

The Effect of the Demonstration Education Method Using Short Education Movie (SEM) on Knowledge and Attitudes about Mild Wound Care in Children

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Abstract:

Children exhibit a range of individual characteristics, such as age, cognitive development, emotional maturity, and prior experiences, that significantly influence how they understand and respond to wound care. These differences shape both their knowledge of appropriate first-aid practices and their attitudes toward managing injuries, leading to varied approaches in caring for wounds when they occur. This study's Objective is to analyze the effect of the demonstration education method using Short Education Movie (SEM) on children's knowledge and attitudes toward wounds. A quasi-experimental study using a pretest-posttest control group design with a total sampling technique involving 152 students from Baktijaya 05 Elementary School, Depok. A questionnaire was used to assess knowledge and attitudes toward wound care, along with a Short Education Movie (SEM) media. Data analysis used the Wilcoxon Signed-Level Test. There was a significant difference between the pre- and post-intervention knowledge scores, indicating that the intervention successfully improved respondents' knowledge ($p=0.0001$). There is a significant difference between the before and after Attitude intervention, indicating that the intervention successfully improved Attitude ($p=0.0001$). Health education using the demonstration method, combined with the Short Education Movie (SEM), significantly improved knowledge and attitudes toward minor wound care among school-age children.

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INTRODUCTION

Children represent the foundation of a nation's future, embodying its ideals, aspirations, and potential for progress. Far from being miniature adults, they possess distinct physical, cognitive, emotional, and psychosocial characteristics that shape how they perceive, understand, and respond to the world around them (Mastorci et al., 2024). School-age children (6 and 12 years old) are at a critical developmental stage in which they begin to assume responsibility for their actions and interactions with peers, family, and the broader community (Prananda et al., 2024). During this period, they acquire foundational knowledge and essential life skills that prepare them for adulthood, making it an opportune time for targeted health education interventions (Moussi et al., 2024).

This age group is particularly vulnerable to injuries due to their high levels of physical activity, curiosity, and still-developing motor coordination (Li et al., 2025). Statistics indicate that a significant proportion of childhood injuries occur outside school settings, yet approximately 20% happen during school hours, with falls being the leading cause (Terrani et al., 2024). These incidents often result in mild wounds such as abrasions, lacerations, or contusions, which, if improperly managed, can lead

to infections, especially among children from low socioeconomic backgrounds who may have limited access to timely medical care (Gao et al., 2024). Given the frequency of such injuries and their potential complications, equipping children with appropriate wound care knowledge is both a public health priority and a practical necessity (Dechant, 2022).

Despite the high incidence of injuries, many school-age children lack sufficient knowledge and confidence to manage even minor wounds effectively (Panchal, 2022). Their cognitive development, while advancing, still limits their ability to process, retain, and apply complex health information, particularly when delivered through traditional didactic methods (Bjorklund, 2022). Moreover, gaps in community-wide first aid education, both within and beyond schools, leave children, caregivers, and even educators uncertain when responding to bleeding or other injury-related emergencies (Hashil et al., 2024). This underscores the urgent need for innovative, age-appropriate, and engaging health education strategies that align with children's learning styles and developmental capacities (Suwankhong & Liamputtong, 2025).

Health education plays a pivotal role in fostering not only knowledge, but also positive attitudes and practical skills related to self-care and emergency response (Osman et al., 2024). According to health behavior theories, knowledge serves as a critical precursor to attitude formation and behavioral change (Wang et al., 2025). When children understand the rationale behind proper wound care, such as cleaning, disinfecting, and protecting a wound, they are more likely to adopt responsible behaviors and act independently when injured (Dechant, 2022). Therefore, effective health education must go beyond information delivery; it must inspire confidence, reduce fear, and promote proactive health practices in real-life situations (Ge et al., 2024).

One promising approach is the use of Short Education Movies (SEM) as a demonstration-based teaching method. SEM leverages visual and auditory stimuli, formats that resonate strongly with children's natural learning preferences, to deliver clear, memorable, and emotionally engaging content (Bozkul et al., 2024; Setioputro et al., 2022). By modeling correct wound care procedures in relatable scenarios, SEM can enhance comprehension, retention, and motivation among young learners (Zolkapli et al., 2024). This study explores the effect of the demonstration education method using SEM on school-age children's knowledge and attitudes toward mild wound care, aiming to contribute evidence-based strategies for improving child-centered first aid education in school and community settings.

METHOD

This study employed a quasi-experimental design with a pretest-posttest control group approach to evaluate the impact of a Short Education Movie (SEM) on school-age children's knowledge and attitudes regarding mild wound care. The research was conducted at Baktijaya 05 Elementary School in Depok, involving 152 students selected using a total sampling technique. This non-probability sampling method ensured that all eligible students within the target population were included, enhancing the representativeness of the findings within the specific school context.

Data collection was conducted using a structured questionnaire designed to assess knowledge and attitudes toward wound care before and after the intervention. The experimental group received health education through the SEM, a short, engaging video demonstrating proper steps for managing minor wounds, while the control group did not. The use of SEM as an educational medium aligns with children's preference for visual and auditory learning, making complex health information more accessible and memorable for this age group.

To analyze the data, the Wilcoxon Signed-Rank Test was used to assess changes in knowledge and attitude scores within each group (pretest vs. posttest), as the data did not meet the

assumptions for parametric testing. This nonparametric statistical test is appropriate for paired ordinal or non-normally distributed data and provides a robust comparison of the intervention's effectiveness. The results provided insights into whether exposure to the SEM significantly improved students' understanding and perceptions of wound care practices.

The study was conducted in accordance with ethical research standards, and ethical clearance was formally obtained from the Faculty of Health Sciences at the National University. Informed consent was secured from school authorities and parents or guardians, while student assent was also obtained to ensure voluntary participation. All procedures prioritized participants' well-being, confidentiality, and the right to withdraw, in accordance with the principles of ethical research involving minors.

RESULTS

This study involved 152 students from Baktijaya 05 Elementary School, Depok. The following table presents the distribution of respondents based on age, gender, knowledge before and after the health education demonstration on minor wound care, and attitudes after the intervention. This descriptive analysis provides an overview of the sample characteristics and illustrates changes in knowledge and attitudes following the educational intervention.

Table 1. Distribution of Respondent Characteristics, Knowledge, and Attitudes (N = 152)

Variable	Category	Frequency (n)	Percentage (%)
Age	11 years	83	54.6
	12 years	69	45.4
Gender	Male	58	38.2
	Female	94	61.8
Knowledge Before Intervention	Poor	107	70.4
	Sufficient	41	27.0
	Good	4	2.6
Knowledge After Intervention	Poor	1	0.7
	Sufficient	9	5.9
	Good	142	93.4
Attitude After Intervention	Poor	2	1.3
	Sufficient	25	16.4
	Good	125	82.2

Table 1 shows that most respondents were 11 years old (83; 54.6%), while those aged 12 were 69 (45.4%). The total number of respondents was 152 (100.0%). Most respondents were female (94; 61.8%), while males accounted for 58 (38.2%). Prior to the Health Education Demonstration on Minor Wound Care, 107 (70.4%) respondents reported poor knowledge, 41 (27.0%) reported sufficient knowledge, and 4 (2.6%) reported good knowledge. After receiving health education and a demonstration of minor wound care, 1 (0.7%) reported poor knowledge, 9 (5.9%) reported sufficient knowledge, and 142 (93.4%) reported good knowledge. After the Health Education Demonstration on Minor Wound Care, attitudes were categorized as poor (2; 1.3%), sufficient (25; 16.4%), and good (125; 82.2%).

Table 2. Effect of Health Education on Knowledge and Attitude

Variable	Z Value	p Value (2-tailed)	Interpretation
Knowledge (Pre–Post)	-10.642	<0.001	Significant
Attitude (Pre–Post)	-10.640	<0.001	Significant

The Wilcoxon signed-rank test was conducted to compare pre- and post-intervention scores. For knowledge, the test result showed $Z = -10.642$ with $p < 0.001$, indicating a significant difference between pre- and post-intervention knowledge scores. For attitude, the test result showed $Z = -10.640$ with $p < 0.001$, also indicating a significant difference between pre- and post-intervention attitude scores. These results indicate that the health education demonstration on minor wound care significantly improved respondents' knowledge and attitudes.

DISCUSSION

The findings of this study demonstrate a significant improvement in both knowledge and attitudes regarding mild wound care among elementary school children following the implementation of the Short Education Movie (SEM) as a demonstration-based health education method. Prior to the intervention, most students (70.4%) demonstrated poor knowledge of wound care, highlighting a critical gap in basic first aid. However, after exposure to the SEM, an overwhelming 93.4% of respondents achieved good knowledge levels, with only one student remaining in the poor category. This dramatic shift underscores the effectiveness of visual and narrative-based educational tools in delivering health information that is both accessible and memorable for school-age children (Darmawan et al., 2025; Ferasinta et al., 2025).

The impact of the SEM intervention extended beyond cognitive gains to include meaningful changes in attitudes. Before the intervention, baseline attitude data were not explicitly reported; however, post-intervention results showed that 82.2% of students demonstrated positive attitudes toward wound care, while only 1.3% showed negative attitudes. Given the statistically significant improvement confirmed by the Wilcoxon Signed-Rank Test ($Z = -10.640$, $p = 0.000$), it is reasonable to infer that the SEM not only informed but also motivated students, fostering a sense of responsibility and confidence in managing minor injuries (Tao et al., 2025). This aligns with social learning theory, which posits that observational learning, primarily through relatable media, can shape both understanding and behavioral intentions (Ting, 2023).

The near-universal improvement in knowledge and attitudes, with no participant showing a decline post-intervention, highlights the appropriateness of the SEM format for this developmental stage. School-age children (11–12 years old) are exceptionally responsive to dynamic, story-driven content that mirrors real-life scenarios. The SEM likely enhanced engagement by combining clear visual demonstrations with simple, age-appropriate language, thereby overcoming the limitations of traditional lecture-style health education. This approach capitalizes on children's natural affinity for digital media, making complex health procedures, such as cleaning, disinfecting, and bandaging wounds, easier to understand and internalize (Dahlan et al., 2023).

Notably, the study population was predominantly female (61.8%), which may influence generalizability; however, the consistent positive outcomes across the entire sample suggest that the SEM method is effective regardless of gender. Moreover, the use of total sampling ensured comprehensive inclusion of all eligible students at Baktijaya 05 Elementary School, strengthening the internal validity of the findings within this context. While external validity may be limited to similar urban or semi-urban school settings, the results provide a compelling case for integrating SEM into broader school health curricula, especially in regions where first-aid training is underemphasized (Shrivastava & Shrivastava, 2022).

The SEM-based demonstration method proved highly effective in transforming both knowledge and attitudes about mild wound care among elementary students. The statistically significant pretest-posttest differences ($p < 0.001$ for both knowledge and attitudes) confirm that well-designed, child-centered educational media can serve as a powerful tool in preventive health education. These

findings support the integration of innovative, audiovisual strategies in school-based health promotion programs, not only to address immediate safety concerns but also to cultivate lifelong self-care competencies from an early age (Xiao et al., 2024; Latifah et al., 2024). Future studies could explore long-term knowledge retention and actual behavioral application in real injury scenarios.

CONCLUSION

The study shows that using a Short Education Movie (SEM) as a demonstration method significantly improved both knowledge and attitudes about mild wound care among elementary school children. Before the intervention, most students had poor knowledge, but after watching the SEM, nearly all demonstrated good knowledge and positive attitudes. Statistical analysis confirmed these improvements were highly significant, with no student scoring lower after the intervention. This indicates that SEM is a practical, engaging, and age-appropriate tool for teaching children essential first aid skills.

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