Life Support Knowledge And Skill Family Member

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Abstract

An increase in fatality rates in many settings, including roadways, workplaces, schools, and even at home, is mostly due to a lack of awareness about first aid and proper procedures. Family members' knowledge of first aid for heart disease patients is still lacking in order to avoid the patient's condition from deteriorating. The purpose of this study was to see how first aid instruction on basic life support (BLS) affected family members of heart disease patients at the Arcamanik Community Health Center in Bandung City. This study is designed as a quasi-experiment with before and after testing. Simple random selection was used to choose a total of 40 respondents for this study. . The intervention took the form of demonstrations and audio-visual information on the basic life survey (BLS). The average age of the respondents was 30.23 years, more than half were female, 26 individuals (65%), and more than half had graduated from high school, 21 people (52.5%). Ten persons (25% of those polled) work as entrepreneurs. The majority of respondents' revenue came from being informed of emergency situations. The research findings revealed that audio-visual instruction and BLS demonstrations had an effect on BLS performance skills (p-value 0.000 0.05). Training has the impact of boosting BLS responders' knowledge and abilities. As a type of early warning of disaster situations, emergency training should be delivered to the entire community..

Keywords: Basic Life Support; Education; First AID; Training

Introduction

Accidental emergency situations can occur at any moment and in any location, necessitating quick care. If necessary emergency responses are not provided, it can result in life-threatening or permanent impairment caused by, among other things, traffic accidents, sickness, fire, or natural catastrophes. Emergency cases are an essential aspect that requires attention since their frequency and effect have risen over time (Zhang et al., 2022). People with heart disease may potentially experience an emergency situation. They might suffer a heart attack at any time and require fast and adequate first assistance. Family members must be educated..

Many emergency situations necessitate urgent first aid. Despite their high prevalence, road accidents have received little public attention as a cause of mortality (Liu et al., 2023; Zhou et al., 2023; Zhu et al., 2023). Every year, 1.2 million people die in road accidents throughout the world, with the remaining 50 million injured (Singh, 2022). According to the WHO, around 1.3 million people die each year as a consequence of road accidents (World Health Organization, 2022). Meanwhile, one person dies in a road accident every three hours in Indonesia, according to a Ministry of Information study (Risdianto & Widyastuti, 2022).

Furthermore, the status of noncommunicable illnesses in Indonesia demonstrated the importance of the family in terms of emergency treatment and diet control (Purnamasari, 2019).

Aside from road accidents, there are several additional noncommunicable diseases (NCDs) that require immediate treatment, also known as primary prevention (Estruch et al., 2018). In an emergency, those around must provide emergency help, which must be done correctly or the situation may worsen (Elias et al., 2018). In relation to this problem, the target of SDG point 3.4 is to reduce NCDs by 2030 (Nugent et al., 2018).

First aid education is not usually taught to the general public. Only health professionals who understand and are trained in first aid. Many individuals are aware of the need of first aid but have not progressed to the learning stage, which means they do not fully comprehend (Farzan et al., 2023). Furthermore, individuals believe that first aid is important in crises, but they may not have had any experience with it, thus it appears that they grasp it as a theory but not in practice (Tzimpoulas et al., 2020). Everyone has to know how to give first aid since people often panic and don't know what to do in an emergency (Crouchman et al., 2022). Basic Life Support (BLS) is the capacity that ordinary people must have in order to administer first aid after an accident (González-Salvado et al., 2020). It has been demonstrated that BLS training for nurses and midwives has resulted in a considerable improvement in knowledge and competence to address crises. Because an emergency may have happened for a family member with heart disease, the other family members must be trained in Basic Life Support (BLS).

Many studies have been conducted in the past to educate health professionals and the general public on the need of Basic Life Support (BLS). This study, on the other hand, focuses on family members of persons with cardiac disorders in order to reduce fatalities and morbidity before the patient is brought to the hospital for emergency care. Importantly, family members are the closest people who can treat and intervene promptly (Rehr et al., 2018). As a result, the purpose of this study is to assess the impact of first aid knowledge on BLS among family members with heart disease in Bandung City.

Method

Study Design

The intervention method was utilized in this study to assess knowledge changes. A quasi-experimental research was conducted, in which the intervention was administered and the effectiveness was assessed before and after (pre and post-test). This study was conducted on heart disease family members at the Lingkar Timur Primary Health Care, Singaran Pati Subdistrict, Bandung City, Bengkulu Province. This research was completed in July 2021.

Target population and sampling technique

According to statistics from Lingkar Timur Primary Health Care, the study's population consisted of 150 homes with people suffering from heart disease. The sample method employed in this study was simple random sampling, and 40 families participated fully. The intervention, which included a demonstration and information regarding Basic Life Support, was delivered to representatives of homes, the majority of whom were heads of households.. The inclusion criteria for the sample were those between the ages of 18 and 45, who had a family member with heart disease, were literate (able to read and write in Bahasa Indonesia for verbal and nonverbal communication), had never had BLS training, and were willing to participate. Participants in BLS training, those with motivation levels of 80-100, those who were ill during the intervention, those with impairments, and those who refused to leave the intervention were all excluded from this study's sample..

Intervention

The intervention in this study consists of some emergency management knowledge such as: (1) preventing death and disability in emergency patients so they can live and function again in society, (2) referring emergency patients through the referral system to obtain more adequate treatment, and (3) disaster victim management. It is also critical that first aid is provided in the hospital before transferring to advanced health care . The range of emergency conditions in the prehospital can be

carried out by special lay people or health workers who are expected to be able to take action in the form of; (1) removing any dangerous objects at the scene, (2) conducting or selecting and determining emergency conditions and providing first aid before more skilled health workers arrive to help, (3) performing temporary fixation or stabilization, and (4) evacuation, which means the victim is moved to a safer place or sent to a hospital. The phantom is often used to demonstrate cardiopulmonary resuscitation (CPR) to the respondents.

Instrument

The audiovisuals used in this study were used to educate activity participants. The video was shown in two stages. The first was making oral presentations of teacher content, and the second was individuals immediately practicing. The teacher will lead you through the BLS skills with audio-visual aids. . All of the interventions took roughly 3-4 hours. The researcher employed a questionnaire to assess respondents' abilities before and after the intervention. Before beginning the first activity, all participants were given opportunity to complete a pretest consisting of knowledge questions, steps, and BLS training experiences. After participants practice BLS skills taught by the audio-visual, post-test measures are provided at the end of the activity with the same questions. .

Data Analysis

The final data was cleansed to ensure there were no gaps. data was then analyzed using SPSS software, which includes univariate and bivariate analysis. univariate analysis was performed to characterize the independent and dependent variables. data is displayed as a percentage, table, mean, median, standard deviation, maximum, minimum, and 95% CI. t-test and Wilcoxon test were used in bivariate analysis to determine mean differences between pre and post-test..

Ethical Consideration

This study was approved by Lintas Timur Primary Health Care and was granted a research authorization by the Bengkulu Ministry of Health Polytechnic, with letter no: DM.01.04/6/347/2021.

Result and Discussion

Table 1. General characteristics of respondents

Variable (N=40)	Freq.	%
Age Min; Max; Mean (SD)	18; 45; 30.23 (27.21 – 33.24)	
Sex Male Female	 1 4 2 6	 3 5 6 5
Level of education		
Elementary school	5	12.5
Junior High school	6	15
Senior high school	21	52.5
University	8	20
Occupation		
Housewife	7	17.5
Student	9	22.5
Employee	4	10
Entrepreneur	10	25
Civil servant	2	5
Private sector	8	20
Income		

<Rp 1,000,000 (< 66.93 USD)	16	40
Rp 1,000,000-3,000,000 (66.93 USD –	14	35
200.80 USD)		
>Rp 3,000,000 (> 200.80 USD)	10	25

Source: Data processed 2020

According to the univariate findings of this study, the average age of the respondents was 30 years old, with a minimum age of 18 years old and a maximum age of 45 years old. Table 1 summarized the gender, education, employment, and income characteristics of respondents. More than half of the respondents (26 persons) were female, and almost half of the respondents (21 people) had completed senior high school. The bulk of respondents work as entrepreneurs (10 persons (25%) and have an income level of Rp. 1,000,000 (16 people (40%).

Table 2 depicts the skills prior to and after the intervention. The average respondent's proficiency in doing BLS prior to receiving schooling was 19.813, with a standard deviation of 8.872. Meanwhile, the after-education score was 72.498, with a standard deviation of 13.8768. It is possible to infer that there has been a considerable development in abilities and expertise in providing the intervention, with the number increasing from 19.183 to 79.498.

Table 2. Description of average BLS knowledge beforeand after being given intervention

Variable	Mean	SD	SE	CI 95%
Before intervention	19.183	8.872	1.4029	16.345-22.020
After intervention	72.498	13.8768	2.1941	68.059-76.936

Source: Data processed 2020

According to Table 3, the mean rank on the positive rankings is 20.50, with a total rank of 820.00, indicating that skills to do BLS after being given education > skills to do BLS before being provided education. The statistical test findings revealed a p-value of 0.001 (0.05), implying that the audio-visual and demonstration of first aid effectively can increase respondents' BLS abilities..

Overall, based on the data in each table, it is possible to conclude that respondents' knowledge grew both before and after the intervention. It was also discovered that first aid instruction and demonstration successfully increase BLS abilities in family members with cardiac conditions.

Table 3. The Influence of first aid education on BLS Skills

Variables		N	Mean rank	Sum rank	*p-value*	Z
Skills after given education – skills before given education	Negative Ranks	0[a]	0.00	0.00	<0.0001	-5.653[b]
	Positive Ranks	40[b]	20.5	820.0		
	Ties	0[c]				
	Total	40				

**Wilcoxon Test*

Discussion

The differences in skills between before and after BLS training

According to the findings, the difference in the average skill of performing BLS to respondents before and after education was 19.183, and the average skill to perform BLS to respondents after education was 72.498. This demonstrates that after receiving education using audio-visual and BLS demonstrations, respondents improved their BLS abilities. Using instructional films or videos to increase excitability by giving emotional, intellectual, and psychomotor stimuli that are directly connected to skills (Ningsih & Atmaja, 2019) is an effective strategy.. The video technique mixes sound and picture elements to facilitate access to someone's memory. Furthermore, video or video-based learning stimulates three crucial aspects of learning: emotional, intellectual, and psychomotor (Eidenberger & Nowotny, 2022). A person may recall a lot of what he has learned and is cognitively and psychomotorly engaged, so his knowledge and abilities will quickly develop (Botelho et al., 2019). One of the characteristics that keep students engaged and motivated in learning activities is the usage of engaging and enjoyable learning media (Arifianto & Izzudin, 2021). Learning media are highly different; as the researchers described above, one of the learning media that draws students to learning activities in class is video. With students' interest in learning activities using video media, it can be expected to increase student learning motivation so that student learning achievement can also increase optimally

The influence of audiovisual instructors on the skill of performing BLS

The Wilcoxon test findings indicated that all respondents who were provided education had a value larger than before they were given education, with an average of 20.50, and no respondents who were given education had a value lower than before they were given education. The Wilcoxon test results on the effect of audio-visual education and BLS demonstrations on BLS skills in families with heart disease in the working area of the Lingkar Timur Primary Health Care in 2021 obtained a p-value of 0.000, which is less than 0.05, indicating that there is an effect of education with audio-visual and BLS demonstrations on BLS skills..

The audio-visual teacher technique is more entertaining and easy to grasp, and responders are persuaded to observe and can perform it themselves (re-demonstration) (Septiani et al., 2020). Good educational media is media that may deliver health information that is acceptable to the target so that the target is willing and able to modify behavior in accordance with expectations (González-Salvado et al., 2020). Visual aids can assist target students in receiving instruction through their five senses. The greater the number of senses employed in receiving instructions, the greater the acceptance of learning. Aside from non-medical personnel, various research have been undertaken to investigate the impact of BLS abilities. A prior study in Pakistan discovered that work experience was the most critical predictor for BLS knowledge among health staff, with doctors having a better score for BLS knowledge than other health workers (Irfan et al., 2019). The other research indicated that doctors performed worse than nurses in terms of CPR procedures. The study in India found that dentistsand postgraduate students had only average scoresabout BLS. Thai medical students were also shown to perform well following training (Suwanpairoj et al., 2020). One study indicated that training should be repeated once a year due to a decline in BLS scores one year following training (Castanha et al., 2021). Some studies conducted among health staff reported average to high improvement in BLS, which is why training for non-medical individuals must be done in depth because they may have different understandings of first aid. Some studies in the United States (US) underlined that persons over the age of 18 should be taught in first aid and BLS at the very least for family situations..

The role of the family in an emergency situation

In terms of time, emergency events could not be anticipated. However, people can mitigate the harshest effects of this. Patients with cardiac problems were the focus of this investigation. Family members, acquaintances, and coworkers who are close to the patients must provide primary preventive

and emergency care (Geiderman et al., 2019). Patients must shift to primary health care or a hospital once their circumstances improve (stervang et al., 2022).

The outcomes of this study addressed the demands of family members who asked appropriate approaches to manage emergency circumstances for their heart disease family members (Demirtaş et al., 2020). Because studies reveal that elderly persons have the highest risk of NCDs, younger family members may be the best people to care for them (Mikkelsen et al., 2019). People with hypertension, heart disease, and diabetes mellitus, for example, require food management that can be handled by other family members (Budreviciute et al., 2020; Gupta & Xavier, 2010)..

Conclusion

First aid training is a useful approach to strengthen Basic Life Support (BLS) abilities, particularly for a family member suffering from heart disease. Support from primary health care is needed to implement Basic Life Support (BLS) training, especially for people who reside in high-risk locations for natural disasters and have family members with heart disease. Furthermore, all people must be trained in first aid in the event of an emergency. Audio-visual training with direct demonstration would be preferable. A larger sample size might be used in the next study to ensure a more comprehensive influence of first aid training on BLS abilities.

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