Knowledge And Self-Efficacy On "First Responder" In Giving First Aid

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Abstract

Introduction: "First responder" is a lay person who get trained to do first aid. Doing first aid is influenced by knowledge and self-efficacy of the helper. However, the study of knowledge and self-efficacy of first aid providers is limited. This study aimed to asses the knowledge and self-efficacy of first responders in doing first aid. Method: This research used quantitative description method with cross sectional approach towards 65 first responder in a University in Bandung. The samples were selected using total sampling technique. The data were gathered using questionnaire of First Aid Knowledge and Wilderness First Self-efficacy Scale. The data were analyzed through quantitative description analysis, including mean and frequency distribution. Result : The research found that 57 respondents (87,7%) had limited knowledge of first aid, in particular about health problems related to environment aspects. Meanwhile 62 respondents (95,5%) %) had high self-efficacy especially on the ability to assess vital signs, yet they had low self-efficacy on conduct a spinal assessment (4.5%). Conclusion: There is needs for increasing knowledge about health problem related to the environment and self-efficacy about spinal assessment by providing materials and other kinds of learning methods aside from lectures, educational practice as well as experimental learning and simulations. In addition, first responders also need to improve their ability related environment aspects and spinal assessment.

Keywords: First aid, first responder, knowledge, self-efficacy.

Introduction

First aid is a direct care given to people who are injured due to an accident or other emergency conditions that aims to save or sustain life until medical assistance is available or needed (Thygerson, 2011; Wombeogo & Kuubiere, 2014). Giving first aid can be done by lay people who are at the scene who have been medically trained called first responder (Department of Health, 2006). The task of a first responder is to provide first aid that aims to save or sustain someone's life (Wombeogo & Kuubiere, 2014). In addition, first aid would provide a significant difference between life and death, rapid recovery and long hospitalization, and temporary disability with permanent disabilities (Thygerson, Gulli, & Krohmer, 2007). Good knowledge of a first responder is significant so that they act quickly and precisely.

The first responder should have a high self-efficacy. Someone who has high self-efficacy will be able to predict an appropriate action or not. self-efficacy is a motivation construct so that individuals are the main factors that control their self-efficacy (Gist & Mitchel, 1992). Self-efficacy is also one of the keys to measuring the achievement of the objectives of a training (Ro et al., 2016). There is still little research related to knowledge and self-efficacy of first responders, so this study aims to assess knowledge and self-efficacy of first responders in first aid and to evaluate the effectiveness of education and training programs that have been carried out.

Research Method

The design of this study was descriptive quantitative with the cross-sectional approach. The variables in the study were knowledge and self-efficacy in the first aid. The population in this study was first responders in a university in Bandung with a total of 65 people. Sampling was selected using the total sampling technique. Samples has attended education and training about the first aid. data collection is done by distributing questionnaires.

The questionnaire was independently developed by the researcher. The questionnaire contains questions about the first aid knowledge. The questionnaire has been tested content with the results of relevant questions. The second questionnaire was the Wilderness first self-efficacy scale developed by the Wilderness Medicine Institute (WMI) of the National Outdoor Leadership School (NOLS) in 2012. Wilderness first self-efficacy scale has validity and reliability with the calculated IR> r table for a sample of 65 people 0.6215 and Cronbach's value $\alpha = 0.92$.

This research has received ethical approval from the Research Ethics Committee of Padjadjaran University Bandung with letter number 86 / UN6.KEP / EC / 2018.

Research Results

Table 1 presents that 57 respondents (87.7%) were female and 32 respondents (49.2%) were in the eighth semester. The majority

Table 1 Characteristic of First Responders (n=65)

No	Characteristic	Frequency (f)	Percentage (%)
1	Gender		
	Male	8	12.3
	Female	57	87.7
2	Education		
	First Semester	23	35.4
	Sixth Semester	10	15.4
	Eighth Semester	32	49.2
3	Experience in doing First Aid		
	Less than 3 times	4	6.2
	3– 10	35	53.8
	> 10 times	26	40

4	First aid actions according to symptoms assessment		
	Gastritis symptoms	58	89
	Dysmenorrhea	57	88
	Spasm	54	83
	Asthmatic symptoms	46	71
	Fainting	46	71
	Dyspnea	41	63
	Hypotermia	41	63
	Vomit/nausea	39	60
	Blister	38	58
	Ulcer/infection	35	54

Table 2 First Responders knowledge in the First Aid services (n=65)

Knowledge	Frequency (f)	Percentage (%)
Good	8	12.3
Poor	57	87.7

Table 3 Respondents' Knowledge based on First Aid Knowledge Aspects (n=65)

No	Aspect	Poor(%)	Good(%)
1	General approach	18.5	81.5
2	First aid for medical conditions	80	20
3	First aid for injury	46.2	53.8
4	Health problems related to environment	93.8	6.2
5	First aid related to animal disorders	73.8	26.2
6	Resuscitation	10.8	89.2
7	Psychological first aid	80	20
8	General Knowledge of First Aid	63.1	36.9

Table 4 Self-efficacy of First Respondens in the First Aid Services (n=65).

Self-efficacy	Frequency (f)	Percentage (%)
High Self-efficacy	62	95.5
Moderate Self-efficacy	0	0
Low Self-efficacy	3	4.5

Table 5 Respondent's Self-Efficacy Based on Wilderness First Aid (n=65)

No	Actions	Self-efficacy		
		Low(%)	Moderate(%)	High (%)
1	Assessing the situation	3.1	15.4	81.5
2	Initial Assessment	7.7	7.7	87.6
3	Performing a physical examination	1.5	10.9	87.6

4	Assessing vital signs	1.5	0	98.5
5	Assessing health history	1.5	4.7	93.8
6	Dealing with injuries	4.6	10.8	84.6
7	Assessing spinal	33.9	27.6	38.5
8	Verbal reporting as SOAP form	13.8	12.3	73.9

of respondents 35 respondents (53.8%) had given first aid 3-10 times. Symptoms of gastritis were the most common cases (89%)

Table 2 shows that more than half of the respondents, 57 respondents (87.7%) had insufficient knowledge about the first aid actions

According to Table 3, it is known that some respondents have good knowledge of the general approach (81.5%), first aid for injury (53.8%) and resuscitation (89%). However, more than half of the respondents had insufficient knowledge about first aid for medical conditions (80%), health problems related to the environment (93.8%), first aid related to animal disorders (73.8%), first aid in psychological problems (80%), and other general knowledge about first aid (63.1%).

Table 4 shows that the majority of respondents, 62 respondents (95.5%) had more than enough confidence in providing first aid services.

Table 5 describes that the majority of respondents have high self-efficacy, especially in the ability to assess the situation (81.5%), carry out an initial assessment (87.6%), conducting a physical examination (87.6%), conducting vital signs (98.5%), collecting patient history (93.8%), managing injuries (84.6%), and submitting verbal reports in SOAP format (73.9%).

Discussion

Knowledge of First Responder in First Aid
The results of this study indicated that the majority of respondents had insufficient knowledge about first aid. Lack of knowledge may be caused by a lack of training methods that are less varied. Based on the training curriculum where respondents were trained it was known that the lecture method was the main method used in the training process (PNC curriculum, 2015,2016 and 2017). Norouzi (2011, in Sadeghi 2014) stated that

the lecture method has disadvantages such as participants being inactive, communication is only one direction, and participants quickly forget about the materials presented. Previous research also mentioned that around 80% of the material that delivered by the lecture method is forgotten within 8 weeks (Safari et al, 2006). Based on this, developing training materials with various methods need to be improved.

The lack of respondents' knowledge in this study may also be due to the lack of respondents in reviewing the training material. Based on a list of programs in 2016 and 2017, there is no program that aims to review the training material. Schumann et.al (2012) stated that the lack of efforts to repeat material causes a decrease in knowledge in first responders. Another factor is the lack of information. Budiman and Riyanto (2013) explained information would affect a person's level of knowledge because it can change and increase knowledge.

In table 3 it is known that 89% of respondents have good knowledge about resuscitation. This might be because knowledge about resuscitation is given every year, 64.6% of respondents in the third year and the fourth year of study get this material. This result in line with Soe et al.'s (2016) study which mentioned that there is a significant relationship between years of learning and the level of knowledge of first aid in health students. Budiman and Riyanto (2013) stated that the level of education is one of the factors that influence a person's knowledge, the higher the level of education of a person, the more information is obtained and the more knowledge that is possessed.

According to table 3, aspects of first aid knowledge about health and environmental issues are the least knowledgeable aspects. In Table 1 showed that health problems related to the environment such as hypothermia were found in more than 50% of respondents. Other problems related to the environment included

heat stroke and immersion foot. Blancher, Colonna, Coste, and Guilhem (2016) stated that hypothermia is one of the symptoms of a disease that appears in mountain climbers. Increasing knowledge of first aid related to the environment is very important,, it because of the accident locations and the emergency condition occurred anywhere in uncertain weather.

10 out 26 cases were cases related to medical conditions. However, 80% of the respondents had insufficient knowledge about first aid on medical conditions. Blancher et al (2016) stated that more than 280 medical symptoms of the disease occurred in mountain climbers. Lack of respondents' knowledge in handling cases would impact to services that provided. Additional learning media such as a first-aid manual pocket book would useful to facilitate first responders in doing their activities and to to reduce the risk of errors in giving first aid.

The results of the self-efficacy assessment showed that the majority of respondents (95.5%) have high self-efficacy. The high self- efficacy of respondents may because of all respondents having a personal experience (mastery experience) in carrying out first aid although in varying amounts (Table 1). According to Bandura (1994) personal experience is one source that can improve self-efficacy. Jorm, Kitchener, and Mugford (2005) also state that the majority of respondents who have experience or have attended training have intra-personal positive effects such as increased empathy, understanding, and confidence to act appropriately.

According to table 5, it is known that examination of vital signs is the ability possessed by almost all respondents with high self-efficacy. This is because these skills have been taught during the training and early semester of lectures, in other words the respondents have had personal experience on this matter. Another study found that measuring vital signs is one of the abilities with high self-efficacy in nursing students (Abdal et al., 2015).

Of the eight abilities assessed, the ability to do spinal assessment is the only ability with a value of self-efficacy of less than 50%. The low self-efficacy in this ability may be due to the lack of knowledge about spinal assessment and lack of experience in conducting spinal studies. Table 1 showed cases that there is not cases of spinal assessment.

The high and low self-efficacy of respondents does not reflect how the respondent's skills in doing first aid actions, but it shows how the respondent's assessment of their own capability related to the first aid skills (Bandura, 1977 in Vries, Dijkstra, & Kuhlman, 1988). The self-efficacy value in this study emerged as a result of respondents' assessment of their ability to do a task including first aid.

Conclusion

The results of the study showed that the majority of respondents had insufficient knowledge in providing first aid. The aspect of knowledge, especially regarding resuscitation are the best aspects of knowledge, and knowledge related to environmental aspects is the lowest aspect. Furthermore, most respondents have high self-efficacy in giving first aid, however, they have not enough knowledge, it would have a negative impact not only on patients / clients but also on their organizations and institutions.

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