



JURNAL PENGABDIAN MASYARAKAT DALAM KESEHATAN

Vol. 6 No. 2, October 2024

<https://e-journal.unair.ac.id/IPMK>

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DOKTER KECIL: STUDENT EMPOWERMENT THROUGH LEARNING FIRST AID SKILL AND KNOWLEDGE

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ARTICLE HISTORY

Received: January 29, 2024

Accepted: October 7, 2024

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ABSTRACT

Introduction: Knowledge and skills of simple first aid are packaged by the UKS program through the role of Dokter Kecil. Interactive learning using video, demonstration and simulation activities has increased first aid knowledge and skills in primary school students. The aim of this community service program was to increase first aid knowledge and skills of wound care, nosebleed and syncope in school age children.

Methods: The community service was conducted at SDN Komplek Kenjeran II in Surabaya, Indonesia, involving 40 students from grades 3 to 5. The intervention was provided in a 4-hour session, using video demonstrations and hands-on simulation. Pre-test and post-test questionnaires measured students' knowledge and attitudes before and after the training. Data were analyzed using descriptive statistics.

Results: The demographic characteristics of participants were dominated by the age 10 years (37.5%), in fourth grade (42.5%) and female (62.5%). The average pre-test knowledge score was 65 and pre-test attitude score was 76.4. After doing interactive learning, demonstrations and simulations, the average student post-test score experienced a significant increase, namely 84.5 in the knowledge and 89.7 in the attitude.

Conclusion: The Dokter Kecil program significantly improved students' skills and knowledge in managing wound care, nosebleeds, and syncope. This empowerment program demonstrates the effectiveness of interactive learning in fostering critical first aid skills in school-aged children. Regular updates to the training content are recommended to ensure ongoing relevance and efficacy.

KEYWORDS

empowerment; first aid; student.

Cite this as:

Indarwati, R., Astuti, T. P., Basri, B., Lutfiandini, C. T., Choiriyah, L., Nurmalaningsih, U., Sa'diyah, H., Resubun, C. C., Amelia, V., Nugrahanto, M. R. B., Handayani, N. F. & Kurniawati, T. W. (2024). Dokter Kecil: Student Empowerment Through Learning First Aid Skill and Knowledge. *J. Pengabdian Masyarakat dalam Kesehatan*. 6(2). 46-51. Doi: [10.20473/jpmk.v6i2.54576](https://doi.org/10.20473/jpmk.v6i2.54576)

1. INTRODUCTION

The School Health Unit (UKS) has a very important role as part of community service efforts in improving children's health in the school environment (Hidayat & Argantos, 2020). Specifically, the aim of UKS is to foster healthy living habits and improve the health status of students, which includes having the knowledge, attitudes and skills to implement the

principles of healthy living, as well as actively participating in efforts to improve health (Aminah et al., 2021). One of the developments in the field of school health is empowering students as little doctors called "Dokter Kecil" (Aliviameita et al., 2019). In this case, the problem of community service partner was inactive little doctor program so that we did a first aid training program. Based on the data that we got by

interviewing the teachers in the SDN Komplek Kenjeran II, Surabaya, Indonesia, there are some accidents often happened in the school such as injury, syncope, and nosebleed. Therefore, we organize the education topic based on the partners' problem.

Based on Özdemir et al., (2022), injuries at school account for about one-fifth of all injuries in children. The prevalence of injuries among children in Indonesia remains high (9.7%) caused by traffic accidents, falling, burning, and choking (Ekaprasetya et al., 2018). Furthermore, around 35% of students in Indonesia have experienced syncope during school activities (Damansyah & Retni, 2022). Syncope occurred more often in females than in males, with a peak of the incidence around the age of 15 years in both males and females (Hu et al., 2021). Beside those cases, almost 60% of population have experienced nosebleed for life and mostly happened in the age less than 20 or more than 40 year (Husni R & Fitri Jamil, 2018). It was reported that around 10% to 12% of people are affected by epistaxis, and 10% are severe cases that require special medication (Chowdhury & Chakraborty, 2017).

School-aged kids spend most of their active time in school (Özdemir et al., 2022), so that they should have an ability to do first aid to help each other. The statement is in line with the purposes of Dokter Kecil those were (1) the students can help themselves and others to have healthy lives, (2) the students are able to guide their friends and act as promoters and motivators in carrying out health efforts, and (3) the

students can help teachers, families and communities at school and outside school (Iksanti, 2019). In consequence, first aid education and training of Dokter Kecil at school is an important program should be conducted by UKS (Aminah et al., 2021). Several studies conducted in developed countries illustrate that school-aged children acquiring first aid skills through education are able to increase their knowledge and practice in life-saving situations by cultivating a positive attitude toward helping people in need (Tse et al., 2023).

The optimization of health education can be implemented among children aged 11 to 20 years because of the developed peak physical, sensory, and psychomotor functions (Ekaprasetya et al., 2018). Therefore, early childhood education, especially at the elementary school (SD) level, is a crucial period in forming children's character, skills and basic knowledge (Ramadhani et al., 2020). To activate Dokter Kecil program in partners' school, Magister Nursing students of Airlangga University conducted the training program such as interactive learning using video, demonstrations and simulations as the first step. Afterwards, the sustainability of the student empowering program will be carried out online for three months.

2. MATERIAL AND METHODS

The community service of Dokter Kecil program was carried out on 5th January 2024 at SDN Komplek Kenjeran II, Surabaya, Indonesia. The participants



Figure 1. Delivering the pre test questions by the committee



Figure 2. Brain storming through Interactive Video



Figure 3. Practical session 1 "how to care nosebleed"



Figure 4. Interactive lecture to strengthened the lesson



Figure 5. Post-test session



Figure 6. Giving reward for most outstanding students

were consisted of 40 students from grades 3, 4 and 5. Teaching method used in this program was interactive learning using video, simulation, and demonstrations. The whole activities were scheduled for 4 hours. The instrument used was an adaptation of the Youth Red Cross (PMR) material. Pre-test and post-test questionnaires related to knowledge and attitudes were used to measure student level of those. Data was analyzed by descriptive statistics. The education section was set in a big group in the class and the training was conducted in 3 small groups in the small rooms behind the class. A self-report paper-based questionnaire was applied to measure the level of knowledge and attitude toward first aid.

The program was initiated by pre-test of knowledge and attitude toward first aid, especially in minor injuries, syncope and nosebleed. Then, lessons from video were delivered, and an instructor strengthened the lesson from video by face-to-face lecture. Afterwards, demonstration of each skill was given by the trainers, and continued by simulation or

direct practice by the students. In the first room the student learned about how to do wound care correctly, the second room was the stage of how to help someone syncope, and the third room was the place to learn about how to manage someone nosebleed. Finishing all stages, the students got post-test as the evaluation of the lesson. Dokter Kecil program was closed by announcement of the most outstanding students based on their post-test score and skill during practice session.

3. RESULTS

Data on the demographic characteristics of respondents include age, class and gender. Based on Table 1, the age of respondents is dominated by the 10-year age group (37.5%), the majority of respondents come from class 5 (40%), and almost two third of respondents are female (62.5%).

There are two assessments of the Dokter Kecil program, namely the knowledge and attitudes of respondents through pre-test and post-test scores.

Table 1. Frequency Distribution of Respondent Characteristics (n=40).

Respondent Characteristics	Frequency (f)	Percentage (%)
Age		
8 years old	12	30.0
9 years old	11	27.5
10 years old	15	37.5
11 years old	1	2.5
12 years old	1	2.5
Grade		
3	7	17.5
4	17	42.5
5	16	40.0
Gender		
Male	15	37.5
Female	25	62.5

Tabel 2. Results of the Wilcoxon-test on Knowledge (n=40)

	Average±SD	Median	Min-Maks	p-value
Pre-test	65 ± 13,39	70	40 - 90	0,001
Post-test	84,5 ±9,04	90	60 - 100	

Tabel 3. Result of the Wilcoxon-test on Attitude (n=40)

	Average ±SD	Median	Min-Maks	p-value
Pre-test	76,4 ± 17,13	86	28 - 100	0,001
Post-test	89,7 ± 12,55	86	43 - 100	

The pre-test and post-test results are presented in a table of statistical test results using the Wilcoxon-test with a total of 40 students (Table 2). Based on Table 2, it shows that there was an increase in the average value of knowledge after providing education and simulating first aid in wound care, nosebleeds and syncope. The test results show a significant difference in students' knowledge scores between before and after the students were provided with education and simulation (65 to 84,5).

Table 3 shows that there was a significant increase in the average score of students' attitudes before and after providing education and first aid simulations in wound care, nosebleeds and syncope (76,4 to 89,7).

4. DISCUSSION

The Dokter Kecil program aims to increase students' knowledge about health, develop their skills, and raise awareness among themselves, their peers, and teachers in the school environment. Training provided to elementary school students has demonstrated improvements in their skills, behaviour, and knowledge, leading to greater independence (Teichman et al., 2023). Familiarizing

children with basic first aid is crucial, as it helps them handle minor accidents that may occur in their surroundings (Dirgantara et al., 2013). The program has significantly enhanced students' knowledge and attitudes toward first aid skills.

However, the school reported that the Dokter Kecil program had not been implemented for two years due to a shortage of teaching staff, leaving no one to train students in first aid. Health workers can help bridge this gap by providing education on first aid and teaching students, parents, and caregivers about infection prevention and wound control (Bultas & Oldenburg, 2023). Programs like these equip children with the knowledge to manage everyday health issues (Lukose et al., 2019). Consequently, reactivating the Dokter Kecil program has recently become a priority for the school.

The training sessions focused on three essential skill areas: wound care, nosebleed management, and syncope response. Each area was addressed through targeted simulations. Post-test results revealed significant improvements in both students' knowledge and attitudes, indicating their successful acquisition of first aid skills. Specifically, students

learned how to properly clean and dress wounds, manage nosebleeds by tilting the head forward and applying pressure, and respond to fainting episodes by ensuring safety and initiating recovery steps.

The analysis showed notable differences in students' attitudes and knowledge before and after the training. Attitudes, shaped by repeated activities, often influence long-term commitment to healthy behaviours, while knowledge is impacted by prior experience and sensory inputs such as visual or auditory cues (Darsini et al., 2019). Together, knowledge and attitudes play a critical role in shaping students' first aid capabilities (Puspitasari et al., 2019). Continued first aid education can instil in schoolchildren the habit of helping others, particularly in emergencies, thereby fostering responsibility and preparedness.

Interactive educational sessions, demonstrations, and simulations enhance students' abilities in wound care, nosebleed treatment, and syncope management. These activities contribute to improved knowledge, attitudes, and skills among school-aged children. Such interactive training increases the effectiveness of educational interventions (Bou-Karroum et al., 2022). Given the prevalence of certain health concerns among children, early knowledge of disease management can lead to early detection and help prevent complications (Lukose et al., 2019).

5. CONCLUSION

Interactive learning sessions and simulations help students develop their abilities in wound care, managing nosebleeds, and responding to fainting. This training enhances the knowledge, attitudes, and skills of school-aged children in these first aid areas. Regular updates and additions to the educational content are necessary to keep the training relevant. However, this study has limitations, including the absence of socioeconomic demographic data, which restricts the ability to evaluate its impact on the findings. Additionally, the lack of a control group makes it impossible to compare outcomes between

those who received the training and those who did not.

In conclusion, the Dokter Kecil program effectively fulfilled its objectives by providing students with comprehensive training in first aid skills, particularly for wound care, nosebleed, and syncope. The hands-on simulation approach, combined with interactive education, was key to achieving these outcomes. As a recommendation, the continuation of this program with periodic updates and further practice opportunities will help ensure the long-term retention and application of these essential skills.

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