



## THE INFLUENCE OF LITTLE DOCTOR EMPOWERMENT ON KNOWLEDGE AND ATTITUDES ABOUT HEALTHY SNACKS SELECTION AMONG STUDENTS IN SDN 66 BENGKULU CITY

Welly Kurnia Wati, Ismiati\*, Reka Lagora

*Departements of Health Promotion, Poltekkes Kemenkes Bengkulu, Bengkulu, Indonesia*

*[\\*ismiasi@poltekkesbengkulu.ac.id](mailto:ismiasi@poltekkesbengkulu.ac.id)*

### Abstract

Snacks must not only have adequate and balanced nutrition, but also be free from parasites, viruses, bacteria and chemical pollutants. Problems associated with snacks in Indonesia are generally caused by unhygienic production and serving methods. Generally, these snacks are made and sold in unsanitary conditions, which often lead to bacterial contamination and cause various diseases. The Dokter Kecil empowerment program aims to organize eligible students in schools and train them to play an active role in maintaining and producing health for themselves, their families, peers, and the surrounding environment. This study aims to understand the effect of empowering little doctors on knowledge and attitudes about choosing healthy snacks at SDN 66 Bengkulu City. This type of research is Quantitative research, which involves the use of Pre-Experiment method. This research design involves the use of the One Group Pre-test and Post test design. The sampling technique used in this study is simple random sampling technique. Respondents in this study were 40 respondents. The results of the Wilcoxon statistical test in the intervention group showed that empowering small doctors can affect knowledge. The results of this study concluded that there was an effect of empowering little doctors on knowledge and attitudes about choosing healthy snacks at SDN 66 Bengkulu City. This research is expected to add insight into students' knowledge about choosing healthy snacks and is expected to provide references for researchers who want to carry out deeper research

Presented at The 4<sup>th</sup>  
Bengkulu International  
Conference on Health  
(B-ICON),  
Bengkulu-Indonesia,  
September 24-26<sup>th</sup>, 2024

Published: December  
31<sup>st</sup>, 2024  
Copyright © 2024 by  
authors.  
ISSN : 2986-027X

**Keywords:** Healthy Snacks, Empowerment, Little Doctors, Knowledge, Attitude

### INTRODUCTION

For a snack to be considered healthy, it must not only have adequate and balanced nutrition, but it must also be free from parasites, germs, viruses and any form of chemical contamination. Food is considered safe if there is little or no risk of being a carrier of disease or causing food-borne illness. Thus, food must be produced, processed, stored, delivered and served in a careful, hygienic and mature manner. Safe and healthy snacks are those that are free from physical risks, chemical pollution, and biological threats As defined by the Food Agriculture Organization (FAO), street food refers to beverages and foods produced and sold by street vendors in public places, which are immediately ready for consumption with no further preparation required. In Indonesia, problems related to street food are largely caused by unhygienic production and serving methods. These products are often made and distributed under unsanitary conditions, making them susceptible to bacterial contamination that can cause various diseases. (Ratnaningsih, 2023)

Consumption of snacks is quite common among children and adolescents. Children often buy food from outside without paying attention to the composition and nature of the food. According to a survey conducted by the Food and Drug Administration (BPOM), more than 99% of children buy snacks while at school. The increasing number of children consuming these snacks increases their risk of health problems. (Gunawan et al., 2023)

According to the World Health Organization (WHO), foodborne diseases or commonly called food-borne diseases are infectious diseases or poisonings caused by microorganisms or chemicals that enter the body through the food eaten. To prevent diarrhea, it is necessary to eat nutritious snacks. Choosing nutritious snacks, particularly eating healthy snacks in the school cafeteria, can provide significant benefits and contribute to the overall well-being of students. Food options available in the cafeteria should be nutrient-rich, health-promoting and suitable for consumption by school children. This practice plays an important role in producing quality human resources as well as maintaining the health levels of learners <sup>(3)</sup>. One of the effects of consuming unhealthy snacks includes; slow growth, fainting, fever, vomiting, kidney damage, nausea, anxiety. Monosodium glutamate (MSG) flavor enhancer can make dizziness, nausea, interfere with brain development, and disturb appetite. (Gunawan et al., 2023)

Diarrhea affects more than 2 billion people worldwide, and causes the death of 1.9 million children under the age of 5 each year. Diarrhea is a medical disorder characterized by frequent liquid bowel movements of three or more times per day. It is often an indication of a gastrointestinal infection. The condition may be caused by many parasites, viruses and bacteria. Transmission of the virus occurs through contaminated water or food. To prevent diarrhea, it is necessary to eat nutritious snacks. In addition, this disease can also arise in one individual to another due to inadequate personal hygiene and surrounding conditions. (KARDINA, 2018) The 2018 Riskesdas survey in Bengkulu Province showed that the prevalence of diarrhea diagnosed by health workers was 8.9% with a weighted number of 17,419 people affected. From data from the Bengkulu Provincial Health Office in 2022, the target number of findings was 55,770 cases of diarrhea in all ages, treated 7,994 (14%). The number of diarrhea patients of all ages from the Bengkulu Provincial Health Office data in 2022 amounted to 2,857 most of which were found in the Telaga Dewa Health Center there were 399 (14%) cases of diarrhea in the Telaga Dewa Health Center working area there are three villages namely Sukarami, Pagar Dewa and Sumur Dewa villages in Sukarami village there is SDN 66 Bengkulu City.

Based on the initial survey to the location, many students prefer snacks rather than bringing lunch. This primary school does not teach how to choose nutritious snacks, and allows vendors to sell unhealthy snacks in the school environment, including somay, cimol, meatballs, fried foods, fried sausages, and artificially colored ice. Derived from interviews conducted with elementary school instructors. The Little Doctor Empowerment Program aims to organize eligible children in schools and provide them with training to actively contribute in the improvement and maintenance of their own health, as well as that of their peers,

family, and neighborhood. The UKS program has the capacity to engage the entire school-age population, ensuring that every child has the opportunity to participate as a UKS volunteer, also known as a "little doctor". (Rahayu et al., 2022)

Based on Previous Research, it is known that Knowledge related to consuming healthy snacks before being given educational counseling (Pre-test) obtained a value that was more improved than before (Prahmawati & Djamil, 2020). This finding is in line with previous research which shows that there is a large impact of nutrition education on energy consumption before and after intervention. Health education provided to fourth grade students of SDN Seduri 1 Balongbendo Sidoarjo using audio visual media resulted in an increase in their understanding of healthy snacks. According to the background of these phenomena and problems, the researcher has an interest in carrying out a study entitled "The Effect of Little Doctor Empowerment on Knowledge and Attitudes About Healthy Snack Selection at SD N 66 Bengkulu City". (Masri et al., 2019)

## MATERIALS AND METHOD

This study involved a quantitative research approach, specifically involving the use of Pre- Experiment techniques. The research methodology used in this study is the One Group Pretest and Posttest design. The purpose of this study was to determine the impact of empowering little doctors on their knowledge and attitudes in choosing nutritious snacks at SDN 66 Bengkulu City.

The sample in the study included grade IV and V students at SDN 66 Bengkulu City totaling 39 people. The sampling process in this study used the basic technique of Random Sampling, which is selecting individuals in the population randomly without considering the strata in the population.

## RESULTS

### Frequency Distribution Characteristics of Respondent

The following table shows that the majority of respondents (55%) are female, most respondents (55.5%) are 10 years old. Table 4.1 shows that the majority of respondents (55%) are female, most respondents (55.5%) are 10 years old.

*Table 1: Frequency Distribution Characteristics of Respondent*

No	Variable	F	%
1	Gender		
	Male	18	45
	Female	22	55
2	Age		
	11 Years Old	12	30
	10 Years Old	22	55
	9 Years Old	6	15

Table 2: Students' Knowledge at SDN 66 Kota Bengkulu

Variable	N	Mean	± Std. Deviation	Min	Max
Pretest Knowledge	40	51.250	101.748	30	70
Posttest Knowledge	40	89.000	0.77421	80	100

According to table 4.2, the results of univariate analysis showed that the average knowledge before being given the Little Doctor Empowerment intervention was 5.12 with a standard deviation of 1.0178, the lowest value was 30 and the highest value was 70. While the average knowledge after the intervention was 8.90 with a standard deviation of 0.77, the lowest value was 80, and the highest value was 100.

### Frequency Distribution of Children's Knowledge at SDN 66 Bengkulu City

Table 3: Frequency Distribution of Children's Knowledge at SDN 66 Bengkulu City

No	Question Items	Answer			
		Before(%)		After (%)	
		Wron g	Corre ct	Wron g	Corre ct
1	What is meant by healthy snacks?	42,5	57,5	22,5	77,5
2	The characteristics of food that are said to be safe are?	30	70	15	85
3	The food eaten must contain enough?	40	60	37,5	62,5
4	What should be done before consuming food?	37,5	62,5	10	90
5	What are the characteristics of food that use artificial sweeteners?	37,5	62,5	5	95
6	Examples of foods that contain excessive artificial coloring?	42,5	57,5	5	95
7	What disease is caused if consuming food that is not covered and is fly-ridden?	27,5	72,5	0	100
8	The following is not a way to choose healthy and safe food?	15	85	12,5	87,5
9	The following are types of healthy snacks?	45	55	2,5	97,5
10	The following are things that must be considered before buying snacks?	55	45	0	100

Based on Table 4.3, the knowledge variable in this study was measured through questionnaire responses given before and after the intervention to 40 fourth and fifth-grade students at SDN 66 Kota Bengkulu. The lowest response before the intervention was for question number 7, which asked about the diseases caused by consuming food that is not covered and is fly ridden, with a percentage of 27.5%. Question number 8, which asked about the incorrect ways to choose healthy and safe food, received a percentage of 15.0%. After the intervention, the respondents scored 100.0% for question number 7 and 87.5% for question number 8.

### Attitude of children at SDN 66 Bengkulu City

Table 4: Attitude of children at SDN 66 Bengkulu City

Variable	N	Mean $\pm$ Std. Deviation	Min	Max
Pretest Attitude	40	22.5250 $\pm$ 2.78262	20	29
Posttest Attitude	40	36.7250 $\pm$ 1.67925	34	40

Based on table 4.4, the mean data of the attitude score before is 22.52 with a standard deviation of 2.782, the lowest value is 20 and the highest value is 29. Then after the intervention is given, it increases to 36.72 with a standard deviation value of 1.679, the lowest value is 8 34 and the highest value is 40.

### Frequency Distribution of Children's Attitudes

Table 5: Frequency Distribution of Children's Attitudes

No	Attitude Variable Statement Items	Answer							
		Before (%)				After (%)			
		SS	S	TS	STS	SS	S	TS	STS
1	I consume candy because it is tasty and good to eat.	32,55	30	35	2,5	82,5	17,5	0	0
2	Expired food is dangerous to consume.	22,5	52,5	25	0	77,5	22,5	0	0
3	Instant noodles with added seasoning are tastier.	12,5	62,5	20	5	70	30	0	0
4	Drinking plain water is healthier than colored drinks.	17,5	32,5	42,5	7,5	65	35	0	0
5	I choose brightly colored popcorn because it is tasty and cheap.	7,5	57,5	30	5	62,5	37,5	0	0
6	I choose packaged snacks because they guarantee cleanliness.	12,5	45	40	2,5	55	45	0	0
7	Food that smells bad (spoiled) should not be consumed.	20	35	40	5	62,5	37,5	0	0
8	I will buy snacks in a clean place.	15	57,5	22,5	5	62,5	37,5	0	0
9	I consume fried foods using oil that has been reused multiple times.	17,5	32,5	50	0	72,5	27,5	0	0
10	If the packaging of a snack is damaged, it should not be eaten.	7,5	50	37,5	5	62,5	37,5	0	0

Table 5 explains the results of the frequency distribution of the percentage of attitude scores based on the attitude statement items regarding Healthy Snack Selection for students in grades IV and V of SDN 66 Bengkulu City, namely the answer Never (score 0) from respondents has decreased, namely from almost most respondents (32.5%) to none of the respondents (0%). The answer Sometimes (score 2) of respondents decreased, namely from almost some respondents (33.75%) to none of the respondents (0.25%). Answer Often (score 3) respondents experienced an increase, namely from a small proportion of respondents (17.5%) to almost all respondents (31.25%). Answer Always (score 4) respondents have increased, namely from a small proportion of respondents (16.25%) to most respondents (68.5%). The attitude data analyzed in this study is the attitude value of 40 students in grades IV and V of SDN 66 Bengkulu City before and after the implementation of the empowerment of small doctors.

### **Effect of Differences in Mean Mean Empowerment of Little Doctors on Knowledge and Attitudes of Students About Healthy Snack Selection**

*Table 6: Effect of Differences in Mean Mean Empowerment of Little Doctors on Knowledge and Attitudes of Students About Healthy Snack Selection*

<b>Variable</b>	<b>n</b>	<b>Mean <math>\pm</math> Std. Deviation</b>	<b>Min</b>	<b>Max</b>	<b>P-Value</b>
Posttest Knowledge	40	8.90 $\pm$ 0.744	80	100	0.000
Posttest Attitude	40	36.72 $\pm$ 1.679	34	40	0.000

Based on Table 4.6, it is known that the p-value for the small doctor empowerment program is 0.000, which is less than or equal to 0.05. Therefore, H0 is rejected at a 95% confidence level, indicating that there is a significant effect of the small doctor empowerment program on the knowledge and attitudes regarding healthy snack choices among children at SDN 66 Kota Bengkulu.

## **DISCUSSION**

### **Characteristics of children at SDN 66 Bengkulu City**

The age of respondents in this study was obtained from the frequency distribution of respondent characteristics, where 55.0% of respondents were 10 years old, which means they were the majority. Elementary school-age children refer to individuals between the ages of 6 and 12 (Damayanti et al., 2019). WHO defines school-age children as those between 7 and 15 years of age. School-age children are characterized by the importance of adequate food consumption needs to support optimal growth and development. (Fadhilah et al., 2024)

### **Knowledge of children of SDN 66 Bengkulu City about healthy snacks selection**

The study stated that there was a significant increase in children's knowledge related to the selection of healthy snacks. The average knowledge before the intervention was 5.12, then after the intervention increased to 8.90. In line with the research of (Sumarni et al., 2020) the increased understanding of SDN

Jati III students is a good start for the younger generation to adjust to a lifestyle that prioritizes well-being. Choosing nutritious snacks is research by Different factors certainly influence students' snack selection behavior, such as students' insights and habits about healthy food and snack selection. Based on the description and test results, it can be concluded that knowledge (p-value 0.034 <0.05). (Rahmadani, 2024)

### **Attitudes of children of SDN 66 Bengkulu City about healthy snacks selection**

Research shows that interventions carried out with the empowerment of small doctors can improve children's attitudes about choosing healthy snacks. This can be seen based on the results of the analysis of the average attitude of respondents before the intervention 22.52 and after the intervention through the empowerment of small doctors increased to 36.72. In line with research by the results showed that there was an increase in children's attitudes before and after being given an intervention through empowering small doctors. Attitude is not something that is done, but rather a tendency to carry out or act in a certain way. Attitudes of children of SDN 66 Bengkulu City about healthy snacks selection (Www.kemkes.go.id, 2020). Attitude is not something that is done, but rather a tendency to carry out or act in a certain way In the research of stated that attitude is a pattern of behavior to prepare and adapt to the social environment, or to respond to a coordinated social stimulus. Attitudes can also understand various aspects or positive or negative evaluations about an object.(Aswanto, 2023)

Prepare and adapt to the social environment, or to respond to a coordinated social stimulus. Attitudes can also understand various aspects or positive or negative evaluations about an object. Attitudes can also affect a person's ability to prevent disease, because attitudes can be influential in disease prevention. A factor that can potentially influence a person's attitude is their personal experience. A person's attitude can be easily changed if emotional factors including one's personal experience, as well as the influence of others.

### **The Effect of Empowering Little Doctors on Children's Knowledge and Attitudes About Healthy Snack Selection**

This study shows that empowering little doctors can result in an increase in the mean value of knowledge and attitudes related to the selection of healthy snacks, where research that has been done before has increased both before and after the intervention. Knowledge before the intervention was 5.12 while the average after the intervention was 8.90 with a mean difference. Then the average attitude before the intervention was 22.52 and after the intervention through empowerment of small doctors was 36. After the intervention through the empowerment of small doctors is 36.72. This shows that there is an increase in the average knowledge and attitude before and after through empowering small doctors. In line with research by <sup>(14)</sup>, little doctors who act as supporters of a healthy lifestyle in the school environment are expected to have the information and attitudes needed to help themselves, family members, peers, and the surrounding environment. (Nizar et al., 2021)

## CONCLUSION

Based on the research objectives and the results obtained regarding the impact of the small doctor empowerment program on healthy snack choices for children at SDN 66 Kota Bengkulu, the following conclusions can be drawn:

1. Respondent Characteristics: The majority of the respondents are female, and the respondents are predominantly 10 years old.
2. Knowledge Improvement: There is an increase in the average knowledge of children regarding healthy snack choices before and after the intervention at SDN 66 Kota Bengkulu.
3. Attitude Improvement: There is an increase in the average attitude of children related to healthy snack choices at SDN 66 Kota Bengkulu after the intervention.
4. Effect of Empowerment: The small doctor empowerment program has a significant impact on the knowledge and attitudes regarding healthy snack choices at SDN 66 Kota Bengkulu.

## REFERENCES

- Aswanto, A. R. A. . & P. E. (2023). Pengaruh Edukasi Gizi Menggunakan E-Booklet Terhadap Pengetahuan Gizi, Sikap Dan Perilaku Sarapan Remaja. *Prosiding Simposium Kesehatan Nasional* , 2(1), 228–233.
- Damayanti, R., Lutfiya, I., & Nilamsari, N. (2019). Upaya Peningkatan Pengetahuan Tentang Gizi Seimbang Pada Anak Usia Sekolah Dasar. *Journal of Community Service and Engagements*, 01(1), 30. <https://doi.org/10.20473/dc.v1i1.2019.28-33>
- Fadhilah, T. M., Sari, R. P., Masinambow, B. G., Andriana, D. S., & Arifiana, W. L. (2024). Edukasi Pendidikan Gizi Terkait Pemilihan Jajanan Sehat pada Anak Usia Sekolah. *JPPM (Jurnal Pengabdian Dan Pemberdayaan Masyarakat)*, 8(1), 91. <https://doi.org/10.30595/jppm.v8i1.20628>
- Gunawan, M. R., Nepiana, N., Saputra, R., & Oktalia, E. (2023). *Penyuluhan kesehatan tentang cermat memilih jajanan sehat untuk anak*. 3(2), 64–69.
- Kardina, D. (2018). Hubungan antara Faktor Lingkungan terhadap Kejadian Diare pada Balita di Desa Sidaraja Kecamatan Ciawigebang Kabupaten Kuningan Tahun 2022. *Angewandte Chemie International Edition*, 6(11), 951–952., 3(1), 10–27. <https://medium.com/@arifwicaksanaa/pengertian-use-case-a7e576e1b6bf>
- Masri, E., Wahyuni, N. P., & Rini, A. M. (2019). Perilaku Memilih Jajanan Dan Kantin Sehat Siswa Sekolah Dasar Dengan Edukasi Media Komik. *JURNAL KESEHATAN PERINTIS (Perintis's Health Journal)*, 6(2), 177–185. <https://doi.org/10.33653/jkp.v6i2.278>
- Nizar, C. N. P., Bahar, A., Soeyono, R. D., & Handajani, S. (2021). Pengaruh “Pengetahuan dan Sikap Terhadap Perilaku Pemilihan Bahan Makanan yang Sehat” dan Aman Pada Ibu Rumah Tangga Desa Panjunan Sidoarjo Masa Pandemi Covid-19. *Tata Boga*, 10(3), 408–417.
- Prahmawati, P., & Djamil, A. (2020). Pengaruh Pemberian Penyuluhan Dengan Permainan Ular Tangga Terhadap Pengetahuan Dan Sikap Mengonsumsi Jajanan Sehat Siswa- Siswi Kelas V Di SD Negeri 1 Sukarame Kota Bandar Lampung Tahun 2019. *Jurnal Ilmu Kesehatan Indonesia (JIKMI) ISSN:*, 1(1), 1–10. <http://jurnal.umat.ac.id/index.php/jikmi/article/view/298>
- Rahayu, C., Sopianah, Y., & Robbihi, H. I. (2022). *Pelatihan dokter kecil dalam upaya meningkatkan pengetahuan kesehatan gigi dan mulut pada murid madrasah ibtidaiyah*. 2(4), 452–457.
- Rahmadani, S. (2024). Gambaran Pengetahuan Dan Sikap Terhadap Edukasi Jajanan Sehat Dan Gizi Seimbang Pada Siswa Kelas V Di Sdn 064975 Medan Denai. *Jurnal Kesehatan*, 2(2), 125–132. <https://jurnalkesehatan.joln.org/index.php/health/article/view/108>
- Ratnaningsih, T. (2023). Jurnal Pengabdian Kesehatan Masyarakat. *Health Education Tentang Jajanan Sehat Pada Anak Pra Sekolah Di RA AL-MA'UNAH Desa Mojojejer Mojowarno Kabupaten Jombang*, 4(1), 10–19.

- Sumarni, N., Rosidin, U., & Sumarna, U. (2020). Penguatan Kapasitas Siswa Sd Jati Iii Tarogong Dalam Upaya Meningkatkan Kewaspadaan Pada Jajanan Tidak Sehat. *Kumawula: Jurnal Pengabdian Kepada Masyarakat*, 3(2), 289. <https://doi.org/10.24198/kumawula.v3i2.28026>
- Www.kemkes.go.id. (2020). pemberdayaan kader cilik dalam peningkatan pengetahuan, sikap dan perilaku jajan anak sekolah. *Satukan Tekad Menuju Indonesia Sehat*, 2, 91–100.