

Education and Demonstration of Simple Wound Care as a First Aid Effort for Students of SMA Negeri 2 Painan, Pesisir Selatan Regency

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ABSTRACT

Wounds are common among school-aged adolescents, and inappropriate initial management may increase the risk of infection and delay healing. This community service program, conducted through the USR 08 Community Service Program (Kuliah Kerja Nyata, KKN) of Universitas Baiturrahmah, aimed to improve the knowledge and skills of students at SMA Negeri 2 Painan, Pesisir Selatan Regency, in performing simple wound care as part of first aid. The activity was held on 2 August 2024 using a participatory approach consisting of health education, a demonstration of six wound-care steps (controlling bleeding, rinsing the wound with clean water, removing foreign bodies with sterile tweezers, applying antibiotic ointment, covering the wound with a sterile bandage, and changing the dressing regularly), simulation using a wound model, a question-and-answer session, and distribution of educational leaflets. Evaluation was carried out descriptively through observation of participant engagement, accuracy of answers during the discussion, and the participants' ability to re-demonstrate the wound-care steps. The students participated enthusiastically, answered the facilitators' questions correctly, and were able to perform simple wound care properly. Demonstration-based education was considered effective in equipping students with practical first-aid skills and should be sustained through integration with the School Health Unit (UKS) and standardized quantitative evaluation in future programs.

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INTRODUCTION

Wounds are among the most frequent health events experienced by the community in daily life. A wound is defined as damage to or loss of part of the body tissue that disrupts tissue continuity, and may be caused by sharp or blunt trauma, temperature changes, chemicals, explosions, electric shocks, or animal bites. Data from the 2018 Basic Health Research (Riskesdas) showed that the proportion of injuries in Indonesia reached 9.2%, with abrasions, bruises, and contusions being the most frequently reported types of injury (Ministry of Health of the Republic of Indonesia, 2018). School-aged adolescents are a group vulnerable to wounds because of their high level of physical activity, whether in sports, extracurricular activities, or activities outside school.

Wound healing is a complex yet systematic biological process that proceeds through the phases of hemostasis, inflammation, proliferation (including re-epithelialization and wound contraction), and tissue remodeling and collagen metabolism (Wilkinson & Hardman, 2020). This process is influenced by various local and systemic factors, including infection, tissue oxygenation, nutritional status, comorbidities such as diabetes, the use of certain medications, stress, and smoking (Guo & DiPietro, 2010). Therefore, initial care, which includes wound cleansing, bleeding control, application of topical antibiotic preparations when necessary, and appropriate dressing, is key to preventing complications. Dressings that maintain optimal wound moisture have also been shown to support re-epithelialization and accelerate healing compared with wounds left to dry (Junker et al., 2013).

In the school environment, the initial management of wounds often depends on the knowledge of the students and school community themselves, because health workers are not always available on site. Several previous community service programs have shown that students' knowledge of first aid for wounds was limited before education was provided and increased significantly after the intervention (Jufriзал et al., 2023; Suriya et al., 2026). Educational methods combined with demonstration and simulation have been reported to be effective in improving both the understanding and the practical skills of students in managing minor wounds as well as wounds and bleeding (Milkhatun et al., 2025; Setiawati et al., 2025).

Based on these considerations, students of the USR 08 Community Service Program (KKN) of Universitas Baiturrahmah, who were assigned to Nagari Painan, IV Jurai District, Pesisir Selatan Regency, carried out an education and demonstration activity on simple wound care for students of SMA Negeri 2 Painan. This activity aimed to: (1) provide an understanding of the definition of wounds, types of wounds, and the healing process; (2) introduce the principles of simple wound assessment, including recognition of the signs of infection; (3) demonstrate the correct steps of simple wound care; and (4) train students to be able to perform wound care independently as part of first aid at school and at home.

METHOD

This community service activity used a participatory approach through health education (interactive lectures), demonstration, simulation, and question-and-answer methods, supported by educational leaflets. The activity was held on Friday, 2 August 2024, from 07.00 WIB (Western Indonesian Time) until completion, in the schoolyard of SMA Negeri 2 Painan, Nagari Painan, IV Jurai District, Pesisir Selatan Regency, West Sumatra. The target participants were [150] students of SMA Negeri 2 Painan. The activity was organized by the USR 08 KKN team of Universitas Baiturrahmah through the following stages:

a) Preparation Stage

At this stage, coordination was carried out with the Wali Nagari (village head) of Painan and SMA Negeri 2 Painan to determine the target participants, time, and venue of the activity; the students' health education needs were identified; educational materials and a leaflet on wound-care steps were prepared; and demonstration tools and materials were provided, such as gloves, clean water, sterile gauze and bandages, sterile tweezers, antibiotic ointment, adhesive plaster, and a wound model for simulation.

b) Implementation Stage

The activity began with the delivery of material on the definition of wounds, types of wounds, the wound-healing process, factors affecting healing, and signs of infection. The team then demonstrated six steps of simple wound care on a wound model simulated on a volunteer's arm. Several students were subsequently asked to re-perform these steps under the guidance of the facilitators, followed by a question-and-answer session and distribution of educational leaflets.

c) Evaluation Stage

Evaluation was carried out at the end of the activity through oral questions to participants regarding the material delivered and observation of the participants' ability to re-perform (re-demonstrate) the wound-care steps.

d) Data Collection and Analysis

Data were collected through observation of participant attendance and engagement, the accuracy of answers during the question-and-answer session, and the accuracy of participants in performing the re-demonstration. The data were analyzed descriptively and qualitatively to assess the achievement of the activity objectives.

e) Reporting

The final stage was the preparation of an activity report describing the implementation, evaluation results, and recommendations for follow-up.

RESULT

The education and demonstration activity on simple wound care was carried out as planned on Friday, 2 August 2024, in the schoolyard of SMA Negeri 2 Painan. The activity was attended by [120] students, as planned, accompanied by their teachers. The activity ran smoothly and in an orderly manner. The first session consisted of an interactive presentation of the material by the KKN team in front of the participants (Figure 1a), covering the definition of wounds, classification of wounds based on depth and risk of infection, the phases of wound healing, and factors that can impair healing, such as infection, poor nutrition, decreased immunity, the use of certain medications, comorbidities, stress, and smoking.



(a)



(b)

Figure 1. Implementation of the activity: (a) delivery of wound-care material; (b) demonstration of simple wound care on a wound model

The next session was a demonstration of simple wound care using a wound model simulated on a volunteer's arm (Figure 1b). The facilitators demonstrated each step sequentially while explaining its purpose and rationale. The steps demonstrated and their purposes are summarized in Table 1.

Table 1. Steps of simple wound care demonstrated to the participants

No.	Step	Purpose/Remarks
1	Stop the bleeding by pressing the wound with a clean cloth or sterile gauze; if bleeding is heavy, elevate the injured part above the level of the heart	Reduces blood loss and the risk of complications
2	Rinse the wound thoroughly with clean water (or saline solution), then pat it dry gently	Removes dirt and bacteria without irritating healthy tissue; harsh agents such as alcohol or hydrogen peroxide are avoided
3	Remove small embedded objects using sterile tweezers (cleaned with alcohol)	Prevents foreign bodies from becoming a source of infection
4	Gently apply an antibiotic cream or ointment	Keeps the wound surface moist and suppresses bacterial growth
5	Cover the wound with a sterile bandage appropriate to the size and depth of the wound	Protects the wound from contamination and further trauma
6	Change the bandage regularly, at least once a day or whenever it becomes wet or dirty, while monitoring for signs of infection	Maintains wound hygiene; refer immediately to a health worker if redness, swelling, increasing pain, or pus appears

After the demonstration, several students were asked to re-perform the steps with the assistance of the facilitators. As supporting media, the participants received a leaflet entitled “Steps for Wound Care” (*Langkah-Langkah untuk Perawatan Luka*), which contains the wound-care procedure, recognition of wound conditions based on clinical appearance (necrotic, sloughy, granulating, and infected), types of wound care, and the reasons why wounds need to be dressed (Figure 2). The leaflet is expected to serve as reading material that students can review and share with their families at home.



(a)



(b)

Figure 2. Educational media: (a) the “Steps for Wound Care” leaflet; (b) distribution of leaflets to participants

The evaluation results showed that the students played an active role throughout the activity, as reflected in the participants' enthusiasm in asking questions about wound care. During the question-and-answer session, the participants were able to answer the questions given by the presenters well, and the students who performed the re-demonstration were able to carry out simple wound care in the correct sequence and with the correct technique. These findings indicate that the objective of the activity, namely to improve the students' understanding and skills in simple wound care, was achieved.

This success is consistent with various similar community service activities among secondary school students. Wound-care education and demonstration for senior high school students in Bekasi Regency increased the mean knowledge score from 54.10 to 86.25 (Suriya et al., 2026), while the introduction of first aid through education and simulation for school students in 3T (frontier, outermost, and underdeveloped) areas increased the mean score from 30.26 to 82.10 (Jufrizal et al., 2023). First-aid training also improved the knowledge of Islamic senior high school (madrasah aliyah) students regarding wounds and bleeding (Milkhatun et al., 2025), and socialization on the management of minor wounds using simulation and demonstration improved the understanding and practical skills of vocational high school

students (Setiawati et al., 2025). The demonstration method allows participants to directly observe the sequence of actions and relate it to real situations, while re-demonstration gives facilitators the opportunity to correct technical errors immediately.

In terms of substance, the material delivered emphasized the basic principles of wound healing. Cleansing the wound with clean water or saline aims to reduce the contaminant load that can prolong the inflammatory phase, given that infection is one of the main local factors impairing healing (Guo & DiPietro, 2010). Covering the wound with a sterile bandage and applying ointment help maintain a moist wound environment, which supports keratinocyte migration and faster re-epithelialization compared with wounds left to dry (Junker et al., 2013; Wilkinson & Hardman, 2020). In addition, recognition of the signs of infection, such as redness, swelling, increasing pain, and pus discharge, was provided so that students know when a wound needs to be referred to a health worker, including chronic wounds or wounds in individuals with comorbidities such as diabetes and circulatory disorders.

This activity has several limitations. The evaluation was still descriptive and qualitative, based on observation and question-and-answer sessions, so the improvement in knowledge could not yet be measured quantitatively. Future activities are recommended to use standardized pre-test and post-test instruments as well as skill checklists. To ensure sustainability, wound-care education can be integrated into the School Health Unit (*Usaha Kesehatan Sekolah*, UKS) or Youth Red Cross (*Palang Merah Remaja*, PMR) programs, accompanied by the provision of a complete first-aid kit (*kotak P3K*) at the school.

CONCLUSION

The education and demonstration activity on simple wound care for students of SMA Negeri 2 Painan was carried out successfully with active participation from the participants. Through health education, demonstration of six wound-care steps, simulation, and leaflet media, the students were able to understand the basic concepts of wounds and the healing process, answer the presenters' questions well, and perform simple wound care correctly. This activity equipped students with practical first-aid skills to prevent wound complications such as infection and delayed healing. The sustainability of the program is recommended through integration with UKS/PMR and standardized quantitative evaluation.

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