JURNAL ALTIFANI
Penelitian dan Pengabdian kepada Masyarakat

Vol. 6, No. 5 - September 2026, Hal. 3161-3168
DOI: 10.59395/altifani.v6i5.1311

First Aid and Basic Life Support Training For Youth and Young Adult Communities

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Received:	Revise:	Accepted:	Available online:
28.08.2026	20.09.2026	28.09.2026	30.09.2026

Abstract : *First aid is temporary care that can be provided to someone who has suffered an injury, is ill, or has been in an accident before receiving medical assistance. Basic life support is the first aid that can be provided to someone experiencing cardiac arrest and respiratory arrest. This training aims to meet the training needs of adolescents and young adults in dealing with injured victims, respiratory arrest and cardiac arrest, and to reduce the deterioration of the victim's condition. The activity lasted for two days, the first day took place at Mission Youth Center (MYC) Universitas Pelita Harapan with 243 participants, and the second day took place at Dian Harapan School Lippo Village with 135 people. The average pre-test results of MYC participants were 73.36 and post-test 93.45, Dian Harapan School participants averaged pre-test 63.26, post-test average 75.56. Participants seemed enthusiastic, active and able to practice Cardio Pulmonary Resucitation (CPR) hands only. Increased knowledge and ability to practice is expected to be the basis for participants in providing first aid for people who need help.*

Keywords: *First Aid, Basic Life Support, Teens, Young Adults*

1. INTRODUCTION

First aid is the provision of first aid for victims who experience illness or injury, whether mild or severe. This action is taken to preserve life, prevent worsening of the condition, and support the healing process. Some conditions that require first aid include bone fractures, burns, shock, and victims with cardiac arrest and respiratory arrest.(NHS, 2021)

First aid includes the first action for victims who are experiencing critical conditions, namely by providing Basic Life Support (BLS). Basic life support is an effort made on victims who experience cardiac arrest and respiratory arrest. This effort is made to restore circulation and breathing functions, by performing Cardiopulmonary Resucitation (CPR). (NHS, 2021)

Cardiac arrest is a condition of cessation of heart activity and is caused by structural problems of the cardiovascular system (Patel & Hipskind, 2022). Cardiac arrest is the most common cause of death. More than 356,000 people experience out-of-hospital cardiac arrest each year in the United States, and about 60-80% die before hospitalization. (Central of Disease Control, 2024)

Conditions that require first aid and basic life support can be experienced by anyone and anywhere, whether at home, work, or at school, so trained people are needed to help deal with victims. First aid and BLS training can be provided to anyone, including the adolescent and young adult communities. Some research results show a significant relationship with first aid and basic life support training with skills in providing basic life support in several conditions of victims. (Alsayali et al., 2019; Purnomo et al., 2021)

Based on the situation analysis above, it is important to conduct first aid and basic life support training in the teenage and young adult community, so that they can provide first aid for people around the dormitory and school, and can reduce the severity of injuries experienced. The purpose of this Community Service is to provide first aid and basic life support training for Resident's Assistants & Supervisors of Mission Youth for Christ (MYC) and junior high school students of Sekolah Dian Harapan Lippo Village, Tangerang.

E-ISSN: 2774-6240

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2. METHOD

The activity took place for two days, Wednesday, September 21, 2022 at 19.00 WIB, at UPH MYC Pelita Shop Building with adult participants. . The training participants were Person in Charge (PIC), supervisor (SPV), dorm parents (DP) of the Faculty of Nursing (FoN) and Teacher College (TC) student dormitories totaling 243 people. The second activity was carried out on Wednesday, October 26, 2022 at 12.30 WIB at Dian Harapan Lippo Village School with teenage participants, namely junior high school students (grade 9), and senior high school students (grade 10, 12) totaling 135 participants.

The preparation stage was carried out by coordinating with MYC and Dian Harapan School Lippo Village. The committee made preparations by carrying out administrative procedures for obtaining a Letter of Task, requesting numbers and draft certificates, and preparing the equipment needed, including manikins, elastic bandages, brankards and splints. In the implementation stage, the committee carried out activities at two different times and locations.

The committee selected participants based on the requests and needs of these partners—namely, the adult community in the dormitory setting and the youth community in the school setting. The training materials were tailored to address the needs and common issues in both settings. For participants in the adult community within the dormitory, the committee provided training covering first aid for fever and pain, bleeding, nosebleeds, choking, seizures, spasms, fainting, sprains, and several infectious diseases (TB, measles, chickenpox), as well as CPR. Meanwhile, participants from the youth community in the school setting were provided with material consisting of first aid for burns, muscle injuries and broken bones, fainting, and CPR. These differences in material needs influenced the number and content of the questions in the pre-test and post-test administered to the two groups of participants.

First Activity at MYC

The activity was held on Wednesday, September 21, 2022 at 19.00 WIB, at the Pelita Shop MYC (Mission Youth Center) UPH (Universitas Pelita Harapan). The committee started by providing a google form link containing the attendance list and pre-test link to be filled in by the participants, which contains 10 questions about the material to be covered. The pre-test and post-test were administered in multiple-choice format. The test consists of 10 questions covering first aid principles, first aid for nosebleeds, spasmophilia, sprains, fainting, bleeding, herpes, choking, first aid supplies, and CPR concepts. Each correct answer is worth one point, and the total score is calculated automatically using the Google Forms feature by dividing the total points for correct answers by the total possible points of 10.

The material presentation began with the topic of first aid in several conditions, namely, fever, bleeding, nosebleeds, choking, seizures, spasmophilia, fainting, sprains, tuberculosis (TB), measles, chickenpox, and pregnancy. The second material was given on the topic of Basic Life Support. The organizers provided a kahoot link as an ice breaker for the participants. The BLS training covered proper CPR techniques for cardiac arrest and respiratory arrest based on AHA guidelines. High-quality CPR techniques begin with recognizing cardiac arrest and respiratory arrest, calling for help, placing hands on the lower half of the sternum, performing compressions at a rate of 100–120 times per minute with a depth of 5 cm, ensuring chest recoil, and minimizing interruptions (10 seconds).

After the material was presented, participants were given the opportunity to practice applying elastic bandages to treat sprains and perform CPR on the provided manikins. Participants were divided into seven groups, each with a facilitator and a manikin. The facilitators, who were members of the PkM organizing committee, ensured that each participant had the opportunity to practice. Participants' skills were assessed based on the procedures outlined in the AHA BLS guidelines. Based on observations, most participants were able to perform CPR correctly under the facilitators' guidance in accordance with the quality CPR techniques taught during the presentation, namely: identifying cardiac arrest and respiratory arrest, calling for help, placing their hands on the lower half

E-ISSN: 2774-6240

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of the sternum, maintaining a rate of 100–120 compressions per minute, a depth of 5 cm, compressing the chest while ensuring chest rise, and minimizing interruptions (10 seconds).

At the end session, participants were given a post test as an evaluation of knowledge through a google form link which was displayed in the form of a barcode on the projector screen. The questionnaire consisted of the same ten questions as the pre-test. Based on the results of observations, it appears that participants are enthusiastic in participating in Community Service activities, and each participant gets a health check carried out.

Second activity at Dian Harapan School

The activity was carried out on Wednesday, October 26, 2022 at 12.30 WIB at Dian Harapan School Lippo Village. The activity began with giving a google form link containing a pre-test to one of the teachers in charge via whatsapp chat the day before the activity began. The pre-test was administered via a Google Form link and consisted of five multiple-choice questions covering the concept of being a first responder, treatment for burns, sprains, and broken bones, and the concept of BLS. Each correct answer was worth 2 points, and the total score was calculated automatically by the Google Form feature by dividing the total points by 10. After that, the speaker provided the first material on the topic of first aid in burn conditions, muscle injuries, fainting and fractures. The second material was on the topic of BLS, and participants were given the opportunity to practice CPR on manikins in groups.

The BLS material presented was aligned with the AHA BLS guidelines, specifically covering the identification of cardiac arrest and respiratory arrest, calling for help, and performing high-quality CPR—maintaining a rate of 100–120 compressions per minute, a depth of 5 cm, placing hands on the lower half of the sternum, and ensuring a minimum of 5 seconds between compressions.

After the presentation, participants were divided into seven groups to practice BLS one by one, with committee members serving as facilitators in each group. Participants were assessed on their ability to perform high-quality CPR based on AHA guidelines, specifically: checking for consciousness to determine cardiac arrest and respiratory arrest, calling for help, placing hands on the lower half of the sternum, maintaining a rate of 100–120 compressions per minute, and ensuring a depth of 5 cm. Based on the assessment results from observations, some participants were able to perform CPR in accordance with the above criteria, with assistance and guidance from the committee members serving as facilitators.

The evaluation stage was carried out by providing a post-test link about the educational material to the participants. The questionnaire consisted of the same five questions as the pre-test. Based on the results of observations, it appears that participants are enthusiastic in participating in community service activities, and participants practice wound dressing and CPR on manikins.

3. RESULTS

Participant Characteristics

The activity was attended by MYC young adult participants (Person in Charge [PIC], supervisor [SPV], dorm parents [DP]) of the Faculty of Nursing (FoN) and Teacher College (TC) student dormitories totaling 243 people, and teenage participants, namely junior high school students (grade 9), and senior high school students (grade 10, 12) totaling 135 people.

Table 1 Characteristic of Participant at MYC (n=243)

Characteristic		n	%
Gender	Male	57	23.46
	Female	186	76.54
Role in dormitory	*Dorm Parent* (DP)	5	2.06
	Person in Charge (PIC)	151	62.14
	Room Assistant (RA)/*Supervisor* (SPV)	87	35.8
Age (years old)	18	3	1.23
	19	39	16.05

E-ISSN: 2774-6240

Vol. 6, No. 5 - September 2026, Hal. 3161-3168
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20	88	36.21
21	75	30.86
22	20	8.23
23	6	2.47
24	4	1.65
25	1	0.41
27	1	0.41
28	1	0.82
37	2	0.41
40	1	0.41
46	1	0.41
53	1	0.41

Based on table 1, most MYC participants are 20 years old and female, and have a role in the dormitory as PIC.

Table 2 Characteristic of Participant at Dian Harapan School (n=135)

Characteristic		n	%
Gender	Male	66	48.89
	Female	69	51.11
Grade Level	9	76	56.30
	10	29	21.48
	12	30	22.22
Age (years old)	13	6	4.44
	14	68	50.37
	15	31	22.96
	16	4	2.96
	17	23	17.04
	18	3	2.22

Based on table 2, most of the Dian Harapan School participants were 14 years old and female, and were in grade 9.

Table 3. Data Distribution of Pre Test and Post Test of Community Service Participants in MYC

Variable	n (participant)	Mean	Median	Min.	Max.	SD
Pre Test	232	73.36	80.00	20	100	16.95
Post Test	229	93.45	100	40	100	9.59

Table 4. Data Distribution of Pre Test and Post Test of Participants at Dian Harapan School

Variable	n (participant)	Mean	Median	Min.	Max.	SD
Pre Test	127	62.99	60.00	0	100	23.65
Post Test	81	75.56	80.00	20	100	18.71

Based on the table above, it shows that participants experienced an increase in knowledge after being given training on first aid and basic life support.



Figure 1. Speakers present CPR material at MYC

E-ISSN: 2774-6240

Vol. 6, No. 5 - September 2026, Hal. 3161-3168
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Figure 2: MYC participants practicing CPR on manikins



Figure 3 : Speakers provide material to Dian Harapan School participants



Figure 4: Dian Harapan School participants practicing CPR on manikins

DISCUSSION

Most of the Dian Harapan School participants were 14 years old and female, and were in grade 9. Meanwhile, participants in the activities at MYC showed that most had female gender and 20 years of age. This is in accordance with several articles that show most participants in the teenage category range and female gender (Punjastuti et al., 2024;Kurniawati et al., 2023;Affan Dwi Miriyanto et al., 2020). Teaching first aid skills to children from an early age is an important step in raising public awareness in the future (İbrahimoğlu et al., 2024). Research conducted by (Petrić et al., 2013) stated that school age 12-15 years had a large positive attitude towards first aid training which was able to increase their confidence to apply first aid.

Based on the table above, it shows that participants experienced an increase in knowledge after being given training on first aid and basic life support. This is in accordance with several articles that show there is an increase in the knowledge of participants before and after being given first aid

E-ISSN: 2774-6240

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and bls training (Andrye Fernandes et al., 2025; Punjastuti et al., 2024). According to research conducted by research conducted by (Bandyopadhyay et al., 2017) stated that there was a significant change in knowledge level after being given an explanation of first aid.

This is due to the learning method used in this Community Service in the form of material and practice, the speaker provides material and demonstrates BLS directly, after which the participants are formed into small groups to practice BLS directly. This method is also used by Pangaribuan & Sinuraya (2022) in Educational on First Aid Actions in Accidents (First Aid) getting the results good knowledge, and there is no lack of knowledge. In addition, the presentation of the material is equipped with BLS videos, so that it can affect the increase in knowledge in participants. This is in accordance with the results of research that suggests the video-based instruction on first aid management for specific emergencies, provided to college students, was notably effective in enhancing their knowledge level(Paulsamy et al., 2021)

Furthermore, based on the average pre-test and post-test scores for both groups, the results indicate differences in comprehension ability when educational background is taken into account. The adult community within the MYC environment consists of participants who are students from the Faculties of Nursing and Education. This explains why the majority of MYC participants were able to answer the test questions correctly.

First aid education is a program that can develop behavior, knowledge or skills of first aid procedures and techniques (First Aid Reference Centre, 2020). This education can begin in childhood or adolescence, and can play an important role in improving survival (Schroeder et al., 2023). The results of research from (Herlianita et al., 2020; Anisah & Parmilah, 2020; Juhdeliena et al., 2020) show that first aid education and training provided has a very good impact on increasing adolescents' knowledge, attitudes and skills when providing first aid in cases of accidents, choking, burns and even BLS actions.

Schoolchildren are highly motivated to learn basic life support, making it essential to introduce the Check-Call-Compression algorithm to all students. Regular training, regardless of age, helps reinforce long-term skills. Children as young as four years old can recognize the initial steps in the chain of survival, while those aged 10 to 12 can perform effective chest compressions and ventilation on training manikins. A combination of theoretical and practical training is recommended for optimal learning. (Schroeder et al., 2023).

There are five domains to give first aid education, the first domain focuses on the importance of prevention and preparedness in minimizing the effects of emergencies. The second domain highlights the need for early identification of environmental hazards and issues with the ill or injured individual. The third domain of response includes two actions that may occur simultaneously: administering first aid and seeking help, depending on the number of available first aid responders and resources. Finally, the recovery domain follows, which can occur either with or without medical intervention.(First Aid Reference Centre, 2020)

Evaluation of this activity can be used as a basis for providing first aid to victims who need help, thus minimizing the occurrence of worsening conditions. First aid education has a lot of influence and increases public knowledge, and can be applied in everyday life when someone is in need of help (Bayu & Usiono, 2023).

4. CONCLUSION

First aid is the first aid for victims who experience injuries both minor and severe. First aid can be done by performing several techniques, including one of which is CPR. This training activity was attended by two age categories, namely young adults (MYC) with most participants aged 20 years, and adolescents (Dian Harapan School) with most participants aged 14 years. The results of the activity evaluation showed that participants had increased knowledge after being given education, and CPR exercises that were in accordance with the location and strength of the encouragement given. Participants followed the entire series of events actively and enthusiastically, so that the activities could run smoothly and safely. The training on first aid and basic life support can

E-ISSN: 2774-6240

Vol. 6, No. 5 - September 2026, Hal. 3161-3168
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provide benefits for participants in providing assistance to people around them who experience minor or severe injuries.

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E-ISSN: 2774-6240