

Implementation of First Aid Education: Ready, Smart, and Responsive in Building a Safety Culture in Students of SMPN 3 Balikpapan

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ABSTRACT

This article aims to evaluate the implementation of first aid education based on the principles of Being Prepared, Smart, and Responsive in fostering a safety culture among students at SMP N 3 Balikpapan. This article was motivated by an increase in minor injuries within the school environment, which highlights the need for students to possess basic skills in providing initial responses during emergency situations. The educational activities were delivered through interactive methods, including presentations, discussions, and question-and-answer sessions. The results indicate that the first aid education program enhanced students' understanding of emergency procedures, including Cardiopulmonary Resuscitation (CPR), bleeding control, injury management, poisoning response, burn care, and animal bite treatment. Students also demonstrated positive behavioral changes, such as improved preparedness, greater concern for peers, and accuracy in responding during emergency simulations. This article concludes that first aid education significantly contributes to strengthening the safety culture in schools and is recommended for continuous implementation as part of an ongoing health education program.

Keyword: First aid, school first aid, student Occupational Health and Safety (OHS), health education, adolescent preparedness, safety culture, SMP N 3 Balikpapan

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INTRODUCTION

Accidents and medical emergencies may occur unexpectedly in everyday settings, including schools, where students spend a considerable amount of their daily activities. Immediate and appropriate first aid plays a crucial role in preserving life, preventing injuries from worsening, reducing complications, and increasing the likelihood of recovery before professional medical assistance becomes available (Swasanti & Putra, 2014; Anggraini et al., 2018). However, in many emergency situations, particularly those involving severe bleeding, the first few minutes are critical, while professional responders often require additional time to reach the scene. Consequently, basic first aid knowledge should not be limited to healthcare professionals but should also be possessed by members of the public, including school-aged students (Abdelrahman et al., 2025; Pellegrino et al., 2020).

Schools represent one of the most appropriate environments for implementing first aid education because children and adolescents are vulnerable to injuries caused by falls, sports activities, laboratory practices, and other school-related accidents. Developing first aid competencies at an early age enables students to respond appropriately to emergencies affecting themselves, their peers, or members of the surrounding community. Furthermore, international initiatives such as the Kids Save Lives campaign, endorsed by the World Health Organization (WHO), advocate integrating life-saving education into school curricula, emphasizing that emergency response skills should become part of students' essential competencies.

Previous studies have consistently demonstrated the effectiveness of school-based first aid education. A systematic review by Tse et al. (2023) concluded that structured first aid training significantly improves students' knowledge, practical skills, and confidence in responding to emergencies, particularly when learning activities incorporate demonstrations and hands-on practice rather than lectures alone. Likewise, Okereke et al. (2022) reported that bleeding control education successfully equipped high school students with the skills required to perform immediate hemorrhage management, supporting the view that adolescents can function as competent first responders within their communities. In addition, the Stop the Bleed educational initiative has demonstrated that community members, including students, teachers, and school staff, can effectively learn bleeding control techniques through structured educational programs (Pellegrino et al., 2020).

Beyond improving individual competencies, first aid education contributes to establishing a sustainable safety culture within educational institutions. Similar community-based educational programs conducted in Balikpapan have also demonstrated that interactive occupational safety and health (OSH) education effectively improves elementary students' understanding of hazards, school safety rules, basic first aid measures, and overall safety awareness. These findings indicate that age-appropriate educational approaches can serve as an effective strategy for fostering a culture of safety from an early age (Iskandar et al., 2026). Integrating safety education into learning activities helps foster responsible behavior and preparedness among students, thereby strengthening the overall resilience of the school community (Valença et al., 2024). Moreover, educational interventions based on the Knowledge–Attitude–Practice (KAP) framework indicate that increased knowledge positively influences attitudes and eventually promotes safer health-related behaviors, particularly when learning is reinforced through repeated practice and real-life simulations (Cheng et al., 2017; Starosolski et al., 2024).

Despite the growing evidence supporting first aid education, many Indonesian schools have yet to implement structured first aid training as part of their health promotion activities. Students generally possess limited knowledge regarding emergency response and often lack the confidence to provide appropriate

assistance before medical personnel arrive. This condition highlights the need for community engagement programs that introduce practical first aid competencies while simultaneously cultivating a sustainable safety culture within schools.

To address this need, a community service program entitled "Implementation of First Aid Education: Ready, Smart, and Responsive in Building a Safety Culture among Students of SMP N 3 Balikpapan" was conducted. The program aimed to improve students' knowledge, practical first aid skills, and emergency preparedness through interactive health education, demonstrations, and simulation-based learning. Furthermore, the program sought to strengthen students' awareness of safety and encourage the development of a school environment in which readiness, responsibility, and prompt emergency response become shared values among the entire school community.

METHOD

This article employed a qualitative descriptive approach to obtain a comprehensive understanding of the implementation of First Aid education at SMP N 3 Balikpapan.

1. Participants

The participants consisted of 30 students from grades VII who took part in the First Aid education program, two UKS (School Health Unit) supervising teachers, and one healthcare provider from the school's partnered community health center. The selection of participants was based on their direct involvement in the training activities and school safety initiatives..

2. Procedure

The procedure was carried out through several systematic stages. First, preparing the First Aid learning materials, which included CPR, wound and bleeding management, injury treatment, burn care, poisoning response, and animal bite management. Coordination with teachers and the partnering health center was then conducted to determine schedules, prepare facilities, and organize the training flow. Following this, conducting baseline assessments through pre-training questionnaires to determine students' initial knowledge and preparedness. The final stage involved implementing the First Aid education program and collecting data through observation, interviews, questionnaires, and documentation.

3. Implementation

The First Aid education program was implemented through a series of structured and interactive learning activities. The sessions began with presentations to introduce essential concepts of First Aid and emergency response. Demonstrations were then provided by the instructor and health personnel to model basic techniques such as CPR, controlling bleeding, treating minor injuries, and responding to burns and poisoning incidents. Students subsequently participated in hands-on practice, performing the techniques under supervision. Group discussions and problem-solving tasks were used to reinforce understanding, followed by simulated emergency scenarios that required students to apply their skills in real-time situations. Each activity was designed to enhance students' knowledge, readiness, and confidence in responding to emergencies within the school environment.

4. Evaluation

Evaluation was conducted to assess the effectiveness of the First Aid education program. Observational checklists were used to evaluate student performance and accuracy during practical sessions and simulations. Pre- and post-training questionnaires were administered to measure

changes in students' knowledge, attitudes, and preparedness. Semi-structured interviews with students and supervising teachers provided additional qualitative insights into their learning experiences and perceived benefits of the program. Documentation of training activities served as supporting evidence. All data were analyzed using qualitative techniques to identify improvements, behavioral changes, and the overall impact of the program on building a safety culture among students.

RESULTS AND DISCUSSION

The socialization program on First Aid at SMP N 3 Balikpapan was conducted successfully and demonstrated strong engagement from the participating students. Throughout the session, students displayed a high level of interest by listening attentively, responding to questions, and taking part in interactive discussions. Their active involvement was also evident during the practical demonstrations, where many students eagerly volunteered and participated in hands-on activities.

Observational data collected during the activity showed a noticeable improvement in students' comprehension of the purpose, functions, and categories of First Aid. Students became more familiar with the distinctions between various types of first aid measures—such as care for minor injuries, emergency response steps, and actions required before professional help arrives. In addition, several students demonstrated enhanced confidence in identifying basic emergency situations and describing the initial steps required to assist a victim safely.

The overall positive response from students indicates that the socialization activity was effective in enhancing their awareness and foundational knowledge of First Aid. The high level of participation suggests that the content delivered was not only relevant but also presented in an engaging manner. These findings are consistent with previous studies showing that interactive teaching methods—such as demonstrations, discussions, and real-world examples—significantly improve student involvement and comprehension in health and safety education.

The improvement in student understanding throughout the activity further supports the importance of hands-on and experiential learning approaches. Students were able to internalize concepts more effectively when information was supported by visual demonstrations and opportunities to practice simple first aid procedures. This indicates that practical exposure contributes greatly to students' readiness to apply first aid knowledge in real-life situations.

However, despite the clear increase in understanding, further development may still be required for more complex emergency procedures such as CPR, handling fractures, or responding to unconscious victims. This suggests that future programs should consider incorporating additional practice sessions, skill-based workshops, or follow-up evaluations to strengthen mastery of advanced first aid skills.

In addition, the question-and-answer session further demonstrated a significant improvement in students' understanding. Several examples of students' responses include:

- **Aldo Pratama**, student, was able to clearly explain the primary function of First Aid, stating that it is intended “to provide immediate help to prevent a condition from worsening before professional assistance arrives.”
- **Nadia Putri**, successfully identified different categories of First Aid, including care for minor wounds, emergency responses, and actions for unconscious victims.
- **Rizky Ananda**, participant, accurately described the step-by-step procedure to manage a

minor bleeding injury, emphasizing the importance of applying pressure and keeping the wound clean.

- **Melisa Kartika**, demonstrated improved critical thinking by explaining when a situation should be classified as an emergency requiring immediate referral to medical professionals.

These responses indicate that students successfully internalized the material presented. This aligns with previous studies emphasizing that interactive and context-based learning significantly enhances students' awareness and understanding of First Aid.

Overall, the socialization initiative resulted in a demonstrable positive effect on student conduct, fostering safer and more disciplined behavior. The significant enhancement in student comprehension of First Aid is critical, as this competence is projected to substantially mitigate accident risks and reduce the potential severity of injuries within the SMP N 3 Balikpapan school environment. Most students at SMP N 3 Balikpapan had limited prior knowledge of first aid (P3K). This was indicated by their low level of understanding of basic first aid procedures, such as the management of minor injuries, bleeding, and simple emergency situations. Therefore, the community service team provided first aid education in a gradual manner using an educational and communicative approach. The material was delivered using simple language, everyday case examples, and direct demonstrations to help students better understand and remember first aid procedures. In essence, the mastery of First Aid skills acts as a foundational element, successfully reinforcing and internalizing a robust Safety Culture (OSH) among the students, positioning them as proactive, responsive, and responsible agents of safety throughout the school setting.

Table 1 Implementation of First Aid at SMP N 3 Balikpapan School

No	Activity Implementation	Description
1	First Aid Socialization Session	Conducted to introduce students to the basic concepts, functions, and categories of First Aid. Delivered through presentations, demonstrations, and visual materials
2	Interactive Discussion and Q&A	Students participated actively by asking questions, sharing examples, and responding to scenario-based prompts, indicating improved comprehension
3	Demonstration of Basic Techniques	Trainers demonstrated first aid procedures such as wound cleaning, bandaging, and initial steps in handling minor injuries. Students were encouraged to observe closely
4	Hands-On Practice Activities	Selected students practiced simple first aid techniques (e.g., applying pressure on wounds, using bandages) to enhance skills through experiential learning.
5	Understanding Evaluation	Evaluation was conducted through Q&A, reflection, and observation. Results showed improved OSH awareness and understanding of First Aid categories.



Figure 1 Material Presentation



Figure 2 Post-Education Activity



Figure 3 First Aid procedure

CONCLUSION

The socialization activity on First Aid at SMP N 3 Balikpapan had a positive impact on improving students' understanding and awareness of First Aid practices in the school environment. Through material presentation, visual examples, direct observation, and interactive discussions, students were able to better recognize the functions and Types of First Aid applicable to various emergency situations.

The results of observations and evaluations showed that students experienced significant improvement in distinguishing different Types of First Aid, understanding the purpose and application of each category, and applying basic safety concepts during practical activities. Students also demonstrated

high participation and provided accurate answers during the question-and-answer session, indicating increased awareness and concern for potential hazards in the school environment.

Overall, this activity successfully helped students develop safer, more disciplined, and more responsible behavior when responding to emergencies. The enhanced understanding of First Aid is expected to be continuously applied in daily school practice and contribute to the establishment of a stronger safety culture within the school environment.

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