, 2010). When respondents filled in the questionnaire sheet, it was found that respondents had mastered questions number 4, 9 and 15 the most with a total score of 30, while respondents had quite mastered statement number 10 with a score of 17. In AA Istri Dalem Hana Yundari's research, 2020. The Effect of Hand Only CPR Training for Health Vocational School Students in Handling Cardiac Arrest. The Effectiveness of Hand Only CPR Training for Students of Health Vocational Schools in Handling Cardiac Arrest, in this research, it was stated that there was a significant relationship before and after being given hand only CPR training. Out-of-Hospital Cardiac Arrest (OHCA) is a heart condition that often threatens a person's life. In response to this incident, 40.1% received Cardiopulmonary Resuscitation (RJP) by people around the victim with the survival rate of victims who received CPR at the scene reaching 9.5%. Hand only CPR is the foundation of assistance for cardiac arrest and is a fundamental aspect of Basic Life Support (BLS) by recognizing Sudden Cardiac Arrest (SCA), seeking emergency help, and immediate chest compressions that can be performed by lay people. Health Vocational School students are part of the lay population who at this level of education have not yet acquired the competency to handle cardiac arrest through RJP. The aim of this study was to determine the effectiveness and influence of hand only CPR training on vocational health students in handling cardiac arrest. The method used is quantitative correlation with pre-post design bivariate tests without control through lecture and simulation methods using a Cardiopulmonary Resuscitation (RJP) manikin. Results: Mac Nemar analysis test: p=0.000 (p<0.05) with the majority (24 people) having good skills after receiving Hand Only CPR training. Conclusion: There was a significant relationship before and after being given hand only CPR training.

Knowledge level before being given online training (pre-test).

Based on the table, there were 0 respondents who had good knowledge (0%), 2 respondents who had sufficient knowledge (13.3%) and 13 respondents who had poor knowledge (86.6%).

Most of the responses had insufficient knowledge about hand only CPR, because they had never been given hand only CPR training before. Online learning is formal education provided by schools where students and teacher instructors are in separate locations so it requires an interactive telecommunications system to connect the two. and the various resources needed therein (Subron, et al. 2019).

Irni Dwiastiti Irianto, 2020. The effectiveness of educational videos on basic life support in increasing the knowledge of the lay public. Based on the results of previous research, it was found that the number of respondents was 30 respondents. There were 8 male respondents 27% of respondents) and 22 female respondents (73%). According to Notoatmodjo (2014), differences in a person's knowledge are influenced by several factors including internal factors, namely the age of the sample I took for this research from 20

years of age and above, education from high school, students and people who are already working, and for the work of all workers. I can't limit it, while the external factors are the environment where my research is located, the environment is quite good, from the social side of the community, the people are very social in every way and the culture is very diverse, some from Bima, Sumbawa and Sasak.

Knowledge level after being given online training (post-test).

Based on Table 4.6, 11 respondents (73.3%) had good knowledge, 4 respondents (26.6%) had sufficient knowledge and 0 respondents (0%) had poor knowledge. Changes in the level of knowledge with face-to-face and online methods, knowledge increases more when given face-to-face training, due to several factors, namely connection or lack of focus when listening to the material provided. When filling out the questionnaire, it was seen that respondents really mastered statements regarding techniques for helping people with cardiac arrest, the position of the hands when doing compressions, the depth when doing heart massage, when to stop heart massage, and the time needed for heart massage, with an assessment score of 30. Meanwhile for Questions that were not mastered by respondents were the question of the number of steps for performing CPR and the age limit statement for hand only CPR, with a score of the hands that must be used during hand only CPR. Previous research stated that the use of video as a learning medium is able to expand the dissemination of life-saving knowledge (CPR) and create comfort for the subject in receiving new knowledge about cardiopulmonary resuscitation (Blewer et al, 2010).

Analysis of Differences in the Effectiveness of Hands Only CPR Training for Lay People Using Online and Face-to-Face Methods.

In this study, the results of the questionnaire will be tabulated and then analyzed to prove whether there is a difference in effectiveness or not regarding knowledge about hand only CPR, using the independent statistical test T-test. Independent statistical test T-test is a statistical test tool for measuring the level of effectiveness or differences in effectiveness, making decisions by looking at R-table>R-calculated then Ha is accepted. Data processing in this research was carried out with the help of a computer using the SPSS Version 19 program.

The SPSS output results obtained a calculated T value of 2.226 and a T table value of 0.514, so in accordance with the decision-making rules, it was found that there was a difference in the effectiveness of hands-only CPR training for ordinary people using online and face-to-face methods with an independent T-test and the T calculated results were obtained. > T table So, it can be concluded that Ha is accepted and H0 is rejected. In the research results, it was found that 14 (93.33%) respondents had good knowledge after being given hand only CPR training face to face and 11 (73.33) respondents had good knowledge after being given training. online, we can see that face-to-face training is more effective because it has advantages, respondents can try or practice the techniques that have been taught during the training, whereas for online training used during the training there are many connection problems for both respondents and researchers. The research time carried out must be in accordance with the schedule of the West Lombok surfing community itself, thereby slowing down the training process.

This research is also in line with previous research, namely Wilson Simangunsong, Tuti Herawati, 2021 Effectiveness of Smartphone Applications in Efforts to Improve Cardiopulmonary Resuscitation, the results of previous research after carrying out the final selection process for downloaded articles, 33 articles were obtained for review. The newest article was published in 2019, while the oldest article was published in 2007. A total of 16 studies used the randomized controlled trial method, nine research applications

development and risk assessment, five articles observational research, and three articles descriptive studies. In terms of countries where research was conducted, South Korea was the country that conducted the most research, followed by Norway with five studies, and Germany with four studies. And in other research too, this research is in line with Tony Suharsono, Riza Fikriana, 2016, The Effect of Traditional Learning Methods (Tutorials) on Cardiopulmonary Resuscitation Knowledge and Skills, the research results show a p value of 0.001. Respondents were unable to carry out all stages of cardiac arrest assistance. After training, the average chest compression depth was 35.7 mm, chest compression speed 117.6, ventilation 0.3 times, and duration of 5 CPR cycles 142.8 seconds. Respondents were unable to perform chest compressions with adequate depth and adequate ventilation on cardiac arrest victims. CPR training for lay people is better focused on giving chest compressions alone without providing ventilation.

4. CONCLUSION

Based on the analysis and discussion of the research results, it can be concluded that there is a difference in the effectiveness of hands-only CPR training for ordinary people using online and face-to-face methods. The SPSS output results show a calculated T value of 2,226 and a T table value of 0.514, then according to the decision-making rules, it was obtained using an independent T-test and the results obtained were T count > T table. So, it can be concluded that Ha is accepted and H0 is rejected.