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## EDUCATION OF KNOWLEDGE AND BASIC LIFE SUPPORT TRAINING FOR TEENAGE STUDENTS

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### Abstract

*Individuals and groups, including the general public, are currently required to be able to provide immediate assistance when facing emergency conditions. To ensure assistance is provided according to proper procedures, it is necessary to offer training on Basic Life Support (BLS). Students of SMK Kesehatan Haji Sumatera Utara, who are teenagers with significant potential, are ideal candidates for such training. Although they are organized into a KKR Cadre Team or Youth Health Cadre group, they currently lack the necessary knowledge and need to be equipped with BLS skills. The purpose of this service is to enhance the knowledge and technological capabilities of students at SMK Kesehatan Haji Sumatera Utara regarding Basic Life Support in emergency cases. The method used includes interactive lectures, questions and answers, pre-tests, interventions, and post-tests. The results of the counseling and training showed a marked improvement in knowledge about Basic Life Support and an increase in the skills required to administer BLS. It is essential to carry out continuous counseling and socialization efforts within the school, particularly in the area of Basic Life Support.*

*Keywords: Education, Knowledge, Training, Basic Life Support, SMK Kesehatan Haji Sumatera Utara*

### Abstrak

Individu maupun kelompok, termasuk masyarakat umum, saat ini dituntut untuk dapat memberikan bantuan segera ketika menghadapi kondisi darurat. Untuk memastikan bantuan diberikan sesuai prosedur yang benar, perlu diberikan pelatihan Basic Life Support (BLS). Siswa SMK Kesehatan Haji Sumatera Utara yang merupakan remaja dengan potensi besar merupakan kandidat ideal untuk mendapatkan pelatihan tersebut. Meskipun mereka tergabung dalam Tim Kader KKR atau Kelompok Kader Kesehatan Remaja, namun saat ini mereka kurang memiliki pengetahuan yang diperlukan dan perlu dibekali dengan keterampilan BLS. Tujuan dari layanan ini adalah untuk meningkatkan pengetahuan dan kemampuan teknologi siswa SMK Kesehatan Haji Sumatera Utara mengenai Bantuan Hidup Dasar pada kasus darurat. Metode yang digunakan meliputi ceramah interaktif, tanya jawab, pre-test, intervensi, dan post-test. Hasil dari penyuluhan dan pelatihan menunjukkan adanya peningkatan yang nyata pada pengetahuan tentang Basic Life Support dan peningkatan keterampilan yang

diperlukan dalam penyelenggaraan BLS. Penting untuk melakukan upaya penyuluhan dan sosialisasi secara berkesinambungan di lingkungan sekolah, khususnya di bidang Bantuan Hidup Dasar.

**Kata Kunci:** Pendidikan, Pengetahuan, Pelatihan, Bantuan Hidup Dasar, SMK Kesehatan Haji Sumatera Utara

## INTRODUCTION

In emergency situations, such as accidents, choking incidents, and other critical scenarios, it is crucial for individuals or groups who encounter victims to provide immediate assistance. However, if the rescuer lacks the knowledge and skills to administer proper and accurate basic life support (BLS), the consequences can be devastating for the victim. It is often said that it is better to know first aid and not need it than to need first aid but not know it. Effective and timely handling of victims at the scene of an emergency is vital, as every moment counts. Unfortunately, in many cases, health workers arrive late at the disaster site, resulting in victims dying without receiving the necessary first aid (Nur, Menik & Arifianto 2019).

According to data from the World Health Organization (WHO) in 2024, a total of 57.03 million people died worldwide. Of these deaths, approximately 35,000 to 50,000 were due to accidents and natural disasters, with causes primarily rooted in respiratory arrest and cardiac arrest. Indonesia, in particular, ranks second globally in terms of disaster-related fatalities, with approximately 227,898 people affected. The natural disasters that frequently occur in Indonesia have resulted in significant losses, not only in material terms but also in the number of casualties, including deaths, injuries, and disabilities. The primary cause of death among these victims is often the failure to maintain adequate oxygenation of vital organs. Inadequate ventilation can disrupt oxygenation and circulation, and severe central nervous system (CNS) injuries can result in either inadequate ventilation or damage to the brainstem regulatory center, leading to fatal outcomes.

Medan City in 2024 experienced a series of tragic incidents that highlighted the urgent need for widespread BLS training.

These included severe traffic accidents, cases of drowning during floods, and instances of choking in public spaces. The injuries sustained by victims ranged from blunt force trauma to severe respiratory distress, emphasizing the critical importance of immediate and effective first aid. The lack of BLS knowledge among bystanders and even some first responders led to delays in administering life-saving interventions, resulting in preventable fatalities and long-term disabilities. These incidents underscored the pressing need for comprehensive BLS training across all segments of the population, particularly among adolescents who are often the first to witness such emergencies. By equipping these young individuals with the necessary skills, it is possible to create a safer and more resilient community, capable of responding effectively to emergencies and reducing the overall burden of injury and death in Medan City.

The knowledge and skills associated with BLS are of paramount importance because they equip individuals with the fundamental techniques necessary to rescue victims from a variety of accidents or everyday disasters. These situations are commonly encountered in daily life, making BLS training an essential skill set (Fajarwaty, 2012). Proper preparedness, which can be achieved through the training of cadres in BLS, is critical in ensuring that emergency response efforts are swift and precise. This level of preparedness can significantly reduce the number of casualties and the extent of injury in disaster situations. The success of community health initiatives often rests in the hands of trained individuals who play a crucial role in fostering community participation, ultimately aiming to create an optimal level of public health (Ngirarung, Mulyadi & Malara 2017).

The objective of this initiative is to provide education and training in BLS to adolescent students at SMK Kesehatan Haji Sumatera Utara. The knowledge, perspectives, attitudes, and decisions of adolescents have a profound impact, not only on their own peer group but also on the broader population of Indonesia. By increasing the number of individuals trained in BLS within high schools, the initiative aims to extend greater access to BLS skills throughout society. This can help reduce reluctance and increase motivation among individuals when it comes to performing BLS in emergency situations (Nur, Menik & Arifianto, 2019).

**METHODS**

The methods section outlines the steps followed in executing the study and provides a brief justification for the research methods used. This section should contain sufficient detail to allow the reader to evaluate the appropriateness of your methods and the reliability and validity of your findings. Additionally, the information should enable experienced researchers to replicate your study.

**RESULTS AND DISCUSSIONS**

The driving and inhibiting factors in this community service activity are:

Driving factors:

- a. There was a good response from State SMK Kesehatan Haji Sumatera Utara.
- b. Generally, students actively participate in listening to counseling and training activities.
- c. There is assistance from SMK Kesehatan Haji Sumatera Utara which helps in implementing this community service by facilitating a place for implementing counseling and training.
- d. The presence of most students of SMK Kesehatan Haji Sumatera Utara and their activeness in asking questions about the topics or titles of the counseling and training activities.
- e. Extension activities are supported by a series of extension and training activities.

Inhibiting Factors is Lack of knowledge about Basic Life Support of SMK Kesehatan Haji Sumatera Utara.

After conducting counseling and training, there was an increase in knowledge about Basic Life Support. Students of SMK Kesehatan Haji Sumatera Utara were seen paying serious attention. The condition of this counseling can be seen in Figure 1 below.



**Figure 1: Implementation of BHD Training for Students of SMK Kesehatan Haji Sumatera Utara attended by Students**



**Figure 2: BHD training witnessed by most of the SMK Kesehatan Haji Sumatera Utara students**

In figure 2, a comprehensive Basic Life Support (BLS) training session is being conducted, with a significant number of

students from SMK Kesehatan Haji Sumatera Utara in attendance. The training session, aimed at equipping students with the essential skills needed to respond to emergency situations, showcases both theoretical instruction and practical demonstrations.

The figure captures the engaged and attentive demeanor of the students as they observe the training. The instructor is seen demonstrating key BLS techniques, including chest compressions, rescue breathing, and the use of automated external defibrillators (AEDs). The students, many of whom are dressed in their school uniforms, are seated in an orderly manner, intently watching the live demonstrations. In the background, visual aids such as posters and diagrams related to emergency response and life-saving techniques are visible, further supporting the educational objectives of the session. The atmosphere reflects a strong commitment to learning, as students take notes and occasionally ask questions, showing their eagerness to understand and master the critical skills being taught.

Providing education on Basic Life Support (BLS) is very important for the general public, especially for those of productive age, so that they are able to provide Basic Life Support for people experiencing emergency situations to avoid death and disability (Sawiji & Widyaswara 2018). The results of this activity are also in line with (Setiyo. and Saptono 2018) which states that the simulation of providing Basic Life Support (BLS) increases the knowledge of participants who are preachers in Kebumen Regency. Basic Life Support (BLS) actions must be carried out immediately to prevent more severe brain damage, considering that the golden period is 6-10 minutes. Delays and errors in BLS actions can be fatal for the victim. The ability to carry out BLS actions must be possessed by health workers and even by all groups including preachers.

The results of this community service activity are in line with (Widyaswara, Sari & Berkah, 2019) which states that good knowledge and skills of lay people increase

the survival rate of cardiac arrest victims before receiving further treatment at the Hospital. Volunteers are people or teams who most often encounter cardiac arrest and unconscious victims when searching for and evacuating victims. Community service participants, namely Kebumen Regency disaster volunteers who have participated in this activity, can provide knowledge to other people or volunteers so that they can increase their knowledge and skills in helping unconscious victims, and can increase the life expectancy of these victims.

The results of this activity are also in line with community service (Lestari, Eko & Darwati, 2020) which states that providing education (delivery of information) through certain media has its own influence on a person's ability to absorb information. In this study, all students carried out independent learning through the "cardiopulmonary resuscitation" application on smartphones for 1 week after receiving education together in class. This activity is thought to have contributed to increasing students' level of knowledge. This overtraining action is defined as the process of learning outside is one of the factors that contributes to the success of increasing knowledge because it encourages the process of automaticity (storing knowledge into long-term memory).



**Figure 3: BHD training with SMK Kesehatan Haji Sumatera Utara students**

The students of SMK Kesehatan Haji Sumatera Utara have demonstrated a clear understanding of Basic Life Support (BLS) techniques. Their grasp of these techniques is

evident through their ability to articulate key concepts and perform essential BLS procedures effectively. Students exhibit a solid knowledge of core BLS procedures, including cardiopulmonary resuscitation (CPR), the Heimlich maneuver, and the use of an Automated External Defibrillator (AED). They can explain the steps involved in each technique and their importance in emergency situations. During practical demonstrations, students show proficiency in performing BLS techniques, correctly positioning patients, administering chest compressions, and using the AED according to established protocols. Assessments reveal that students' understanding is measured by their accuracy and confidence in performing BLS techniques, with feedback from instructors confirming their comprehension of BLS principles and practices.

### CONCLUSION

The training has resulted in a significant increase in the students' knowledge about Basic Life Support (BLS). This improvement is reflected in their enhanced ability to apply BLS skills effectively and their deeper understanding of the subject matter. Comparative analysis of students' knowledge before and after the training session shows a marked increase in their understanding of BLS. Pre-training assessments indicated a basic or limited knowledge level, while post-training assessments reveal a comprehensive grasp of BLS concepts and techniques. Observations and evaluations of students' practical skills demonstrate their improved ability to perform BLS procedures, with increased confidence and accuracy compared to their initial abilities. Feedback and surveys conducted after the training highlight students' increased awareness and understanding of BLS, with students reporting a better grasp of how and when to apply BLS techniques, reflecting the effectiveness of the training.

Students of SMK Kesehatan Haji Sumatera Utara have successfully understood and comprehended the BLS techniques and

principles imparted by the Training Team of Trainers. This comprehension is evident through their ability to apply what they have learned in practical scenarios. The Training Team of Trainers delivered clear and structured instruction, which facilitated students' understanding. The use of visual aids, demonstrations, and hands-on practice contributed to effective learning. Student feedback has been positive regarding the clarity and effectiveness of the training, with students expressing confidence in their ability to perform BLS techniques.

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