

# Empowerment of Elementary School Students Through Clean and Healthy Living Behavior (PHBS) Education in Preventing Diarrhea in Students of SDN 26 Galala Village, Oba Utara District, Tidore Islands City

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## Abstract.

*This activity aims to empower students of SDN 26 Galala Village through education on Clean and Healthy Living Behavior (PHBS) in an effort to prevent diarrhea. The program was implemented on August 11, 2025, involving 52 students from grades 1, 2, and 4. The method used was empowering elementary school students through education on clean and healthy living behavior in order to prevent diarrhea, such as washing hands with soap and maintaining personal and environmental hygiene to avoid and prevent diarrhea. The results of the activity showed an increase in students' knowledge, attitudes, and skills in implementing PHBS and understanding the initial treatment of diarrhea. Support from the school showed the success of this program in fostering a culture of healthy living in the elementary education environment. Overall, this activity effectively increased students' awareness as agents of change in healthy behavior to prevent diarrhea. Observation results show an increase in students' knowledge and awareness of the importance of clean and healthy living. Students are able to explain how to wash their hands properly and understand its relationship to disease prevention. So teachers also support this activity because it is considered to strengthen a healthy culture at elementary school SDN 26 Galala Village, Oba Utara District, Tidore Islands City. The impact is seen from changes in student behavior who are more concerned about cleanliness. This activity proves the active role of PBL II students in empowering students as agents of change in healthy behavior.*

**Keywords:** Empowerment; PHBS Education; Prevention and Diarrhea.

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## I. INTRODUCTION

Health is a human right that must be guaranteed by the government because it is a primary indicator of national well-being, in addition to economic and social aspects. Efforts to improve health are a crucial part of national development, fostering public awareness, willingness, and ability to live healthily, leading to optimal health outcomes. Health development aims to foster healthy living by increasing access to quality and affordable healthcare services [1].

Health development aims to increase public awareness, willingness, and ability to live healthily to achieve optimal health. This effort is carried out in an integrated manner by the government and the community through disease prevention, health promotion, treatment, and recovery activities [2]. One concrete form of support for this goal is education on Clean and Healthy Living Behavior (PHBS) in families, schools, and communities. PHBS is a conscious behavior resulting from a learning process that encourages individuals and groups to independently maintain their health [3]. In schools, the implementation of PHBS plays a crucial role in empowering students, teachers, and the school community to create a healthy environment [4]. School-age children are vulnerable to health problems such as diarrhea, dental caries, and dengue fever, making the implementation of PHBS an effective preventative measure [5].

Clean and Healthy Living Behavior (PHBS) in schools is a set of actions carried out by students, teachers, and school residents based on awareness of learning outcomes, so that they are able to independently prevent disease, improve welfare, and play an active role in creating a clean and healthy school environment [6].

reduce child mortality, especially in areas with low sanitation and health education [7]. One of the main problems faced is diarrhea, which is a cause of high morbidity and mortality in developing countries due to poor sanitation, limited clean water, poverty, and limited access to education. In Indonesia, the incidence of diarrhea varies by age group, with the highest prevalence in children under five (toddlers). Based on 2007 Riskesdas data, the incidence of diarrhea reached 9%, and specifically in toddlers at 16.7%. This disease is even the leading cause of death in infants (31.4%) and toddlers (25.2%).

The causal factors include unhygienic behavior, poor sanitation, contaminated drinking water, unhealthy food management, and premature cessation of breastfeeding or the use of formula milk[8].

The main cause of diarrhea in children is malnutrition, as malnourished children have weakened immune systems and are therefore susceptible to infection. Children with certain conditions, such as HIV, are also at high risk of developing severe diarrhea. Besides dehydration, other common causes include gastrointestinal infections caused by pathogenic microorganisms such as bacteria, viruses, and parasites. Transmission can occur through the consumption of contaminated food or drink, or through direct contact between individuals due to poor sanitation [9]; [10] Furthermore, poor clean water quality and inadequate sanitation, coupled with unhygienic community behavior, contribute to the spread of diarrhea.

Empowering elementary school students through Clean and Healthy Living Behavior (PHBS) education is a strategic approach to fostering students' awareness and independence in maintaining their own and their environment's health from an early age. This program focuses on improving students' knowledge, attitudes, and skills so they can consistently implement healthy behaviors, particularly in preventing diarrhea, a public health problem in Indonesia.

Scientifically, empowerment-based health education positions students not only as recipients of information but also as agents of change within the school and family environment. Through learning and participation processes such as interactive empowerment, handwashing with soap practices, and environmental hygiene simulations, collaboration with teachers and students is essential. Students are trained to understand the relationship between personal hygiene, sanitation, and the prevention of gastrointestinal infections, including diarrhea.

This activity aligns with the Health Promotion Model theory [11], which emphasizes the importance of increasing individual capacity for healthy behaviors through motivation and active learning. Therefore, student empowerment in PHBS aims not only to increase knowledge but also to foster sustainable behavioral change through active involvement and a sense of responsibility for personal and environmental health.

Furthermore, the empowerment approach in elementary schools has a multiplier effect, where educated students are able to disseminate information and examples of healthy behaviors to their families and the surrounding community. This supports the creation of a healthy school ecosystem and strengthens community-based diarrhea prevention efforts in Galala Village.

The purpose of this activity is to increase the knowledge, awareness, and skills of students of SDN 26 Galala Village in implementing Clean and Healthy Living Behavior (PHBS) as an effort to prevent diarrheal disease and to form healthy and independent living habits in the school and home environment. To improve children's health, it is necessary to implement clean and healthy living patterns such as maintaining personal hygiene, such as washing hands properly. One of the efforts made by students of Field Learning Experience II (PBL II) Group I Galala Village, Oba Utara District, Tidore Islands from the Muhammadiyah University of North Maluku, Ternate City, Faculty of Health Sciences, Public Health Study Program (FIKES) is through educational and counseling activities in the field of health and humanity. This community service activity focuses on empowering elementary school students through education of Clean and Healthy Living Behavior (PHBS) in preventing diarrheal disease in students of SDN 26 Galala Village, so that students understand the meaning, causes, process of diarrhea, and treatment of diarrheal disease, so that they can maintain personal and environmental hygiene to prevent the disease.

## II. METHODS

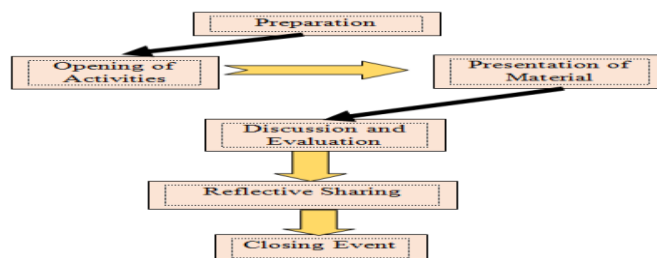
Describes This community service activity is part of the Field Learning Experience II (PBL II) Group I Galala Village, Oba Utara District, Tidore Islands, which was carried out directly in the field on August 11, 2025, the empowerment activity took place at SDN 26 Galala Village, Oba Utara District. The activity participants consisted of 52 students consisting of grades 1, 2, and 4 at SDN 26 Galala Village, Oba Utara District, documentation regarding the location of the activity is shown in Figure 1.



**Fig. 1. Location of Activities at SDN 26 Galala Village**

The method used in this activity is student empowerment through Clean and Healthy Living Behavior (PHBS) education to increase students' awareness and independence in maintaining their personal and environmental health. The activity was carried out at SDN 26, Galala Village, with the main focus on improving students' knowledge, attitudes, and skills in preventing diarrhea. The delivery of the material was carried out using PowerPoint media, accompanied by direct practice such as washing hands with soap and simulations of maintaining cleanliness in the school environment. This approach aims to form sustainable healthy behaviors as an effort to prevent diarrhea among elementary school students [12]; [13]; [14]; [15].

Student empowerment activities through Clean and Healthy Living Behavior (PHBS) education are a systematic effort to increase children's capacity and awareness in implementing healthy behaviors from an early age, particularly in preventing diarrhea. This empowerment approach is carried out through a structured activity flow based on active student participation, as shown in Figure 2 below:



**Fig 2. Flowchart of Empowerment Activities in Diarrhea Prevention**

### 1. Initial Preparation

The initial stage of empowerment involves a planning process that includes an analysis of the situation and needs within the school environment. The implementation team observes students' hygiene behavior and school sanitation conditions, such as the availability of clean water, handwashing facilities, and toilet cleanliness. Furthermore, coordination with the school administration is carried out to determine the activity schedule, prepare educational media such as PowerPoint presentations, posters, leaflets, and handwashing demonstrations, and develop materials tailored to the level of understanding of elementary school students. This stage is crucial for the activity to be effective and on target [16].

### 2. Opening

The activity began with an opening session aimed at creating an interactive and fun atmosphere. The facilitator introduced themselves, explained the purpose of the activity, and motivated students about the importance of maintaining cleanliness to prevent disease. The communication approach used was edutainment (education and entertainment), so that the children felt actively involved from the beginning [12].

### 3. Presentation of Material

At this stage, educational materials on Clean and Healthy Living Behavior (PHBS) were delivered, with a focus on preventing diarrheal disease. The materials were presented using visual media and live demonstrations, such as how to properly wash hands with soap using the WHO six-step method, the importance of maintaining environmental cleanliness, and choosing hygienic foods. The presentation was simple yet scientific so that it was easy for students to understand, with the aim of forming a foundation of knowledge and positive attitudes toward personal and environmental hygiene [13].

#### **4. Discussion and Evaluation**

The discussion stage is an important part of the empowerment process because it encourages students to think critically and reflectively. The facilitator provides space for students to ask questions, share experiences, and express their understanding of healthy behaviors. Evaluation is carried out in two ways: formative evaluation through interactive questions and answers during the activity, and summative evaluation by assessing student understanding after the presentation of the material using simple questions or short quizzes. This evaluation aims to measure the effectiveness of education and the level of student understanding of the PHBS concept [15].

#### **5. Reflective Division**

The reflective stage is part of a participatory empowerment approach, where students are invited to write down or re-express their understanding and commitment to implementing clean living behaviors at school and at home. This reflection is conducted through media such as simple reflection sheets, drawings, or written messages describing the healthy behaviors they aspire to adopt. This stage strengthens the internalization of health values in students [12].

#### **6. Closing**

The activity concluded with a presentation of conclusions and an invitation to consistently implement PHBS in daily life. As a token of appreciation, students were given educational leaflets on PHBS and diarrhea prevention to take home and read with their families. The closing activity also served as a moment to strengthen the shared commitment between the school, teachers, and students to create a clean, healthy, and diarrhea-free school environment [16].

### **III. RESULT AND DISCUSSION**

Based on the results of the empowerment activities, this education focused on increasing students' understanding of the importance of a clean and healthy lifestyle. The session began with a warm greeting to create a comfortable and open learning environment, making it easier for students to absorb the material. The education emphasized that cleanliness and health are crucial aspects in preventing disease and improving quality of life. Through interactive dialogue, students were encouraged to become more aware of the importance of maintaining personal and environmental hygiene.

Next, students are motivated to adopt clean and healthy lifestyles through various educational activities. They are taught simple practices such as proper handwashing, personal hygiene, and good cough etiquette. Through real-life examples, students are shown how healthy behaviors can prevent disease and foster a sense of responsibility for their own health and that of their environment.

At the end of the session, students were educated on first aid for diarrhea, a practical application of health knowledge in emergencies. Through simple, easy-to-understand steps, students were equipped with basic skills to respond to diarrhea in themselves and others. The material emphasized the importance of recognizing early symptoms of diarrhea, rehydrating, and knowing when to seek medical help from a health professional, specifically a community health center (Puskesmas). This activity aims to develop students who are more prepared, resilient, and health-conscious.

This community service activity is part of the Field Learning Experience II (PBL II) Group I program which was implemented in Galala Village, North Oba District, Tidore Islands City on August 11, 2025. This empowerment activity focuses on education on Clean and Healthy Living Behavior (PHBS) as an effort to prevent diarrhea in elementary school children. The implementation of the activity was carried out directly at SDN 26 Galala Village involving 52 students consisting of grades 1, 2, and 4.

Throughout the activity, students demonstrated high enthusiasm in participating in all aspects of the program, from presentations and interactive discussions to hands-on practice, such as handwashing simulations and personal hygiene practices in the school environment. The material was delivered in a communicative manner and tailored to the students' level of understanding, enabling them to easily grasp the importance of maintaining cleanliness to prevent diarrhea.

Observations showed an increase in students' knowledge and awareness of the importance of clean and healthy living. Students were able to reiterate the steps for proper handwashing and demonstrated an understanding of the relationship between cleanliness and disease prevention. Furthermore, teachers at SDN 26 Galala Village also expressed positive support for this activity, believing it could help foster a healthy culture within the school environment.

The tangible impact of this activity is evident in the changes in students' attitudes and behavior, who have become accustomed to maintaining personal and environmental hygiene after participating in the educational activities. Through this activity, PBL II students have successfully played an active role in empowering elementary school students as agents of change for healthy behavior in their communities.

The Clean and Healthy Living Behavior (PHBS) outreach program aims to reduce child mortality, particularly among groups with limited access to sanitation and health education. This activity focuses on raising awareness and implementing healthy behaviors in environments with limited facilities. Through education and the provision of adequate sanitation facilities, this program is expected to reduce the risk of disease and improve child health in these areas[7].

Most students at SDN 26, Galala Village, are not yet accustomed to practicing clean and healthy lifestyles. Many of them lack an understanding of diarrhea, how to treat it, and proper tooth-brushing and hand-washing techniques. Therefore, educational activities were conducted, providing brief information on first aid for diarrhea, along with demonstrations of proper tooth-brushing and hand-washing techniques. Students were given interactive explanations of the material, and documentation of the empowerment activities can be seen in Figure 3.



**Fig. 3. Empowerment of Elementary School Students Through Education (PHBS) in Preventing Diarrhea at SD N 26, Galala Village**

The educational activities were conducted in short bursts to increase students' knowledge and awareness of maintaining cleanliness and implementing a clean and healthy lifestyle in their daily lives. The material was presented through PowerPoint presentations explaining how to wash hands properly, making the sessions more engaging and interactive. This method was deemed effective in increasing students' understanding of the importance of personal hygiene.

During the field activity, students from the Public Health Study Program at the University of Muhammadiyah North Maluku (UMM) introduced themselves and explained the purpose of the activity. This outreach program had a positive impact by increasing the knowledge of students at SDN 26 Galala Village about how to prevent diarrhea and proper handwashing techniques. After the activity, students

demonstrated increased awareness and skills in implementing basic health practices as a crucial step in maintaining personal health.

The empowerment results demonstrated success through positive student responses during the presentation. Based on a short-term evaluation, after receiving education on the implementation of PHBS, first aid for diarrhea, and proper handwashing, students of SDN 26 Galala Village were able to understand the material well and enthusiastically follow every direction given by students from the Faculty of Health Sciences, Public Health Study Program (FIKES), at the University of Muhammadiyah North Maluku.

#### IV. CONCLUSION

Community service activities through the PBL II Program at SDN 26, Galala Village, successfully improved students' knowledge, attitudes, and skills regarding the importance of Clean and Healthy Living Behaviors (PHBS) in preventing diarrhea. Through interactive educational methods and hands-on practice, students gained a better understanding of how to maintain personal and environmental hygiene, including early independent treatment of diarrhea. Positive support from the school demonstrated the success of this activity in fostering a culture of healthy living in the elementary school environment. Overall, this program was effective in empowering students as agents of sustainable healthy behavior change, in line with the goal [7], to improve the health of children in areas with limited sanitation and health education.

Practicing a clean and healthy lifestyle is a crucial step in maintaining children's health and preventing diseases such as diarrhea caused by poor hygiene. Through school education, 52 students learned about the importance of clean and healthy living behaviors and proper handwashing techniques. This activity has been shown to improve students' knowledge and healthy habits, including understanding how to treat diarrhea. Going forward, it is recommended that similar outreach programs be expanded to the community and higher education levels to strengthen their positive impact.

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#### REFERENCES

- [1] K. Hartaty, & Menga., "Health Development as an Effort to Improve Community Welfare. Jakarta: CV Global Aksara Press.," 2022.
- [2] L. Arliman, "Health Law and Patient Protection in Indonesia.," 2022.
- [3] D. Suprpto, R., Arda, S., Wati, "Clean and Healthy Living Behavior in Improving Public Health. Yogyakarta: Deepublish.," 2022.
- [4] D. Suprpto, R., Arda, S., Wati, "Implementation of PHBS in Elementary Schools as an Effort to Establish Healthy Schools. Surabaya: Scopindo Media Pustaka.," 2021.
- [5] D. Messakh, I., Wulandari, N., Suryani, "Implementation of PHBS in Elementary School Children for the Prevention of Infectious Diseases.," *Indones. Heal. Promot.*, vol. 14(2), 112, 2019.
- [6] Ministry of Health of the Republic of Indonesia., "Guidelines for Fostering Clean and Healthy Living Behavior (PHBS) in School Settings. In Guidebook.," 2016.
- [7] World Health Organization., "World Health Statistics 2024: Monitoring Health for the SDGs. Geneva. WHO Press.," 2024.
- [8] D. Tutuanita, R., & Nengah, "Factors Associated with the Incidence of Diarrhea in Toddlers in Indonesia.," *Indones. J. Public Heal.*, vol. 14, no. 3, pp. 178–185, 2019.

- [9] R. K. Heryanto, A., Sari, D. M., & Putri, “Risk Factors for Diarrhea in Children in Developing Countries.,” *Indones. J. Environ. Heal.*, vol. 21, no. 1, pp. 45–53, 2022.
- [10] N. Rasyidah, “The Relationship between Water Quality and Sanitation and the Incidence of Diarrhea in Toddlers.,” *Andalas J. Public Heal.*, vol. 13, no. 2, pp. 105–113, 2019.
- [11] N. J. Pender, “Health Promotion in Nursing Practice (6th ed.). Boston: Pearson Education.,” 2011.
- [12] R. Nabilah, S., Handayani, F., & Pratama, “Clean and Healthy Living Behavior (PHBS) Education for Diarrhea Prevention in Elementary School Children.,” *J. Heal. Smart Community Serv.*, vol. 5, no. 1, pp. 45–52, 2023.
- [13] L. Nurmahmudah, N., Sulastri, E., & Ramadhani, “Improving Students’ Knowledge about PHBS Through Counseling and Handwashing Practice with Soap in Elementary Schools.,” *J. Heal. Serv.*, vol. 2, no. 2, pp. 90–97, 2018.
- [14] R. N. Aristoteles, A., Yuliana, D., “Empowering Elementary School Students in Preventing Infectious Diseases Through PHBS Education.,” *J. Heal. Intell. Community Serv. to Community (JIPKM)*, vol. 8, no. 3, pp. 201–209, 2022.
- [15] M. Itsna, I. N., Widodo, A., & Sari, “PHBS Education as an Effort to Prevent Diarrhea in Elementary Schools.,” *J. Heal. Serv.*, vol. 1, no. 1, pp. 12–18, 2018.
- [16] N. Aristoteles, A., Yuliana, D., & Rahmawati, “Empowering Elementary School Students in Preventing Infectious Diseases Through PHBS Education.,” *Sci. J. Community Serv. (JIPKM)*, vol. 8, no. 3, pp. 201–209, 2022.