

CLEAN AND HEALTHY LIVING BEHAVIOR (PHBS) EDUCATION IN SCHOOL THROUGH SNAKES AND LADDERS GAME

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Abstrak: Pemahaman konsep Pola Hidup Bersih dan Sehat (PHBS) yang mendalam membutuhkan pendekatan yang kreatif dan interaktif. Salah satu pendekatan pengenalan PHBS adalah melalui media ular tangga yang menyediakan pembelajaran dengan konteks yang menyenangkan melalui aktivitas bermain sambil belajar. Tujuan pengabdian kepada masyarakat ini adalah untuk meningkatkan pengetahuan anak sekolah dasar mengenai PHBS sekolah serta pentingnya mengaplikasikan PHBS melalui media permainan. Pengabdian ini menggunakan metode ABCD (Asset Based Community Development) dengan tahapan: identifikasi masalah, penentuan prioritas masalah, pemetaan asset, penentuan kegiatan, pembuatan instrumen dan media, pemberian pre-tes, bermain ular tangga, pemberian post-tes, dan evaluasi program. Sasaran dari kegiatan ini adalah siswa sekolah dasar yang berperan sebagai pemain dan penonton permainan dengan media ular tangga. Kegiatan pengabdian ini dilaksanakan di Sekolah Dasar Kanreapia, Desa Kanreapia, Kecamatan Tombolo Pao, Kabupaten Gowa. Hasil pengabdian kepada masyarakat ini menunjukkan bahwa pada uji paired t-test diperoleh nilai p sebesar 0.001 yang berarti bahwa program pengabdian yang telah dilakukan efektif dalam meningkatkan pengetahuan siswa mengenai PHBS. Hasil pre-tes dan post-tes juga menunjukkan bahwa edukasi PHBS dapat meningkatkan pengetahuan peserta terhadap PHBS dengan rata-rata responden yang menjawab benar yaitu dari 16,25 menjadi 19,04. Pihak sekolah diharapkan mengadopsi media ular tangga sebagai media yang menyenangkan dalam memperkenalkan PHBS kepada anak sekolah sehingga memberikan bekal pengetahuan tentang hidup bersih sejak dini.

Kata Kunci: Perilaku Hidup Bersih dan Sehat (PHBS), media ular tangga, anak-anak

Abstract: A profound understanding of the concept of Clean and Healthy Lifestyle (PHBS) requires a creative and interactive approach. One approach to the introduction of PHBS is through snakes and ladders media that provides learning opportunities for students through play activities. This community service aims to increase elementary school children's knowledge about school PHBS and the importance of applying PHBS through game media. The method used is ABCD (Asset Based Community Development) with stages including problem identification, problem prioritization, asset mapping, determining activities, making instruments and media, giving pre-tests, playing snakes and ladders, giving post-tests, and program evaluation. The participants of this program were elementary school students who played the role of players and spectators of the game with snakes and ladders media. This community service activity was carried out at Kanreapia Elementary School, Kanreapia Village, Tombolo Pao District, Gowa Regency. The results of this community service show that the paired t-test obtained a p-value of 0.001, which means that the program is effective in increasing students' knowledge about PHBS. The results of the pre-test and post-test also show that PHBS education can enhance participants' knowledge of PHBS with the average respondent who answered correctly ranging from 16.25 to 19.04. Schools are expected to adopt Snakes and Ladders media as fun media in introducing PHBS to school children to provide knowledge about clean and healthy living from an early age.

Keywords: clean and healthy living behavior, Snakes and Ladders media, children

Introduction

Health education in schools has a crucial role in shaping the mindset and healthy behavior of students (Herawati et al., 2019). One of the most vital aspects is the implementation of Clean and Healthy Living Behavior (PHBS). This concept includes daily habits that support physical and mental health consisting of eight indicators. However, in teaching PHBS to students, challenges arise when conventional teaching methods are inadequate to attract their attention. A deep understanding of the concept of PHBS requires a creative and interactive approach (Aminah et al., 2021; Romadhona, 2020).

In order to increase students' understanding and awareness of PHBS, an innovative approach through the use of snakes and ladders media has emerged as an interesting and effective solution (Sanusi & Khairiyah, 2021). The Snakes and Ladders game, which has been an integral part of many people's childhoods, provides an interesting and engaging alternative for students to learn about important concepts of PHBS (Butala et al., 2021). Snakes and ladders is a game that not only trains children's sensory but also trains their motor skills by directly becoming a pawn in a large snakes and ladders media.

Snakes and ladders provide a context for fun and playing while learning (Fitrizah et al., 2020; Sharma et al., 2023). In this game, each child has the opportunity to move forward or backward depending on their standing point, creating an element of luck that makes learning more fun. However, behind the fun of the game, there are deep lessons about hygiene, health, and daily behaviors that create a positive impact in students' real life. Another study conducted by Tusaniah & Khasanah (2021) also suggested that Snakes and Ladders media is an effective media in changing the knowledge of school children towards the prevention of helminthiasis. Based on the three previous studies, it can be concluded that snakes and ladders are effective media in communicating increased knowledge of something including Clean and Healthy Living Behavior (PHBS).

Previous research conducted by Ranoliya et al (2019) revealed that snakes and ladders games are effective in increasing knowledge about personal hygiene in school students. In addition, Pukhraj et al (2021) also found that there was a significant increase in knowledge, attitudes, and practices regarding personal hygiene in children in the intervention group compared to the control group ($p < 0.05$). Similarly, another study conducted by Tusaniah & Khasanah (2021) also revealed that snakes and ladders media is an effective media in changing the knowledge of school students towards the prevention of helminthiasis. Based on the three previous studies, it can be concluded that snakes and ladders are effective media in increasing knowledge of something including Clean and Healthy Living Behavior (PHBS).

Based on data collection conducted in Kanreapia Village, it is known that one of the vital problems is the implementation of PHBS. The main causes of PHBS problems are lack of knowledge, poor attitudes, community culture, and an unhealthy environment. Kanreapia Village is located in the highland area of South Sulawesi. This initial data is the basis for an intervention in the form of a service to increase knowledge about PHBS.

Healthy conditions can be achieved by changing behavior from unhealthy to healthy

behavior, and creating a healthy environment in the (Oktariani et al., 2021). In addition, elementary school as the primary level of education is the right place to instill the forerunner of clean and healthy living (Purba & Maturidi, 2019). Therefore, it is necessary to hold educational activities on clean and healthy lifestyles (PHBS) for elementary school students, consequently, healthy living can become a habit.

According to this reason, one of the community service programs which becomes the focus activity is PHBS education in schools through snakes and ladders game. The education carried out is not in the form of direct counseling with material exposure from the speaker to the participants. However, the program is presented in a more interesting way, namely by making children at SD Kanreapia play a smart game, namely the PHBS-based Snakes and Ladders game. This service was expected to increase the knowledge of elementary school students about the importance of implementing PHBS in schools.

Methods

This program was an education about PHBS in elementary school students. The purpose of this activity is to increase elementary school student's knowledge about PHBS and the importance of applying PHBS through game media. This service used the ABCD (Asset Based Community Development) model where the object or community is involved in the implementation of the service by utilizing existing potential (Mahmudah & Supiah, 2019). The stages of this ABCD approach include problem identification, problem prioritization, asset mapping, determination of activities, licensing, making instruments and media, implementing activities by giving pre tests, playing snakes and ladders, giving post tests, and evaluating (Diagram 1).

The targets of this activity are elementary school students who are players and students who are spectators or audiences of the game. The implementation time was on Monday-Tuesday, October 10-11, 2023 at SD Kanreapia, Kanreapia Village, Tombolo Pao District, Gowa Regency, South Sulawesi. Some assets were utilized in the form of funds used by utilizing school assets. The tools used were LCD, sound system, questionnaires, snakes and ladders game media, and banners. The personnel involved were the cooperation of teachers, students and lecturers of the Public Health Study Program of UIN Alauddin Makassar.

The participants of this activity were 15 elementary school students grade V and or VI as players and several other students as spectators who were also given a pre-post test questionnaire and had the opportunity to answer questions given by the team that was doing community service. The total number of students participated in the service were 50 students. The success indicator of this activity is that there is an increase in the knowledge of students who attend the provision of PHBS education through snakes and ladders game media.

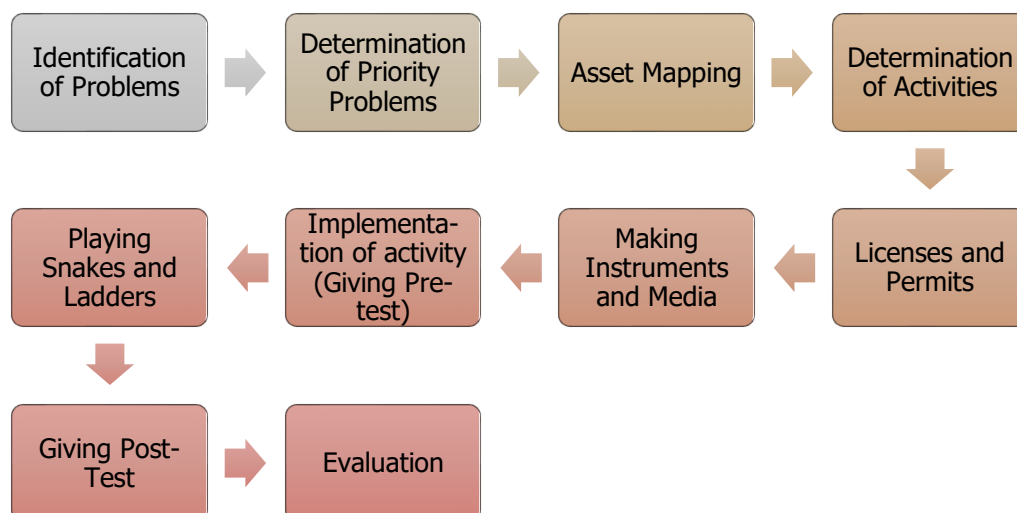


Diagram 1. Stages of School PHBS Education through Snakes and Ladders Media

Finding and Discussion

School PHBS education through snakes and ladders media was conducted at 08.30 WITA in the court of SDN Kanreapia. The implementation of education was assisted by several teachers so that students can focus. The response of SDN Kanreapia was very good, indicated by the opening of the principal before the service activity took place and there was a teacher who also joined when the service was held.

Clean and healthy living behavior (PHBS) is a set of behaviors that are practiced on the basis of awareness as a result of learning that makes a person, family, group or community able to help themselves (independently) in the health sector and play an active role in realizing public health (Suprpto, 2021). PHBS is one of the indicators to assess the performance of district/city governments in the health sector, namely the achievement of 70% healthy households (Kementerian Kesehatan RI, 2016). PHBS in schools should be introduced from an early age because the process of forming healthy behavior goes through various stages and takes a long time, even a lifetime. PHBS in schools or educational institutions has eight indicators to measure the success of PHBS habituation in early childhood (Hengky et al., 2022).

Health education using certain media is indeed effective in increasing school-age children's knowledge about PHBS; media obtained from various literatures, such as education with snakes and ladders, quiz, pocket book media, video media, poster methods, and dance video methods. Health education with media is definitely effective in increasing the knowledge of school-age children found in this review to be used as an intervention in health education (Sasmitha et al., 2020).

The service carried out is an effort to introduce PHBS in the school environment. However, considering that the target of the service is elementary school students, creative health promotion efforts are needed. Several journals state that one of the effective media in health promotion that can be used is the snakes and ladders game. Modifications to the Snakes and

Ladders game can increase players' knowledge of certain content that is provided indirectly (Figure 1).

The engagement of the players was tested significantly, with the game content variable being the main aspect affecting the engagement of participating children. Snakes and Ladders can also be used for health promotion in other health sector programs including the introduction of PHBS. Snakes and ladders media are fun and exciting for children to fully enjoy their education (Maksum et al., 2022).

The snakes and ladders used in this service are adopted and adjusted to the educational topic to be conveyed, namely PHBS. In addition, the snakes and ladders also contain the value of Islamic integration, religious moderation, and nationalism. This is reflected in the snakes and ladders cards designed as well as several commands that require participants to chant daily prayers and sing national songs such as *Garuda Pancasila*.

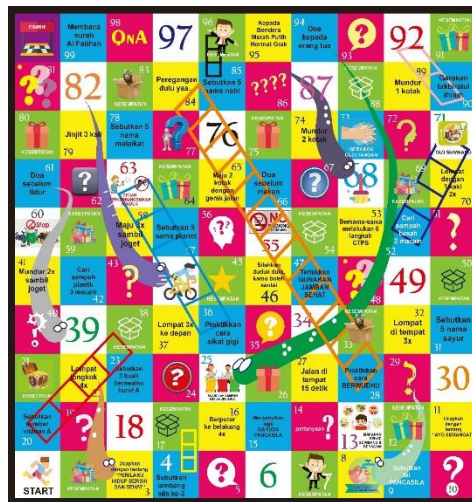


Figure 1. Modified Snakes and Ladders game media used in the community service program

Table 1. Frequency Distribution Based on Individual Characteristics of Respondents at Kanreapia Elementary School, Kanreapia Village, Tombolo Pao Subdistrict, Gowa Regency, South Sulawesi, 2023

Variable	Frequency	Percentage (%)
Gender		
Boy	24	48.0
Woman	26	52.0
Grade		
IV	9	18.0
V	18	36.0
VI	23	46.0
Age (year)		
9	8	16.0
10	9	18.0
11	22	44.0
12	10	20.0
13	1	2.0

Source: Primary Data, 2023

Table 1 above shows that there are 50 students who are the object of service. The

majority of respondents are female (52%). Students who participated in the service are dominantly studying in grade VI (46%) and are 11 years old (44%).

Table 2. Frequency Distribution of Pre and Post Test of PHBS Education on Students at Kanreapia Elementary School through Snakes and Ladders Media

No	Questions	Pre-Test				Post-Test			
		True		False		True		False	
		n	%	n	%	n	%	n	%
1	Washing hands with running water	48	96.0	2	4.0	50	100	0	0
2	Washing hands with soap	49	98.0	1	2.0	50	100	0	0
3	Bringing lunch	49	98.0	1	2.0	50	100	0	0
4	Healthy snacks	46	92.0	4	8.0	48	96.0	2	4.0
5	Toilet cleaning	37	74.0	13	26.0	48	96.0	2	4.0
6	Toilet ownership	47	94.0	3	6.0	50	100	0	0
7	Washing hand for 60 seconds	34	68.0	16	32.0	48	96.0	2	4.0
8	Exercise regularly	46	92.0	4	8.0	50	100	0	0
9	Covering the water basin	40	80.0	10	20.0	48	96.0	2	4.0
10	3R (Reuse, Reduce, & Recycle)	46	92.0	4	8.0	48	96.0	2	4.0
11	Six-step handwashing	45	90.0	5	10.0	50	100	0	0
12	Littering	38	76.0	12	24.0	50	100	0	0
13	Waste sorting	46	92.0	4	8.0	49	98.0	1	2.0
14	Plastic bag	17	34.0	33	66.0	43	86.0	7	14.0
15	Drinking water bottle	41	82.0	9	18.0	50	100	0	0
16	Physical activity	45	90.0	5	10.0	49	98.0	1	2.0
17	3M (cover, bury, drain)	12	24.0	38	76.0	33	66.0	17	34.0
18	Smoking	38	76.0	12	24.0	44	88.0	6	12.0
19	Smoking during break time	44	88.0	6	12.0	47	94.0	3	6.0
20	Body weight and height	45	90.0	5	10.0	47	94.0	3	6.0

Source: Primary Data, 2023

Table 2 shows 20 questions in the pre and post test questionnaire given to the object of service. Based on the pre-test results, it is known that questions 2 (washing hands with soap) and 3 (bringing lunch) have the largest proportion of correct answers with a percentage of 98%. While questions regarding 3M (cover, bury, drain) have the smallest proportion of correct answers (24%). For the post-test results, the majority of all questions has a significant increase in correct answers. The least number of correct answers in the post-test is also the question about 3M (66%).

Tabel 3. The Effect of Using Snakes and Ladders Media in Increasing Students' Knowledge of PHBS at SD Kanreapia

Knowledge	N	Mean+SD	CI 95%		p-value
			Lower	Upper	
Pre-test	50	16.25 + 2.193			
Post-test	50	19.04 + 1.142	-3.233	-2.327	0.0001

Source: Primary Data, 2023

Based on the Table 3 above, it is known that there is a significant difference in student knowledge before and after providing PHBS education with a p value of 0.0001. In addition, there is also an increase in knowledge by looking at the average pre-test correct answer value

of 16.25. This number increases to 19.04 in the post-test after PHBS education was given.

The results obtained in this service are in line with previous research which concluded that there was a significant difference in the increase in knowledge and attitudes between the control group with the triggering method and the experimental group with snakes and ladder games. The previous study concluded that there was a significant difference in the improvement of knowledge and attitudes between the control group with the triggering method and the experimental group with snakes and ladder games. The statistical results concluded that the triggering method equally improved knowledge and attitude on how to stop open defecation. However, the snake and ladder game increased knowledge and attitude even more than the triggering method. Therefore, it could be an alternative health promotion tool on environmental health for elementary schools (Fithri et al., 2022).

Research conducted by Imawati et al (2019) indicated that the introduction of PHBS through giant snakes and ladders media is an effective and fun educational game that equips SMPN 3 Arjasa with an understanding of PHBS. Students' knowledge about PHBS increased by looking at the results of the pre and post tests. The learning model applied through this community service applied research can be an alternative solution applied by various parties to socialize or deliver certain materials, not only materials related to PHBS and health. In addition, other research conducted by Fithri et al (2022) also argued that the proportion of knowledge of the General Guidelines for Balanced Nutrition (PUGS) and PHBS of elementary school students increased from 20% to 100% ($p=0.000$). This study also suggested conducting snakes and ladders game exercises regularly and developing a regular and long-term change and monitoring system to improve the knowledge and health status of school children and their environment.

Educational game of snakes and ladders for children effectively improve knowledge, attitudes, and practice of seven-step hand washing at Jabung Elementary School, Semarang City (Hartati et al., 2021). Snakes and ladders game media is feasible and can be implemented for teaching and learning activities on clean and healthy living behavior material (Fajriannor & Darsono, 2020). Various studies have shown that snakes and ladders game is an effective and efficient media to educate elementary school students about the implementation of PHBS.

Nevertheless, it is expected that the increased knowledge of these elementary school students will encourage them to implement PHBS behaviors at school. The understanding and knowledge gained is meaningless if individuals, families, and health workers lack awareness of the application of PHBS materials and interventions in daily life. Family support, and support from the surrounding environment are very important in the consistency of PHBS implementation (Nimah & Hidayati, 2020).

Furthermore, several questions were also given as feed back from the service participants regarding the education provided. Based on the data obtained, as shown in Table 4 it is clear that all service participants feel happy playing educational snakes and ladders. They also understand PHBS more easily through the snakes and ladders game. Service participants did not feel that this educational snakes and ladders game was difficult to play or made participants confused. On the contrary, all participants were interested in playing this educational snakes and ladders on other occasions (Figure 2).

Table 4. Participants' Responses regarding the Snakes and Ladders Media in Increasing Students' Knowledge of PHBS at SD Kanreapia

No	Questions	Yes		No	
		n	%	n	%
1	Do you enjoy playing educational snakes and ladders?	50	100	0	0
2	Is it easier to know/understand about clean and healthy live behaviors by playing educational snakes and ladders?	50	100	0	0
3	Is educational snakes and ladders game difficult to play?	0	0	50	100
4	Do educational snakes and ladders make you confused about clean and healthy live behaviors?	0	0	50	100
5	Would you be interested in playing educational snakes and ladders again in the future?	50	100	0	0

Sumber: Source: Primary Data, 2023



Figure 2. The process of playing Snakes and Ladders

The limitation in this service is the weather which was rather hot, where the game was carried out in an open field. Consequently, some children less focused and feel easily tired when playing snakes and ladders. In addition, the snakes and ladders procedure: if two players stand in the same box, the other players will be expelled and have to start from the beginning. This makes the duration of the game longer. However, beyond the limitations experienced, there are also many advantages to the implementation of this service. One of the advantages is that the educational media is done creatively and makes students move and not just sit still when eduthe information is given. In addition, the acceptance from the school was also very welcome, and it helped the the service running smoothly.

Conclusion

Education was conducted using snakes and ladders game media. This education is considered successful because there is an increase in the knowledge of SD Negeri Kanreapia students regarding school PHBS at with a p value of 0.001. There is also an increase in knowledge by looking at the pre-test average value of correct answers of 16.25. This figure increased to 19.04 in the post-test after PHBS education was given. Finally, it is recommended for school to adopt snakes and ladders media as a fun media in introducing PHBS or other

information that is considered important to be known by students of SD Negeri Kanreapia.

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