



## A descriptive study of knowledge, attitude, and awareness of basic life support among the students of the faculty of veterinary medicine

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### Abstract

Basic life support (BLS) is a first-aid measure to restore vital organ functions in cardiac or respiratory arrest patients. This research was conducted on the students of the Faculty of Veterinary Medicine in the 2018<sup>th</sup> and 2019<sup>th</sup> entry years from November 15<sup>th</sup> – 30<sup>th</sup>, 2021. This study was a descriptive observational study using a cross-sectional research design. Two hundred two respondents in this study were selected by stratified random sampling. Data from respondents were collected using an online questionnaire via Google Forms. The results of this study indicated that most respondents were 20 years old (46.5%), female (65.8%), and the number of respondents from each generation was the same. The data analysis of the respondents' basic life support showed that they possessed a minimal level of knowledge (60.9%), good attitude (66.8%), and good awareness (56.9%). According to these findings, most students had positive attitudes and awareness of basic life support. The aspect of knowledge about basic life support practices among these students falls into the poor category. Therefore, there is a need to step up the socialization and training process.

*Keywords: Bibliometric, herbal, flavonoid, reactive oxygen species (ROS), testicle*

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### Introduction

Every year, there are 36 million deaths caused by non-communicable diseases, and more than nine million of these deaths occur in the age group of less than 60 years. The Ministry of Health (Kemenkes) of the Republic of Indonesia in 2014 stated that 90% of these deaths occurred in low and middle-income countries, one of which is Indonesia. Cardiovascular disease is the number one killer among other non-communicable diseases (Surunadi, 2017). Based on Basic Health Research in 2018, the prevalence of heart disease in Indonesia is 1.5% in the entire population at all ages (Ministry of Health, 2018a). Meanwhile, in Aceh, the

prevalence of heart disease is 1.6% in the entire population at all ages. This figure is slightly higher than the national average (Ministry of Health, 2018b). Based on data from the intensive care unit at Cipto Mangunkusumo Hospital, as many as 10.000 people every year, or an average of 10 people every day, experience cardiac arrest. However, the incidence of cardiac arrest in Indonesia has not been recorded (Surunadi, 2017).

In most cases of Out of Hospital Cardiac Arrest (OHCA), the travel time from patient evacuation to arrival at emergency services takes quite a long time. In addition, the prognosis of patients who experience cardiac arrest is greatly

influenced by the initial Cardiopulmonary Resuscitation (CPR) treatment that the patient receives before arriving at emergency services (Surunadi, 2017). Based on these conditions, the public is believed to be highly required to master Basic Life Support (BHD) skills. Several studies suggest that efforts to raise community health awareness and ensure compliance significantly prevent bad health conditions for citizens (Zulfitria et al., 2023). A similar opinion stated by Aldhakhri (2020) that the community has a very important role in providing first aid to patients experiencing OHCA.

Basic life support skills need to be mastered by all groups of society, not only due to job demands such as doctors, nurses, police or firefighters but also society in general, including students. Students are believed to have high enthusiasm for learning and trying many new things. According to data from the Central Statistics Agency (BPS) in 2017, the number of students in Indonesia is around six million people and continues to increase yearly (Central Bureau of Statistics, 2017). With all the activities and seeing the large number in their age group, basic life support skills are something that is highly recommended to be mastered by students. If students can carry out these skills well, it will be beneficial in the chain reaction needed to help individuals experiencing cardiac arrest (Goduha et al., 2017). Therefore, this research was conducted to determine students' level of knowledge, attitudes and awareness regarding basic life support. The population object was students at the Faculty of Veterinary Medicine, Universitas Syiah Kuala.

## Method

This research was a descriptive observational study with a cross-sectional design that aims to determine students' level of knowledge, attitudes, and awareness regarding basic life support at the Faculty of Veterinary Medicine, Universitas Syiah Kuala. The research was carried out from November 15-30, 2021, using a Google Form electronic questionnaire.

The population of this study were all active students of the Faculty of Veterinary Medicine, Universitas Syiah Kuala, with 2018<sup>th</sup> and 2019<sup>th</sup> entry years, with a total number of 203 and 205 people for each year. Samples were taken using a stratified random sampling technique. The inclusion criteria in this study were students who had taken part in the fifth semester. Meanwhile, the exclusion criteria were students who had taken basic life support training.

The data used in this research is primary data, preceded by respondents filling out a consent form and continuing with filling out an electronic questionnaire based on inclusion and exclusion criteria. The data obtained was then processed using statistical software using univariate analysis. The research data is presented in the form of a frequency distribution table.

## Results and Discussion

### Results

This research was conducted on students of the Faculty of Veterinary Medicine, Universitas Syiah Kuala. The number of respondents who filled out the research questionnaire was 207 people, but the number of respondents who met the inclusion and exclusion criteria was 202 people, consisting of 101 individuals from each year group. Respondent characteristics based on age can be seen in Table 1.

Table 1. Characteristics of respondents

Characteristics	Frequency (n)	Percentage (%)
Age		
19-year-old	14	6.9
20-year-old	94	46.5
21-year-old	79	39.1
22-year-old	15	7.4
Gender		
Man	69	34.2
Woman	133	65.8
Total	202	100

Based on Table 1, it was found that the respondents in this study were aged between 19-22 years. The majority of research respondents were 20 years old, namely 94 people (46.5%), and 133 people (65.8%) were female.

### Knowledge aspect

The knowledge level is defined as the level of research respondents' insight into basic life support skills based on measurements using a research questionnaire. The level of knowledge is classified into three groups, namely good,

sufficient, and poor. The majority of respondents in this study had a poor level of knowledge regarding BHD, namely 123 people (60.9%). An overview of the level of knowledge based on respondent characteristics is in Table 2.

Table 2. The frequency distribution of knowledge levels based on respondent characteristics

Characteristic	Level of knowledge						Total	
	Good		Adequate		Poor		n	%
	n	%	n	%	n	%		
Age								
19-years-old	1	5.6	5	8.2	8	6.5	14	6.9
20-years-old	2	11.1	28	45.9	64	52.0	94	46.5
21-years-old	12	66.7	25	41.0	42	34.1	79	39.2
22-years-old	3	16.7	3	4.9	9	7.3	15	7.4
Gender								
Man	5	27.8	21	34.4	43	35.0	69	34.1
Woman	13	72.2	40	65.6	80	65.0	133	65.9
Entry year								
2018	13	72.2	32	52.5	56	45.5	101	50.0
2019	5	27.8	29	47.5	67	54.5	101	50.0
<b>Total</b>	<b>18</b>	<b>8.9</b>	<b>61</b>	<b>30.2</b>	<b>123</b>	<b>60.9</b>	<b>202</b>	<b>100</b>

Table 2 shows respondents' knowledge levels distribution based on age, gender, and cohort. Most respondents with a good level of knowledge are 21 years old, with 12 respondents (66.7%). Meanwhile, for those with a fair and poor level of knowledge, most respondents are 20 years old, with 28 respondents (45.9%) and 64 respondents (52.0%), respectively. The research results indicate that the maximum age of the research respondents does not directly correlate with an improved knowledge.

Based on gender, most respondents with good knowledge levels are female, with a total of 13 individuals (72.2%). Similar results are found in the other knowledge levels. A total of 40 respondents (65.6%) with fair knowledge and 80 respondents (65.0%) with poor knowledge are also female. In terms of cohorts, this research indicates that the 2018 cohort has a better knowledge level of basic life support compared to the 2019 cohort. However, overall, most knowledge levels in each cohort are categorized as poor, with a total of 123 respondents (60.8%).

### Attitude Aspect

Attitude is defined as the behavior or willingness of students to perform basic life support skills when needed, as assessed through a questionnaire in this research. The research shows that the majority of students have a positive attitude toward basic life support, with 135 respondents (66.8%) dominated by the 2019 cohort, female gender, and 20 years old. The research results indicate that there are no students with a very poor attitude. Further details of students' attitude levels based on respondent characteristics can be seen in Table 3.

Based on the table above, the majority of research respondents with a very good attitude are 20 years old, with a total of five respondents (55.6%), and only one respondent (0.5%) with a poor knowledge level. However, no students with a very poor attitude in any age group. The table also shows that the majority of research respondents with an excellent attitude are female, totaling seven respondents (77.8%). The same results are found for those with a good and fair attitude, dominated by female respondents. In terms of cohorts, the 2019 cohort has a better attitude towards basic life support

compared to the 2018 cohort, with a ratio of 77.8% and 22.2%.

**Table 3. Frequency distribution of attitude levels based on respondent characteristics**

Characteristic	Level of attitude										Total	
	Very good		Good		Adequate		poor		Very poor		n	%
	n	%	n	%	n	%	n	%	n	%		
<b>Ages</b>												
19-year-old	0	0.0	10	7.4	4	7.0	0	0.0	0	0.0	14	6.9
20-year-old	5	55.6	58	43.0	31	54.4	0	0.0	0	0.0	94	46.5
21-year-old	3	33.3	56	41.5	19	33.3	1	100.0	0	0.0	79	39.2
22-year-old	1	11.1	11	8.1	3	5.3	0	0.0	0	0.0	15	7.4
<b>Gender</b>												
Man	2	22.2	45	33.3	21	36.8	1	100.0	0	0.0	69	34.1
Woman	7	77.8	90	66.7	36	63.2	0	0.0	0	0.0	133	65.9
<b>Entry year</b>												
2018	2	22.2	76	56.3	22	38.6	1	100.0	0	0.0	101	50.0
2019	7	77.8	59	43.0	35	61.4	0	0.0	0	0.0	101	50.0
<b>Total</b>	9	4.5	135	66.8	57	28.2	1	0.5	0	0.0	202	100

**Awareness aspect**

Awareness is the self-awareness of the importance of basic life support skills, as measured using a research questionnaire. A total of 115 respondents (56.9%) have a

good level of awareness, and there are no respondents with poor or very poor levels of awareness. The frequency distribution of students' awareness levels can be seen in Table 4.

**Table 4. The frequency distribution of the level of awareness based on respondent characteristics**

Characteristic	Level of awareness										Total	
	Very good		Good		Adequate		poor		Very poor		n	%
	n	%	n	%	n	%	n	%	n	%		
<b>Age</b>												
19-year-old	11	13.1	2	1.7	1	33.3	0	0.0	0	0.0	14	6.9
20-year-old	56	66.6	36	31.3	2	66.7	0	0.0	0	0.0	94	46.5
21-year-old	15	17.9	63	54.8	0	0.0	0	0.0	0	0.0	79	39.2
22-year-old	2	2.4	14	12.2	0	0.0	0	0.0	0	0.0	15	7.4
<b>Gender</b>												
Man	32	38.1	36	31.3	1	33.3	0	0.0	0	0.0	69	34.1
Woman	52	61.9	79	68.7	2	66.7	0	0.0	0	0.0	133	65.9
<b>Entry year</b>												
2018	40	47.6	59	51.3	2	66.7	0	0.0	0	0.0	101	50.0
2019	44	52.4	56	48.7	1	33.3	0	0.0	0	0.0	101	50.0
<b>Total</b>	84	41.6	115	56.9	3	1.5	0	0.0	0	0.0	202	100

Based on Table 4, the majority of research respondents with an excellent level of awareness are 20 years old, with a total of 56 respondents (66.6%). On the other hand, at a good level of awareness, it is dominated by 21-year-old respondents, with 63 respondents (54.8%). Most of the research respondents with a very good level of awareness are female, totalling 52 respondents (61.9%), and the 2019 cohort has a better level of awareness regarding basic life support compared to the 2018

cohort, with 52.4% and 47.6% in the "very good" category, respectively.

**Discussion**

The results of this study are in line with the research conducted by Dameria et al. (2019) which involved 44 respondents who had not received health promotion before, where the majority of respondents had poor knowledge (57%). This research concludes that the lack of knowledge among respondents is due to the absence of health promotion related to the

understanding, causes, and management of basic life support (Dameria et al., 2019).

Wiliastuti et al. (2018) conducted research also yielded similar results to those of this study. A quantitative descriptive study showed that the knowledge of the majority of research respondents (97.3%) falls into the "poor" category. A descriptive cross-sectional study conducted by Aroor et al. (2014), indicated that the average knowledge score of basic life support skills for the learning group was  $1.22 \pm 0.91$  on a score range of 0-4, indicating that respondents' knowledge levels were in the "poor" category.

The results of this study are associated with the fact that the research respondents have never received basic life support training. According to Notoatmodjo (2012), the level of one's knowledge is influenced by several factors, including age, education, information, and experience. Despite the research respondents being students of the Faculty of Veterinary Medicine and having knowledge of CPR principles in animals, the lack of information and experience related to basic life support in humans can affect the knowledge and understanding of the respondents.

The results of this study show that as the age of the research respondents increases, it does not directly indicate an improvement in knowledge level. This contradicts Notoatmodjo's theory, which suggests that increasing age leads to developing an individual's cognitive abilities and knowledge (Notoatmodjo, 2012). However, the theory also explains that, apart from age, knowledge is influenced by other factors, such as the source of information obtained.

In addition to the factors mentioned above, gender differences can shape different perceptions, affecting attitudes and knowledge. Gender differences can also influence the ethical and cognitive decisions of individuals (Virani, *et al.*, 2020). Based on the social gender approach and literature by (Stets & Carter, 2011), and considering the existing reality, women tend to be more diligent, diligent, task-oriented, and less competitive when given

tasks or assignments, unlike men, who tend to exhibit less ethical behaviour due to their focus on competitive success and are more likely to disregard rules, which can affect an individual's cognition (Normadewi, 2012).

According to Notoatmodjo (2012), attitude is a person's reaction or response to a stimulus or object. Attitude is not yet an action or activity but is a predisposition to action or behaviour (Notoatmodjo, 2012). Another study also showed that the majority of research respondents (78.3%) had a positive attitude toward basic life support (Pangandaheng, 2020). Azwar (2013) states, that the formation of a person's attitude is influenced by various factors such as experience, culture, the influence of significant others, sources of information, educational institutions, religion, and an individual's emotional factors. Based on the research results, there is one respondent who is 21 years old and has a poor attitude toward basic life support, but there are no respondents with a very poor attitude. A study by Gondek et al. (2017), showed that basic life support skills can be taught to people of all ages, and every adult should have basic life support skills, and even children can be taught according to their capacity.

In a study conducted by Aroor et al. (2014), the results differed from this research. The overall average score of research respondents regarding awareness was  $4.16 \pm 1.40$  (score range 0-10), indicating that the average score among research subjects was <50%, meaning that the respondents in that study had a low level of awareness of basic life support (Aroor et al., 2014).

The results of this study are consistent with the research conducted by Ghanem et al. (2018) through a cross-sectional study assessing awareness of basic life support. The study showed a statistically significant relationship between gender and overall scores ( $p < 0.001$ ), with women achieving significantly higher scores than men (Ghanem et al., 2018). The results are also consistent with the study conducted by Sangamesh et al. (2017), which showed that almost all research

respondents (94%) had a positive awareness of basic life support.

### Conclusion

Based on the research results, it can be concluded that the majority of research respondents are female, 20 years old, with an equal distribution across each year group. This research indicates that students at the Faculty of Veterinary Medicine, Universitas Syiah Kuala, have a positive attitude and good awareness of basic life support practices. However, their knowledge in this area is classified as poor since they lack basic life support skills. These findings suggest a need for more comprehensive education and training in basic life support practices for students.

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