

Increasing Students' Understanding of Healthy Lifestyles in Efforts to Prevent Diarrhea in Elementary Schools

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ABSTRACT

Diarrhea is still a public health problem in Indonesia, because of its high morbidity and mortality. There are 100,000 Indonesian children who die from diarrhea every year and 300 out of 1000 residents suffer from diarrhea throughout the year. An effective way to prevent diarrhea is to implement Clean and Healthy Living Behavior (PHBS). Therefore, it is important to provide community service to increase knowledge about hand washing behavior in school children. The aim of this service is to increase knowledge about PHBS for elementary school students by preventing diarrhea. The target is 33 students from SD Inpres Kanreapia, Balanlohe Hamlet, Kunciepao District. The service method uses a combination of providing materials with PowerPoint, educational songs, and hand washing practices. Extension evaluation uses pre-test and post-test questionnaires to measure knowledge and attitudes before and after extension, which are analyzed using the Wilcoxon test. The results of the activity showed that there was a very significant difference in knowledge before and after counseling. Counseling on good hand washing practices can influence the knowledge of grade 5 and 6 elementary school students who are respondents at SD Inpres Kanreapia in efforts to prevent diarrhea with clean and healthy living behavior.

Keywords : counseling; diarrhea; hand disinfection; healthy lifestyle; students

ABSTRAK

Diare masih menjadi masalah kesehatan masyarakat di Indonesia, karena morbiditas dan mortalitasnya yang tinggi. Terdapat 100.000 anak Indonesia meninggal akibat diare setiap tahunnya dan 300 dari 1000 penduduk menderita diare sepanjang tahun. Cara efektif mencegah diare adalah dengan menerapkan Perilaku Hidup Bersih dan Sehat (PHBS). Oleh karena itu, penting dilakukan pengabdian kepada masyarakat untuk meningkatkan pengetahuan tentang perilaku cuci tangan pada anak sekolah. Tujuan dari pengabdian ini adalah untuk menambah pengetahuan tentang PHBS kepada siswa Sekolah Dasar dengan upaya pencegahan diare. Sasarannya adalah siswa siswi SD Inpres Kanreapia Dusun Balanlohe Kecamatan Tombolopao yang berjumlah 33 siswa. Metode pengabdian menggunakan kombinasi pemberian materi dengan powerpoint, lagu edukasi, dan praktik cuci tangan. Evaluasi penyuluhan menggunakan kuisioner pre-test dan post-test untuk mengukur pengetahuan dan sikap sebelum dan setelah penyuluhan, yang dianalisis menggunakan uji Wilcoxon. Hasil kegiatan menunjukkan terdapat perbedaan yang sangat signifikan pada pengetahuan sebelum dan sesudah penyuluhan. Penyuluhan mengenai praktik cuci tangan yang baik dapat mempengaruhi pengetahuan siswa-siswi SD kelas 5 dan 6 yang menjadi responden di SD Inpres Kanreapia dalam upaya tentang pencegahan diare dengan PHBS.

Kata Kunci: penyuluhan; diare; cuci tangan; gaya hidup sehat; siswa

INTRODUCTION

Diarrhea is still a public health problem in Indonesia because of the high morbidity and mortality rates. According to the Indonesian Ministry of Health (2020), diarrhea is an endemic disease and is also a disease that can become an extraordinary event accompanied by death (EC). In 2019, 4,444 diarrhea sufferers of all ages were reported to have service coverage of 61.7% and for children under 5 years 40% of the target. Epidemiologically, the prevalence of environmental diseases in school children in Indonesia is still high, especially cases of infections such as diarrhea (Annis & Qur'aniati, 2023)

Article 79 of the Health Law Number 36 of 2009 emphasizes that the implementation of school health strategies should improve students' healthy lifestyles so that students can learn as much as possible and become quality human resources. Elementary school age children need education and health services, because at this stage it is a regular growth and development process. School children come home and go to school 5-6 days a week in varying traffic conditions and a polluted environment. This situation can cause several diseases, one of the diseases that appears is diarrhea (Ginting & Sihite, 2021)

One indicator of PHBS is hand washing behavior: in Indonesia, hand washing behavior has only reached 49.8 percent. A behavioral perspective is important in improving the level of public health, which is the main pillar of the health development vision. Clean and Healthy Living (PHBS) is a series of health behaviors carried out by individuals, families and communities to help each other stay healthy.

Correct hand washing is before eating, after eating, and after defecating. Washing your hands should also be done properly using soap to kill bacteria on your hands. Several studies have shown that hand washing can prevent diarrhea (Ejemot-Nwadiaro et al., 2021; Hashi et al., 2017; Mbakaya et al., 2017). Diarrhea in children is mostly caused by bacteria. Hands contaminated with bacteria while eating can cause diarrhea. Diarrhea in school children causes losses, namely children cannot go to school, parents do not work, and if treated too late can result in death (Aqlina et al., 2022). People who do not wash their hands with soap have a 6.07 times greater risk of developing diarrhea than people who wash their hands with soap (Eldysta et al., 2022).

According to a World Health Organization (WHO) report, 100,000 children die every year from diarrhea in Indonesia, while data from the Ministry of Health shows that 300 people out of every 1,000 people suffer from diarrhea throughout the year.

Based on the results of an initial survey conducted by researchers using the interview method among residents of Balanlohe hamlet, Kunciopao District, it was found that there were 29 cases of diarrhea. And there are still people who do not understand diarrheal diseases such as the causes of diarrhea, especially among elementary school students. Another factor causing diarrhea is students' ignorance about diarrheal diseases. Therefore, the clean and healthy living mission was chosen for Kanreapia Elementary School in Kunciopao District to create a clean and healthy lifestyle at school. Providing information cannot be separated from the role of learning media. To increase awareness and knowledge about clean and healthy lifestyles to prevent diarrhea, diarrhea training was held for school children. The aim of this activity is to increase knowledge about PHBS to elementary school students in Kunciopao District as an effort to prevent diarrhea.

METHODS

The activity method chosen was the outreach method by providing education about PHBS in an effort to prevent diarrhea using PowerPoint media, educational songs and correct hand washing practices. This activity was carried out to help SDI Kanreapia, especially Balanlohe Hamlet, in order to reduce the incidence of diarrhea in Balanlohe Hamlet, Kanreapia Village, Kunciopao District. This activity is aimed at elementary school children and will be held on Monday, October 9 2023 with the number of participants being 33 elementary school students. The educational targets are students in grades V and VI. Education was carried out in one visit, located at SDI Kanreapia, Balanlohe Hamlet, Kunciopao District.

There are several implementation stages in this activity, including: observation, implementation of PHBS education and evaluation of activities. Activity evaluation is carried out by percentage of the number of participants present (minimum 80%) and filling in the pre-test and post-test containing 10 questions. Questions were asked regarding diarrhea and clean and healthy living behavior (PHBS). Each question has a score of 10 (ten) if the answer is correct and a score of 0 (zero) if the answer is incorrect. Elementary school students' knowledge about diarrhea.

RESULTS AND DISCUSSION

Counseling regarding preventing diarrhea with PHBS was carried out by SD Inpres Kanreapia on Monday, October 9 2023, taking 33 respondents from grades 5-6 of SD Inpres Kanreapia. This activity aims to increase students' knowledge about how to behave in a clean and healthy lifestyle to prevent diarrhea. This activity is carried out in several stages, namely the first stage is preparation, then the second is the implementation stage and the final stage is evaluation of the activities that have been carried out (See Figure 1).

This activity is said to be successful if aspects have been fulfilled, namely the knowledge of respondents regarding preventing diarrhea by implementing clean and healthy living behavior. Evaluation of this extension activity uses the pre and post-test method which is distributed to respondents before and after the extension. To determine the success of this activity, data analysis is carried out using SPSS software with the Wilcoxon test.

Diarrhea is a condition where defecation is abnormal, contains more fluid than usual and occurs at least 3 times in 24 hours. According to WHO, diarrhea is a disease characterized by watery stools or changes in stool composition and thickened stools, which occurs more often than usual, at least three times a day.

Figure 1. Counseling to prevent diarrhea with PHBS



Table 1. Participant Characteristics

Variable	Total	Percentage
Age		
11 Year	18	54.50
12 Year	14	42.40
13 Year	1	3
Gender		
Man	11	33.30
Woman	22	66.70
Class		
5	17	51.50
6	16	48.50

Diarrhea is an environmental disease caused by infection with microorganisms such as bacteria, viruses, parasites and protozoa and can be transmitted through feces and the mouth. And diarrhea is the main cause of morbidity and death in children under 5 years of age (Arif et al., 2023).

In 2018, the Basic Health Survey found that the prevalence of diarrhea in all age groups was 8% and the prevalence in children under 5 years of age. amounted to 12.3%, while the incidence of diarrhea in infants was 10.6%. Based on the latest data from the 2020 Indonesian Nutrition Status Survey, the prevalence of diarrhea is 9.8% (Wulandari & Milindasari, 2023). Counseling on Clean and Healthy Lifestyles (PHBS) for elementary school students aims to help them practice PHBS in their daily lives as an initial step to prevent diarrhea and provide encouragement to elementary school students for always apply clean and healthy behavior. The aim is to raise awareness and analyzing whether the level of knowledge and attitudes about preventing diarrhea due to PHBS has changed. The results of post-intervention knowledge showed that knowledge about preventing diarrhea increased before and after counseling.

PHBS education is a form of intervention to prevent diarrhea in elementary school children. The physical resources provided for this program include facilities such as LCD screens, laptops, banners, electrical outlets, etc. and the physical area of Ballanlohe Hamlet, namely SD Inpres Kanreapia, is used as a place to deliver teaching materials or PHBS. Human resources are the support of Balanlohe RT Hamlet, the director of SD Inpres Kanreapia.

Before starting the consultation, we first do an ice breaker to encourage students before starting the material. Then 10 Post members distributed questionnaires in the form of a pre-test to students. The first concept is to conduct diarrhea and PHBS consultations, explaining what diarrhea is, what causes it, and how to prevent it with a clean and healthy lifestyle (See Figure 1).

Table 2. Distribution of Participants by Knowledge Level

Knowledge	Pre test		Post test		p-value
	n	%	n	%	
Good	6	18.20	30	90.90	0.000
Less	27	81.80	3	9.10	

After distributing the material to students, the next task is to distribute the post-test, the first is a question and answer session with respondents regarding hand washing material and hand washing practices. Inpres Kanreapia Elementary School students enthusiastically took part in the question and answer session. After the question and answer session, a post-test was distributed to assess whether the respondents' knowledge about PHBS had increased. Assessment activities begin with reviewing information and discussing survey results before and after the exam.

Table 1 shows the characteristics of respondents in socialization activities where the majority of participants were 11 years old (54.5%) with the majority being female (66.7%). From Table 2 it can be seen in the knowledge category, namely. good and bad, knowledge of the correct way to prevent diarrhea with PHBS before counseling was poor knowledge for 27 people (81.8%) and 6 people (18.2%). have good knowledge. Meanwhile, after counseling, 30 people (90.9%) had good knowledge and 3 people (9.1%) had poor knowledge.

Before carrying out a paired T test, one of the assumptions is that the data must be normally distributed. Therefore, a normality test was carried out with the significance of the data before testing being $p=0.001$ and the results after testing being $p=0.002$. Because there are two values of $p < 0.05$ in the pre-test, it can be concluded that the pre- and post-test data are not normally distributed, so a non-parametric test is carried out, namely using the Wilcoxon 2 paired sample test. Testing is carried out using the Wilcoxon rank sum test before and after counseling and obtained a significance level of $p=0.000$. So it can be concluded that there is a very significant difference in the data before and after the counseling. In other words, diarrhea education influences the knowledge of respondents from grade 5 and 6 elementary school students at SD Inpres Kanreapia who already have good knowledge about preventing diarrhea at PHBS.

From the results of the Wilcoxon test it can be concluded that there is a significant difference between the data points before and after the consultation. Therefore, it may be prudent to administer the same or similar treatment to a larger population to demonstrate the effectiveness of the therapy more broadly. In previous studies, elementary school students' handwashing behavior training services were able to increase knowledge and practice of correct handwashing to prevent diarrhea.

Our activities are in line with the results of previous activities showing that more than 80% of people have poor knowledge and habits regarding hand washing. However, after being given training, test results showed that more than 80% of children's handwashing knowledge and habits changed for the better within 1 year (Manurung, 2020). Likewise, the results of a study conducted by Natsir (2018) found significant differences in students' knowledge before and after hand washing education.

According to Laurence Green's theory, human behavior is influenced by several factors, namely behavioral factors (reasons for behaving) and non-behavioral factors (reasons for not behaving). Behavior is shaped by three components: predisposing factors, which include knowledge, attitudes, beliefs, values, etc., and enabling factors, which include the physical environment and the presence or absence of safety tools and equipment. For example, the availability of supporting tools, training, etc., as well as tasks as reinforcing elements (Sartika et al., 2021). Based on adaptation theory, a good level of knowledge can also motivate people to have good attitudes and behavior (Silalahi, 2013).

According to the Indonesian Ministry of Health (2009), around 30 studies on diarrhea concluded that washing hands with soap and water can reduce the incidence of diarrhea. Diarrhea is often associated with hydration problems, but the bacteria that cause diarrhea can also be found in human waste such as feces and urine, so care must be taken when handling this waste (Elfany, 2023). Socialization activities have been proven to be a means of disseminating health information, especially in areas where health information literacy has not yet been achieved. The results of this activity show that the socialization of PHBS practices at the elementary school level increases students' knowledge by 40%. This research is in line with Radhika's study (2019) which showed a relationship between washing with soap and the incidence of diarrhea in young children in RW XI Sidotopo Village (Radhika, 2020). Apart from that, Rosyidah (2019) also found a significant relationship between hand washing behavior and the incidence of diarrhea in school children.

CONCLUSIONS

The results of the service showed that there was a significant difference in knowledge before and after providing diarrhea education to students. Students' knowledge can increase from 18.2% who had good knowledge before being given counseling to 90.9% after being given counseling. This activity suggests that parties pay more attention to the cleanliness of school sanitation facilities such as toilets or WCs and provide hand washing facilities and hand washing soap. Meanwhile, Health agencies or Community Health Centers can provide health promotion programs in schools by carrying out health education regarding diarrhea prevention and environmental health monitoring in school areas and Kanreapia Health Center work areas. Apart from that, it is necessary to provide services to teenagers and marginalized community groups who do not have access to education but live in environments with poor sanitation.

REFERENCES

- Annis, A. F., & Qur'aniati, N. (2023). Edukasi PHBS dalam Upaya Pencegahan Diare pada Anak Sekolah di Desa Dander Kecamatan Dander Kabupaten Bojonegoro. *Journal of Community Engagement in Health*, 6(1), 146-153.
- Aqlina, D. S., Suryani, P., & Saputra, D. D. Y. (2022). Effectiveness of Video Education in Efforts to Prevent Diarrhea in Class 3 Children at Madrasah Hasyim Asyari Pulosari Tulungagung. *Jurnal Pendidikan Kesehatan*, 11(2), 107-117.
- Arif, A., Wibisono, A. Y. G., & Faridah, I. (2023). Pengaruh Perilaku Hidup Bersih Dan Sehat (PHBS) Dengan Kejadian Diare Di Smpn 3 Cikupa Tahun 2023. *Gudang Jurnal Multidisiplin Ilmu*, 1(3), 128-130.
- Ejemot-Nwadiaro, R. I., Ehiri, J. E., Arikpo, D., Meremikwu, M. M., & Critchley, J. A. (2021). Hand-washing promotion for preventing diarrhoea. *Cochrane database of systematic reviews*, (1).
- Eldysta, E., Ernawati, K., Mardhiyah, D., Arsyad, A., Maulana, I., & Farizi, F. (2022). Hubungan Perilaku Cuci Tangan Dan Faktor Risiko Lingkungan Terhadap Kejadian Penyakit Diare. *Public Health and Safety International Journal*, 2(02), 131-139.
- Elfany, R. A. Y. M. (2023). Pengembangan Kapasitas Siswa Melalui Edukasi Dan Sosialisasi Serta Penerapan Phbs Dalam Upaya Pencegahan Penyakit Menular. *Jurnal Kesehatan Tambusai*, 4(3), 3194-3200.

- Ginting, M., & Sihite, M. R. (2021). Hubungan Pengetahuan Dan Sikap Siswa Tentang Perilaku Hidup Bersih Dan Sehat (Phbs) Dengan Upaya Pencegahan Diare Di Sd Negeri 030349 Parbuahan. *Jurnal Darma Agung Husada*, 8(2), 83-91.
- Hashi, A., Kumie, A., & Gasana, J. (2017). Hand washing with soap and WASH educational intervention reduces under-five childhood diarrhoea incidence in Jijjiga District, Eastern Ethiopia: a community-based cluster randomized controlled trial. *Preventive medicine reports*, 6, 361-368.
- Kementerian Kesehatan RI. (2009). *Sistem Kesehatan Nasional*. Kemenkes RI: Jakarta
- Kementerian Kesehatan RI. (2020). *Profil Kesehatan Indonesia 2018*. Kemenkes RI: Jakarta
- Manurung, I. F. E. (2020). Peningkatan Pengetahuan dan Praktek Cuci Tangan sebagai Upaya Pencegahan Penyakit Diare pada Anak Sekolah Dasar Marsudirini Kefamenanu. *Warta Pengabdian*, 14(2), 134-140.
- Mbakaya, B. C., Lee, P. H., & Lee, R. L. (2017). Hand hygiene intervention strategies to reduce diarrhoea and respiratory infections among schoolchildren in developing countries: a systematic review. *International journal of environmental research and public health*, 14(4), 371.
- Natsir, M. F. (2018). Pengaruh penyuluhan ctps terhadap peningkatan pengetahuan siswa sdn 169 bonto parang desa barana. *Jurnal Nasional Ilmu Kesehatan*, 1(2).
- Radhika, A. (2020). Hubungan Tindakan Cuci Tangan Pakai Sabun Dengan Kejadian Diare Pada Balita Di Rw Xi Kelurahan Sidotopo, Kecamatan Semampir, Kota Surabaya. *Medical Technology and Public Health Journal*, 4(1), 16-24.
- Rosyidah, A. N. (2019). Hubungan perilaku cuci tangan terhadap kejadian diare pada siswa di Sekolah Dasar Negeri Ciputat 02. *JIKO (Jurnal Ilmiah Keperawatan Orthopedi)*, 3(1), 10-15.
- Sartika, D. (2020). *Hubungan pengetahuan dan perilaku cuci tangan ibu dengan kejadian diare pada anak balita di wilayah kerja puskesmas terminal banjarmasin* (Doctoral dissertation, Universitas Islam Kalimantan MAB).
- Silalahi, C., Lampus, B., Akili, R., & Sam, U. (2013). Hubungan antara pengetahuan dan sikap perawat tentang HIV/AIDS dengan tindakan perawat terhadap penderita HIV/AIDS di Rumah Sakit Pancaran Kasih Manado. *Media Kesehatan FKM Unsrat*, 46(1), 1-5.
- Wulandari, Y., & Milindasari, P. (2023). Terapi Pemberian Madu Untuk Menurunkan Frekuensi Diare Pada Anak Balita. *Jurnal Keperawatan Bunda Delima*, 5(2), 13-18.