THE EFFECT OF BASIC LIFE SUPPORT (BHD) TRAINING ON THE LEVEL OF KNOWLEDGE *OF* NONCLINICAL STAFF IN THE EMERGENCY ROOM OF SMC TELOGOREJO HOSPITAL IN CARDIAC ARREST

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ABSTRAK

Keberadaan dan jumlah masyarakat awam yang mampu memberikan bantuan hidup dasar melalui Resusitasi Jantung Paru masih tergolong rendah yaitu 1%. Penelitian terkait pengaruh pelatihan bantuan hidup dasar (BHD) untuk mengetahui cara penanganan henti jantung. Penelitian ini bertujuan mengetahui pengaruh pelatihan bantuan hidup dasar (BHD) terhadap tingkat pengetahuan Staf Nonklinis. Penelitian ini menggunakan pre – experiment dengan rancangan one group pre test-post test design. Populasi penelitian ini adalah staf nonklinis yang berdinas di IGD dengan jumlah sampel sebanyak 50 responden dengan tehnik total sampling. Penelitian ini menggunakan instument kuesioner tingkat pengetahuan terkait bantuan hidup dasar. Intervensi yang digunakan dengan memberikan pelatihan bantuan hidup dasar (BHD) dengan media edukasi menggunanakan metode ceramah dan demonstrasi. Intervensi ini diberikan satu kali pertemuan. Berdasarkan hasil sebelum dan sesudah diberikan pelatihan bantuan hidup dasar (BHD) terdapat perubahan peningkatan. Hasil sebelum diberikan pelatihan bantuan hidup dasar (BHD) (pre test) didapatkan mayoritas tingkat pengetahuan staf nonklinis kurang sebanyak 24 responden (48,0%) sedangkan setelah diberikan pelatihan bantuan hidup dasar (BHD) (post test), terdapat mayoritas tingkat pengetahuan staf nonklinis baik sebanyak 34 responden (68,0%). Hasil analisa bivariat menggunakan uji wilcoxon didapat nilai signifikan 0,000 (p value < 0,05). Kesimpulan penelitian menunjukkan adanya pengaruh pelatihan bantuan hidup dasar (BHD) terhadap tingkat pengetahuan staf nonklinis tentang henti jantung. Saran penelitian selanjutnya agar memberikan pelatihan bantuan hidup dasar (BHD) pada masyarakat secara menyeluruh.

Kata Kunci : Nonklinis, Pelatihan BHD, Pengetahuan

ABSTRACT

The existence and number of ordinary people who are able to provide basic life support through Cardiopulmonary Resuscitation is still relatively low, namely 1%. Research related to the effect of basic life support (BHD) training to find out how to handle cardiac arrest. This study aims to determine the effect of basic life support (BHD) training on the level of knowledge of Nonclinical Staff. This study uses a pre-experiment with a one-group pre-test-post test design. The population of this study is non-clinical staff serving in the emergency room with a sample of 50 respondents with a total sampling technique. This study uses a questionnaire questionnaire on the level of knowledge related to basic life support. The intervention used by providing basic life support (BHD) training with educational media uses lecture and demonstration methods. This intervention is given one meeting. Based on the results before and after the basic life support (BHD) training was given, there was an increase in changes. The results before being given basic life support (BHD) training (pre test) were obtained by the majority of non-clinical staff knowledge level was less as many as 24 respondents (48.0%) while after being given basic life support (BHD) training (post test), there was a majority of non-clinical staff knowledge level good as 34 respondents (68.0%). The results of bivariate analysis using the wilcoxon test obtained a significant value of 0.000 (p value < 0.05). The conclusion of the study showed that there was an effect of basic life support (BHD) training on the level of knowledge of nonclinical staff about cardiac arrest. The next research suggestion is to provide basic life support (BHD) training to the community as a whole..

Keywords *: Nonclinical, BHD Training, Knowledge*

INTRODUCTION

An emergency situation can be interpreted as a condition in which a person needs immediate help because if not treated immediately, this can be dangerous or lead to a very long period of incapacity. One of the crisis conditions in the cardiovascular system is heart failure. Information about life support (BHD) is very important for everyone, both clinical and non-clinical staff, to deal with the crisis conditions that occur around them, especially in emergency hospital conditions (Sakinah, 2019).

Data from the World Prosperity Association (WHO) shows that more than 17 million people worldwide die from heart and blood vessel disease (Rina, 2023). In 2019, the WHO found that non-communicable diseases were responsible for 70% of global deaths, specifically 39.5 million of the 56.4 million deaths. Of the 39.5 million people who died from non-communicable diseases, 17.7 million of them were caused by heart and blood vessel infections. Information from the American Heart Association (AHA) shows that about 350,000 adults in the U.S. have non-severe out-of-clinic heart failure (OHCA) and are treated by Critical Clinical Benefits (EMS) staff. In addition, less than 40% of people get CPR from ordinary people, less than 12% of people are hospitalized, and about 1.2% of hospitalized people in the US have heart failure (IHCA) (David, 2020).

Considering the results of an initial study conducted in the CPM room of SMC Telogorejo Clinic on Jalan 17 2024, interviews with 5 non-clinical staff showed that all of them had undergone BHD training at the clinic. However, 2 of them actually do not understand the cause of the patient's sudden heart failure and the latest CPR measures based on AHA 2020, for example the position of the hand in the middle of the sternum and the pressure depth between 4 – 5 cm. Meanwhile, three other staff have done BHD but have a hesitant view or are reluctant to do it and tend to wait for directions from nurses or specialist doctors because they do not know the cycle. This can be seen when they understand the development of heart failure treatment that is not in accordance with the AHA 2020 recommendations, more specifically they say that assuming the patient's carotid heart rate is clear but breathing has not returned, then BHD is not performed. until a blue code group appears or unlimited breathing appears.

One way that should be taken to expand information to the entire population or non-clinical workforce about basic treatment of heart failure outside of emergency clinics (pre-medical clinics) or within medical clinic settings is through Essential Life Backing (BHD) (Andriyanto, 2019). The general public or non-clinical personnel who have not gained knowledge about the treatment of heart failure have an important role in this emergency situation.

Preparations are needed so that more individuals are ready to help victims or patients who have a coronary episode before they are taken to the emergency clinic or in the emergency clinic area before the clinical group appears. The success of the cardiopulmonary measures given can increase the resilience of heart failure victims. Currently, the number of people who are able to provide life support through cardiopulmonary resuscitation is still very low, only about 1% (Sentana, 2017).

Furthermore, efforts are needed through Essential Life Backing (BHD) training for the general public or non-clinical. The purpose of the preparation of BHD is to expand the

understanding of the general public or non-clinical workers about BHD in the treatment of heart failure outside the emergency clinic or in the emergency clinic area before the emergence of clinical groups..

METHOD

The design of this study uses a pre-experimental one group pretest-posttest design. The sampling technique in this study was Total sampling. The sample in this study is all non-clinical staff in the emergency room of SMC Telogorejo Hospital with a total of 50 people. The data collection tool in this study uses the AHA 2020 knowledge level questionnaire discussing the knowledge of non-clinical staff related to BHD. In this study, univariate analysis in this study is presented in the form of frequency distribution including: age/age, gender, education, working period and bivariate analysis is analyzed using the wilcoxon.

RESULT

1. Characteristics Responden

Table 1
Distribution of Respondent Characteristics of Nonclinical Staff at SMC Hospital Telogorejo Emergency Room
(n=51)

Characteristic	(f)	(%)
Age		
1. Teenagers (13 - 24 years)	3	6,0
2. Adults (25 - 59 years old)	46	92,0
3. Elderly >60 years old	1	2,0
Gender		
1. Male	33	66,0
2. Female	17	34,0
Education		
1. Junior high school equivalent	6	12,0
2. High school	19	34,0
3. Diploma/Bachelor	25	50,0
Working period		
1.New (< 6 years)	14	28,0
2.Medium (6-10 years)	12	24,0
3.Long (> 10 years)	24	48,0
Total responden	50	100

The results of the study showed that the majority of adult respondents in the age group (25 - 59 years) were 46 respondents (92.0%). The results of this study are in line with research conducted by Dahlan, et al. (2014), which revealed that most of the respondents were in the age range of 20 - 45 years as many as 63 respondents (75%). Age will affect a person's grasp and mindset. As you get older and work experience, your knowledge and handling of BHD will also get better. Notoatmodjo (2018) who stated that the older a person is, the processes of mental development improve even though not as fast as when they were teenagers.

The results showed that most of the rasponden were male as many as 33 respondents (66.0%). Because in the hospital where the research was conducted, the majority of non-clinical staff in the emergency room were men, and only the TPPRI, administration, cashier, and parking rooms had female staff. Although there is no clear research on the relationship between gender and the knowledge of non-clinical staff in performing BHD, men will be more reliable when performing BHD because in general, men have a larger workforce than women (Fhatony, 2014). Both men and women are equally able to do basic life support (BHD) well. According to research

conducted by Darsih (2016), the F value of the F calculation < the table is 0.146 < 3.904 which means that there is no influence between genders in creative thinking skills, as well as technical skills. In general, women and men are given the same opportunity to obtain education and training.

This statement is in line with Kundre (2018) with the title "The Influence of Health Education and Simulation on First Aid Knowledge and Skills in Students Experiencing Syncope at SMA 7 Manado" which said that a person who has good knowledge has better skills than someone who helps without good knowledge, and through practice. Masykur in Harigustian (2016) explained that the memory center (hypothalamus) in the female brain is larger than that of men. So that women have stronger memories than men. In this study, women were better able to remember the steps in performing CPR, although in chest compressions men were more optimal when doing chest compressions than women because they had stronger muscle strength.

This is in line with Arifin's research, (2015) that the strength of the upper extremity muscles in women is 40% - 60% weaker than that of men. Based on the results of Krammel's research, et al. (2018) entitled *"Gender and Age Specific Aspecs of Awarness and Knowledge in Basic Life Support"* stated that in the knowledge and awareness of participants about BHD, women have better knowledge than men, only in the skills of RJP men are better than women.

The majority of the research results of Diploma or Bachelor education level were 25 respondents (50.0). The results of this study are in line with the research conducted by Dahlan, et al. (2014) which revealed that most of the respondents had a DIII education as many as 23 respondents (46.0%). Education is a process of developing personality and abilities inside and outside school. Education will affect the learning process, the higher the level of education, the easier it is to get information so that knowledge can increase.

The results of the study showed that the majority of the working period was more than 10 years as many as 24 respondents (48.0%). The working period is also closely related to knowledge and experience in carrying out basic life support (BHD). The longer the working period of non-clinical staff, the higher the chance to do BHD. Experience is a source of knowledge obtained from solving problems based on past knowledge. According to Maulidia, (2019) longer experience will increase professional knowledge and skills and develop the ability to make a decision.

This is in line with the opinion expressed by Notoatmodjo (2018) that experience is one of the important factors that affect a person's level of knowledge. Based on this theory, the length of work in the emergency room will affect the experience of a non-clinical staff in the emergency room in handling cardiac arrest cases. The longer a nonclinical staff member works, the better

his or her knowledge of cardiac arrest case management will be.

The results of this study showed that most of the respondents had a working period as non-clinical staff > 10 years, which was 24 respondents (48.0%). Longer experience will increase professional knowledge and skills and develop the ability to make decisions (Merchant, 2020).

2. Bivariate Analysis
   a. The level of knowledge of non-clinical staff before being given an intervention using basic life support (BHD) training and the level of knowledge of non-clinical staff after being given an intervention using basic life support (BHD) training at the emergency room of SMC Telogorejo Hospital.
   This study was conducted to find out whether there was a difference in the level of knowledge of non-clinical staff before (pre-test) receiving the intervention from basic life support (BHD) training and the level of knowledge of non-clinical staff after (post test) being given intervention using basic life support (BHD) training.

Table 2
Knowledge Level of Nonclinical Staff Before and After Receiving Interventions from Assisted Training Living Policy (BHD)

Data	N	At least	Maximum	*Mean*	*Standard Deviation*
Pre Test					
Post Test	50	40	100	81.80	13.392

The level of knowledge of Nonclinical Staff before and after being given Basic Life Support (BHD) Training at the Emergency Room of SMC Telogorejo Hospital. The results of the study showed that before being given Basic Life Support Training (BHD) (*pre-test*), an average score of 66.40 was obtained. Meanwhile, after being given Basic Life Support Training (BHD) (*post test*), an average score of 81.80 was obtained. This research is in line with the results of research conducted by Suparman, (2018), which states that the better the knowledge, the better the implementation of actions. Experience as a source of knowledge is one way to obtain the truth of knowledge by repeating the knowledge gained in solving problems faced in the past.

According to Dharmawan in Arlies (2022), the learning experience developed provides preprofessional knowledge and skills and can develop decision-making skills which is a manifestation of the integration of scientific and ethical reasoning that departs from real problems in their field of work. In addition, age will affect a person's ability to catch and think. As you get older, your mindset will develop more so that your knowledge will get better. A person's age also affects a person's grasp and mindset. The older you get, the more

developed your ability to catch and think will be, so that the knowledge you gain will be better (Suwaryo, 2017). Meanwhile, according to Dharmawati (2016) states that the more mature a person is, the more mature he will be in thinking and working, because through his or her own knowledge, his own experience, the experience of others, the environment and other intrinsic factors can shape a person's knowledge over a long period of time and will increase until he is old.

The majority of respondents were in the age range of 25 - 59 years old, a total of 46 respondents (92.0%), where at this age for a non-clinical staff to increase their knowledge by participating in training, both in-house training held by SMC Telogorejo Hospital training and training outside the hospital to support their careers and gain experience. The majority of respondents were men, 33 respondents (66.0%) where male non-clinical staff were stronger in performing basic life support (BHD). According to Suparman, (2018) states that the better the knowledge, the better the role in the implementation of actions. It is possible that there are several factors that can influence, among others, such as: education, experience, availability of facilities and infrastructure or interest and exposure to the information obtained.

b. Effect of basic life support (BHD) training on the level of knowledge of nonclinical staff in the emergency room of SMC Telogorejo Hospital in cardiac arrest.

The results of the Wilcoxon test that have been carried out show that there are negative ranks, meaning that there is a post test score lower than the pre-test score of 0 respondents with an average value (mean rank) of 0.00. There are positive ranks, which means that there is a post test score higher than the pre test score of 38 respondents, with a mean rank of 19.50, and the densest ties (the same value between the post test and the pre test), which means that as many as 12 respondents have the same score between the pre test and the post test.

Whether basic life support (BHD) training affects the level of knowledge of non-clinical staff at the emergency room of SMC Telogorejo Hospital, test statistics are needed. The researcher uses ordinal data, so the test used is the Wilcoxon Test. The results of the Wilcoxon test showed that the P-value of 0.000 ≤ 0.05 had a significant influence between the data on the level of knowledge of non-clinical staff before and after the provision of basic life support (BHD) training. This research is in line with research conducted by Bart in Sakinah (2019), that training is an effort to increase knowledge and change behavior. And training is a process of teaching and learning

knowledge and being able to carry out its responsibilities better, in accordance with the standards according to Tanjung H in Sakinah (2019) in his book "Motivation Management".

Based on research by Kundre & Mulyadi (2018) how health education and simulation have an impact on students' knowledge of help at SMA 7 Manado. This research is in line with research conducted by Muzaki in Agnes (2022), that one of the keys to handling cardiac arrest conditions must have knowledge of BLS. Factors that can affect knowledge can be obtained from various sources. The knowledge obtained by the respondents came from various sources, such as: books, mass media, work experience and education that they had obtained.

The existence of new information about a thing can provide a new cognitive foundation for the formation of knowledge about it. Their education and training are expected to improve their abilities, both in knowledge, skills and attitudes (Notoatmodjo, 2018). One way to measure the level of knowledge is to see how much a person knows about what they are learning, such as mentioning, deciphering, define, declaring, and so on. A person's level of understanding of an object or matter should be able to explain, give examples, and draw conclusions about what they have learned. The level of knowledge application also includes the ability to apply what they have learned in real situations or conditions (Pakpahan et al., 2021).

Supported by the results of Sudarman's research, (2019) on the effect of basic life support training on the knowledge of grade XII students at SMK Baznas South Sulawesi, it was found that the knowledge of the control group that was not given training was good for the majority of 13 respondents (61.9%) and less than 8 respondents (38.1%) and the knowledge after the majority was good knowledge as many as 16 respondents (76.2%) and there were still respondents with less knowledge, namely 6 respondents (23,8%). According to the researcher, there is no increase in the knowledge of non-clinical staff who are given training because there is no change in each level of knowledge, both from the level of knowing, understanding and application. These non-clinical staff have not been able to elaborate or define cardiac arrest so that they cannot understand the impact of cardiac arrest and cannot apply appropriate actions in treating cardiac arrest.

The influence of BHD training on the level of knowledge of non-clinical staff at the SMC Telogorejo Hospital Emergency Room is due to an increase in each level of knowledge, where after being given material and

training non-clinical staff at the level of knowing that the position of the hands when doing BHD is in the mid sternum, at the level of understanding has known that the symptoms of cardiac arrest are no pulse and no breath and at the application level have known well that when a person experiences cardiac arrest give BHD actions to be safe for themselves, the patient and the environment, check the response of patting the shoulder and calling the name, check the carotid pulse, ask for help (call an ambulance) or press code blue, do chest compressions 30 compressions and 2 breath assists if there is BVM, if there is no only chest compressions until the medical staff comes.

According to Iskandar in Pipin (2024), the training method is said to be successful as seen from changes in knowledge, skills and attitudes so that they can absorb the information presented, then good training will give satisfactory results, meaning that more and more people will try to disseminate first aid information as demonstrated. In addition, the level of knowledge consists of three levels starting from the lowest level, namely know or know, where the demonstration participants remember the material about BHD that has previously been demonstrated by the researcher.

After the trainees are able to remember the demonstration material, the participants already understand the impact of syncopation which indicates that the trainees have entered the second level of knowledge, namely comprehension or comperhesion. The trainees already know and understand syncoplast first aid and then apply their ability to provide first aid based on the training materials that have been received so that it can be seen that the level of knowledge of the trainees has increased (Putri et al., 2021).

Supported by the results of research by Yunus et al., (2023) on bandage first aid training for PMR students of SMKN 2 Limboto as a result of the paired t-test, the average obtained in the pre-test was 1.69 with a standard deviation of 480, the score obtained in the post-test was the average. , which was 1.85 with a standard deviation of 367, so that a p-value of 0.000 αandlt: with; 0.05 so that it can be concluded that the knowledge of PMR students before and after the training increased by about 0, 16 that are consistent with the findings of the study. According to the assumption of the researcher, the knowledge that is still lacking can be improved by the direct learning method, namely training because the non-clinical staff has obtained information through the training, in the BHD training process, this non-clinical staff has increased their ability from the lowest level of knowledge, namely knowing, understanding and application so that with this process there is an increase in knowledge from before the training

is given and after the training is given

CONCLUSION

Based on the description of the results of the study and the discussion of the effect of basic life support training (BHD) on the level of knowledge of non-clinical staff, the researcher concluded as follows: Characteristics of the respondents Almost all respondents were in the adult age group (25 - 59 years) as many as 46 respondents (92.0%), with the majority gender male (66.0%), the majority of the education level of Diploma or Bachelor (50.0%). The majority of respondents had a working period of > 10 years, as many as 24 respondents (48.0%),. The level of knowledge of non-clinical staff before being given basic life support (BHD) training was at an average score of 66.40. The level of knowledge of non-clinical staff after being given basic life support (BHD) training was at an average score of 81.80. The results of the study showed that there was an effect of basic life support (BHD) training on the level of knowledge of nonclinical staff at the emergency room of SMC Telogorejo Hospital. This is shown by the results of the Wilcoxon test which shows a significance value = 0.000 (p value < 0.05).

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