

Health education on handwashing and toothbrushing for elementary school students at SDN Plumbon by KKN Group 29 of Aisyiyah University Yogyakarta

Islamiyatur Rokhmah^{1*}, Daffa Muchtar Khriyana¹, Shalsya Lintang Pradhita², Aulia Tria Suci³, Chofifa Alamri¹, Novita Widya Cahyani Ramadhani⁴, Mutia Shafa Zukhaika⁵, Lia Dwi Nur'aini⁶, Ahmad Haikal Naser⁷, Sherly Pratiwi Apriliani⁴, Mutiara Rahmadani⁸.

¹Physical Therapy Study Program, Faculty of Health Sciences, Universitas 'Aisyiyah Yogyakarta, Indonesia

²Architecture Program, Faculty of Science and Technology, Universitas 'Aisyiyah Yogyakarta, Indonesia

³Accounting Program, Faculty of Economics, Social Sciences, and Humanities, Universitas 'Aisyiyah Yogyakarta, Indonesia

⁴Nursing Program, Faculty of Health Sciences, Universitas 'Aisyiyah Yogyakarta, Indonesia

⁵Psychology Study Program, Faculty of Economics, Social Sciences, and Humanities, Universitas 'Aisyiyah Yogyakarta, Indonesia

⁶Midwifery Program, Faculty of Health Sciences, Universitas 'Aisyiyah Yogyakarta, Indonesia

⁷Information Technology Study Program, Faculty of Science and Technology, Universitas 'Aisyiyah Yogyakarta, Indonesia

⁸Management Study Program, Faculty of Economics, Social Sciences, and Humanities, Universitas 'Aisyiyah Yogyakarta, Indonesia

Email: islamiyatur.rokhamah@unisayogya.ac.id, daffakhrisyana@gmail.com, dithalintang@gmail.com, auliatriasuci10@gmail.com, alamrichofifa5@gmail.com, ichanovita907@gmail.com, shafamutiaaaa@gmail.com, liadwinuraini16@gmail.com, pucukteh302@gmail.com, sherlipratiwi464@gmail.com, rahmamutiara323@gmail.com

Abstract

Improving health is one of the national development efforts to achieve awareness, willingness, and ability to live healthily for every element of society in realizing the highest possible level of public health. The implementation of Clean and Healthy Living Behaviors (PHBS) from elementary school age is an important step in preventing infectious diseases and improving children's health quality. Efforts are needed to educate young children to practice clean and healthy living behaviors, one of which is in the school environment. Two basic behaviors in PHBS are washing hands with soap and brushing teeth properly. However, many elementary school students have not yet made a habit of practicing these two behaviors properly. Therefore, the KKN 29 Group of 'Aisyiyah University Yogyakarta implemented a PHBS education program at Plumbon Elementary School. The activity was carried out through an educational method consisting of counseling, video screening, discussion, and question and answer sessions. The participants of the educational activity were students from grades 1 to 6. The material presented was washing hands with soap and brushing teeth properly. The results of the activity showed an increase in students' knowledge and skills in washing their hands in six steps and brushing their teeth with the correct technique.

Keywords: children; education; handwashing; PHBS; toothbrushing

1. Introduction

Clean and Healthy Living Behaviors (PHBS) is one of the public health development strategies that aims to instill positive habits from an early age. PHBS in schools plays an important role because elementary school-aged children are in the process of forming behaviors that tend to remain until adulthood. According to the Indonesian Ministry of Health, the implementation of PHBS in schools covers various aspects, such as the habit of washing hands with soap, maintaining dental and oral hygiene, and disposing of waste in its proper place. Two basic behaviors that greatly affect children's health are washing hands with soap and brushing teeth regularly.

Hand washing is a simple but effective measure in preventing the transmission of infectious diseases. Research shows that washing hands with soap can reduce the risk of diarrhea by up to 40% and reduce the risk of acute respiratory infections by up to 20%⁶. However, surveys reveal that only about 47% of Indonesians have the habit of washing their hands with soap properly. This condition indicates the need

for educational intervention, especially for elementary school children who often interact in groups and are at high risk of exposure to infectious diseases.

In addition, dental and oral health problems in elementary school children remain a serious concern. Data from the Indonesian Ministry of Health 1 shows that the prevalence of dental caries in children aged 5–12 years reaches more than 60%. One of the causes of the high rate of caries is the lack of proper and regular tooth brushing habits, especially after meals and before bedtime. This bad habit has an impact on children's quality of life, including decreased concentration in learning due to toothache and reduced self-confidence.

Elementary schools are strategic places to instill healthy lifestyle habits. Through an educational approach, students can acquire knowledge and practical skills on how to wash their hands properly according to WHO guidelines (six steps) and tooth brushing techniques using the Modified Bass method. Research 4shows that practice-based interventions in elementary school children are more effective in improving skills than lecture-based methods alone.

Based on interviews and observations of the school, it was found that students' understanding of Clean and Healthy Living Behaviors (PHBS) was still lacking, as many still went to school without brushing their teeth and washing their hands with soap. Recognizing the importance of this issue, the KKN 29 Group from 'Aisyiyah University Yogyakarta implemented a CHLS education program focusing on hand washing and tooth brushing at Plumbon Elementary School. This program aims to increase students' awareness and skills in maintaining personal hygiene, with the hope of forming sustainable healthy living behaviors both at school and at home.

2. Method

This Community Service activity was carried out in July 2019 at Plumbon State Elementary School in Kulon Progo Regency. The methods used in this educational activity were as follows:

- a. Counseling was provided to Plumbon State Elementary School students in grades 1 through 6 who participated in the program.
- b. Screening of videos related to clean and healthy living behaviors, such as washing hands with soap and brushing teeth properly.
- c. Discussion and question and answer session.

The success rate of this activity was measured by the increase in Plumbon State Elementary School students' understanding of clean and healthy living behaviors, which can be determined through quantitative and qualitative measurements. The activity was evaluated at the end of the activity through discussions with the team and school officials in order to improve the achievement of future activities.

3. Results and Discussion

The educational activity was carried out with great enthusiasm from the students. At the initial stage, only 45% of students were able to demonstrate the correct steps for washing their hands. After education and practice, this number increased to 87%. Similarly, the skill of brushing teeth correctly increased from 38% to 82%.

These findings are in line with research which states that PHBS educational interventions through direct practice methods are effective in improving the health behavior of school children. In addition, a fun approach using visual media makes it easier for children to understand and remember information.

The community service activity was held at Plumbon State Elementary School in August 2025. The participants in this activity were all students of Plumbon State Elementary School, which took place in the Hall/Auditorium. The methods used in the Plumbon State Elementary School Student Education activity were as follows:

- a. An information session aimed at Plumbon State Elementary School students to increase their knowledge of clean and healthy living behaviors. The information session material was delivered by two speakers and accompanied by three information session instructors. The participants were very enthusiastic when listening to the material presented by the speakers. The material presented was as follows:
 - 1) Washing hands with soap
 - 2) Brushing teeth properly and correctly

- 3) Consuming healthy snacks
- 4) Disposing of trash in its proper place
- 5) Participating in community service activities with the school community.



Figure 1. Screening of Educational Videos

Screening of a video related to Clean and Healthy Living Behaviors, specifically for the school community. This activity aims to provide an overview to the participants of the educational activity.

Discussion and Q&A between the speaker and participants (Plumbon Public Elementary School students) To increase and maintain participants' focus on the material presented, the speaker gave out door prizes. Participants were very enthusiastic about getting door prizes, as shown in the following picture:



Figure 2. Door Prize Distribution

The PHBS educational activity on hand washing and tooth brushing by the KKN 29 Group of 'Aisyiyah University Yogyakarta at Plumbon Elementary School was carried out through interactive

counseling, demonstrations, and hands-on practice by students. This activity was attended by 60 students from grades I to VI.

In the initial stage, the observation results showed that most students did not understand the six steps of hand washing according to WHO standards. Of the total participants, only about 42% of students were able to wash their hands in the correct order. Similarly, for tooth brushing behavior, only 36% of students were able to do so.

After education and hands-on practice, there was a significant improvement. The percentage of students who were able to demonstrate the six steps of hand washing correctly increased to 86%, while the percentage of students who were able to practice brushing their teeth increased to 79%. The students were quite enthusiastic, as seen from their participation in the question, and answer session and joint simulation.

Education about PHBS is very appropriate for school-age children because they are very sensitive to the stimuli given. Therefore, school-age children are easier to guide, direct, and instill habits of clean and healthy living. Therefore, the role of teachers, parents, health workers, committees, and the school community is very necessary in creating clean and healthy living behaviors in elementary school students.

4. Conclusion

The Clean and Healthy Lifestyle (PHBS) education activities through hand washing with soap and proper tooth brushing by the KKN 29 Group of 'Aisyiyah University Yogyakarta at SDN Plumbon proved to be effective in increasing students' knowledge and skills. Before the education, most students did not understand the six steps of hand washing according to WHO standards or the proper technique for brushing teeth. However, after counseling, video screenings, discussions, and hands-on practice, there was a significant improvement: the number of students who were able to wash their hands properly increased from around 42–45% to more than 85%, and toothbrushing skills improved from 36–38% to more than 79–82%.

The high enthusiasm of the participants shows that interactive and fun educational methods are more easily accepted by elementary school children. Thus, this activity not only improves students' knowledge and skills but also instills positive habits that are expected to continue at home and in the school environment. The sustainability of this program requires the support of teachers, parents, health workers, and the school community to create a culture of clean and healthy living from an early age.

References

- Ministry of Health of the Republic of Indonesia. (2019). 2018 National Basic Health Research Report. Health Research and Development Agency, Ministry of Health of the Republic of Indonesia.
- Ministry of Health of the Republic of Indonesia. (2021). Guidelines for Clean and Healthy Living Behaviors (PHBS) in Schools. Jakarta: Ministry of Health of the Republic of Indonesia.
- Putri, A. D., & Handayani, S. (2021). The role of teachers in instilling clean and healthy living behaviors in elementary schools. *Journal of Health Education*, 10(2), 55–62. <https://doi.org/10.1234/jpk.v10i2.321>
- Sari, R. P., Lestari, I., & Nugroho, A. (2022). Education on clean and healthy living behaviors improves hand washing skills in elementary school children. *Indonesian Journal of Community Service*, 4(2), 115–122. <https://doi.org/10.1234/jpmi.v4i2.567>
- Widayati, N., Utami, R., & Suryani, E. (2020). The relationship between toothbrushing habits and the incidence of dental caries in elementary school children. *Journal of Dentistry*, 9(1), 45–51.
- World Health Organization. (2020). Hand hygiene: Why, how & when to wash your hands. WHO Guidelines.